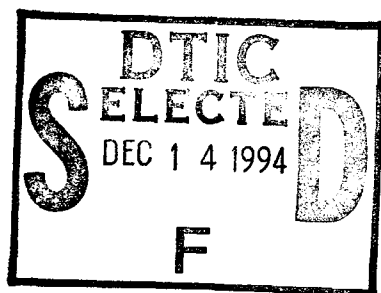
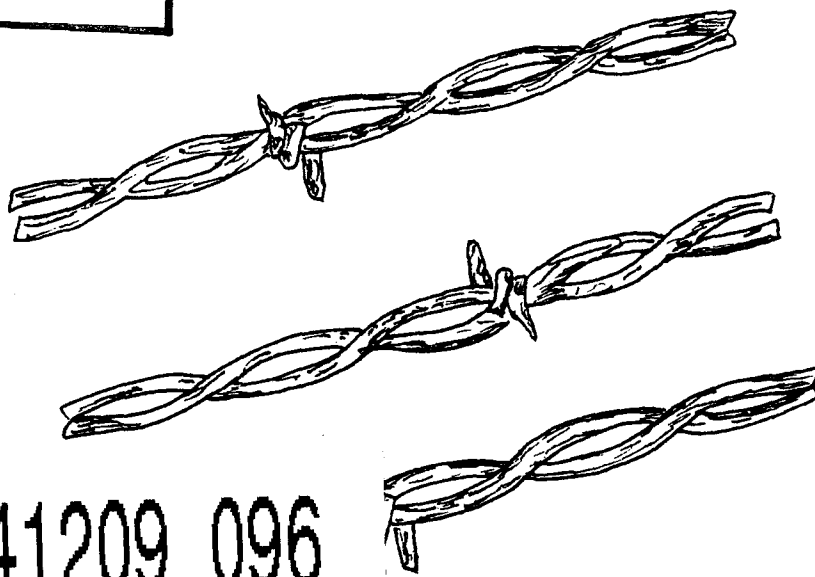


I NEVER LEFT A PLACE THAT I DIDN'T CLEAN UP

The Legacy of Historic Settlement on Lands Administered
by Holloman Air Force Base



by
Lori S. Hawthorne



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Holloman Air Force Base
Cultural Resources Publication No. 1





United States Air Force
Environmental Flight



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Legacy Resource Management Program

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New Mexico

Cultural Resources Publication No. 1

October 1994

PREFACE

Martyn D. Tagg
Holloman AFB Archaeologist

The Department of Defense (DoD) is the steward of about 25 million acres of land in the United States and is responsible for the management and protection of a wide variety and large number of irreplaceable natural and cultural resources. In 1991, Congress elevated the stewardship of these resources by enacting Section 8120 of the Fiscal Year (FY) 1992 Defense Appropriations Act to establish and fund the Legacy Resource Management Program (Public Law 101-511).¹

The purpose of the Legacy Program (LRMP) is to "promote, manage, research, conserve, and restore the priceless biological, geophysical, and historical resources which exist on public lands, facilities, or property held by the DoD." The functions of LRMP are divided into Program Development tasks for biological, cultural, and geophysical resources. These are further divided into Specific Task Areas for project management, survey of current programs, data management, decision frameworks, earth resources, biological resources, cultural resources, the Cold War, education, public awareness and recreation, Native American and settler communities, and stewardship education and training.² Demonstration Projects are currently being conducted at more than 90 DoD installations throughout the country. Legacy partners outside the DoD are participating in the program along with resource specialists at the installation level.

Holloman Air Force Base (HAFB), an Air Combat Command base, is one of the installations with LRMP projects. HAFB administers 58,410 acres in southern New Mexico. Prior to FY93, only 3-1/2 percent of this acreage had been inventoried for cultural resources, and four archaeological sites had been documented. Because of the limited nature of the archaeological work and the small size of most surveys, little was known about the cultural resources on base properties. The LRMP has become a method to advance this knowledge, providing the means to complete projects not eligible for compliance-driven funds. HAFB became involved in the Legacy Program in FY93 with the funding of three cultural resource projects. These projects were identified as "milestones and priorities for National Register surveys" in the draft HAFB

Historic Preservation Plan and included a Historic Architectural Assessment, Thematic Survey of Early Missile, Instrumentation, and Test Object Sites, and Thematic Study of Historic Ranches and Ranch Sites.³ The projects fulfill the FY93 Legacy Topical Theme of "WW II and Cold War research topics and stewardship projects, and development of other contemporary history themes which contribute to stewardship".⁴

To facilitate the completion of the Legacy projects, a Memorandum of Understanding (MOU) was created between HAFB and the New Mexico State Historic Preservation Division (HPD). This cooperative agreement was beneficial to both agencies. It allowed the HPD to become more actively involved in the Legacy Program, and it gave HAFB access to qualified archaeologists, historians, historic architects, and certified staff. The HPD managed the logistical aspects of the projects and issued grants to organizations or individuals with the experience to provide the best possible final products. The HAFB Archaeologist was the technical manager of the projects, ensuring the results would provide the information necessary for management of resources on HAFB, compliment the base mission, and meet the Legacy guidelines.

The Historic Ranch project (Legacy #781) falls under the LRMP Task Area of Native American and Settler Communities, with the objective to "establish programs to protect, inventory, and conserve the artifacts of native American civilization, settler communities, and others deemed to have historical, cultural, or spiritual significances".⁵ The project was designed as a demonstration project to locate and document pre-military sites on HAFB administered lands. General Land Office maps, early HAFB maps, known water sources, and informant information were used to designate survey areas with the highest potential for historic sites. These judgmental sample units were used for determining historic settlement patterns and to provide a basis for future surveys. After surveys of the sample units were completed and sites recorded, extensive archival research was conducted to provide as much documentation as possible on the pre-military historic sites and use of lands now administered by HAFB. Since the focus of the project was on the early history of the HAFB, a separate survey report was written dealing with prehistoric and historic sites from an archaeological standpoint.⁶

The results of the Historic Ranch Project far exceeded the goals set forth in the Legacy proposal. Twenty-two pre-military historic sites were documented, oral interviews were conducted, and archival research produced a wealth of information, including old photographs and homestead records. The combination of archaeological survey, archival research, and oral interviews has provided a complete picture of one cultural period on HAFB--historic settlement prior to the establishment of the base in 1942. The results can also be used to promote and modify this demonstration project so the methods can be used successfully on other DoD installations.

This is the first volume of the HAFB cultural resource publication series, created to showcase the wide variety of projects made possible through the LRMP. The series will insure quality reporting of LRMP project results and allow this data to be distributed to local professionals and other DoD resource managers, since the results are useful far beyond the boundaries of this base. It is hoped the project detailed in this volume will encourage other bases to begin the process of documenting and reporting on the many unique settler communities located on their installations.

The completion of this project would not have been possible without the support and cooperation of a number of people: Dr. Paul Green (Air Combat Command Headquarters Archaeologist); Roger Wilkson and Cathy Giblin (HAFB Environmental Flight chiefs during the time involved); Howard Moffitt (HAFB Deputy Base Civil Engineer); Thomas Merlan and Michael Taylor (New Mexico State Historic Preservation Officers, then and now) and their staff; and especially the author, Lori Hawthorne.

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LIST OF ACRONYMS USED THROUGHOUT THE REPORT

ASL--Above Sea Level
BLM--Bureau of Land Management
CA--Civil Action
CCC--Civilian Conservation Corps
CM--Chattel Mortgage
COE--Army Corps of Engineers
DFRC--Denver Federal Records Center
DLE--Desert Land Entry
DLP--Desert Land Patent
DoD--Department of Defence
EP & NE--El Paso and Northeastern Railway
FY--Fiscal Year
GLO--General Land Office
GPO--Government Printing Office
HAFB--Holloman Air Force Base
HAR--Holloman Archaeological Resource
HE--Homestead Entry
HP--Homestead Patent
HPD--Historic Preservation Division
HSR--Human Systems Research, Inc.
JT--Joint Tenants
LRMP--Legacy Resource Management Program
MOU--Memorandum of Understanding
OCA--Office of Contract Archeology
OCPFH--Otero County Pioneer Family Histories
QD--Quitclaim Deed
RE--Restrictive Easement
RG--Record Group
SR--Serial Register
TD--Tax Deed
USAF--United States Air Force
WD--Warranty Deed
WNRC--Washington National Records Center
WSMR--White Sands Missile Range
WSNM--White Sands National Monument
WSPG--White Sands Proving Ground

ABSTRACT

This report constitutes the second and final phase of the Historic Ranch Project (Legacy #781). Research of historical documents, maps, newspapers, and interviews with informants was conducted in order to provide background history for 27 separate research areas located on Holloman Air Force Base. These include eight ranch or ranch activity sites, seven farm sites, six miscellaneous sites, and six non-site research areas. The information in this report provides answers to relative research questions concerning settlement, land acquisition, and land use patterns, as well as a history of land use for those lands currently administered by Holloman. Research indicates that settlement on these lands were an integral part of the ranching and farming economy in the Tularosa Basin in the first half of the 20th century. Additional information includes an analysis of this project for those installations considering similar studies, recommendations of potential eligibility to the National Register of Historic Places, management considerations, and suggestions for further research.

The documentation provided in this report is not conclusive, nor is it comprehensive for the Tularosa Basin as a whole. It provides the history of settlement for only one small part of the region. However, it does present a foundation on which other such studies can build in the hopes of eventually producing a definitive work on historic settlement in the Tularosa Basin.

INTRODUCTION

The Tularosa Basin in south central New Mexico once teemed with ranchers and homesteaders, cattle and horses, isolated windmills and tanks, and a variety of people who made the best of a very marginal environment. For almost 100 years, non-native people utilized the Basin until the establishment of the Alamogordo Bombing and Gunnery Range marked the end of the traditional land use in much of the Tularosa Basin. Today, 52 years later, Holloman Air Force Base (HAFB) is but one of the numerous federal agencies operating in the area. The Base is attempting to preserve a part of the Basin's legacy by documenting the people and a lifestyle which it helped displace.

As part of the Legacy Resource Management Program, Martyn Tagg, the HAFB Archaeologist, suggested a historic ranch project which would fully document all pre-military historic period sites located on Holloman. A judgmental sample survey based on historic maps, informant information, and the location of present water sources was conducted between October and November 1993, to provide an initial inventory of all such sites. The results of the survey exceeded expectations and 17 pre-military historic sites were documented and 4 previously recorded sites were visited. A historic site recorded by another survey team and four research areas which did not contain sites were added to the domain of historic land use areas.

Once a data base was compiled, archival research was conducted. This report represents the results of a three prong research design. 1) A background history of each site was completed with information pertaining to occupants, land use, site function, and identification of site features. 2) The information from each site was then synthesized to create a history of pre-military land use for HAFB lands. Research questions centered on various patterns of settlement, land acquisition, and ownership to produce a comprehensive guide to the various processes revealed through archaeological sites on HAFB. 3) An analysis of the project was conducted to determine feasibility of the methods used, potential research strategies for both surveys and documentation, and areas of further research potential outside the realm of this project.

This report represents the culmination of the second phase of the Historic Ranch study. It includes histories of all pre-military historic sites recorded on HAFB to date and a discussion of settlement, land use, and land acquisition patterns for the region. These types of projects have been relatively rare within federal agencies which concentrate primarily on compliance projects. However, while archaeological investigations can often be cost prohibitive, destructive, and time consuming, historical studies can provide an adequate base from which later projects can be launched when time and funds permit. The Legacy Program provides a vehicle for these types of studies, and it is hoped that this demonstration project will encourage other resource managers to consider historic subjects in their proposals.

PHYSICAL AND HISTORICAL BACKGROUND

Physical Environment

Project Location

Holloman Air Force Base is situated in the Tularosa Basin, part of the Basin and Range Province characteristic of New Mexico (Figure 1). The Base covers roughly 51,000 acres of the Basin and is located 7 miles west of the town of Alamogordo. It is surrounded on the north, south, and west by White Sands Missile Range (WSMR), on the south and west by White Sands National Monument (WSNM), on the south by Bureau of Land Management (BLM) lands, and on the east by private land owners and State land. HAFB also administers approximately 7400 noncontiguous acres near the western slopes of the Sacramento Mountains where the Base water well fields are maintained.

The Tularosa Basin Topography

The Tularosa Basin is a depression resulting from tectonic activity which also formed the mountains to the east and west in the late Tertiary period.¹ The Basin extends from Chupadero Mesa near State Highway 380 south to the northern part of the Mexican state of Chihuahua. It is bordered on the west by the Franklin, Organ and San Andres mountains, and on the east by the Sacramento, White, Jicarilla, and Gallinas mountains. Basin topography represents several physiographic features including white sand dunes, lava fields, upland flats, alluvial fans, deep cut draws, and late Pleistocene lake beds.

The Basin floor is characteristically flat with roughly northeast/southwest trending, deep cut arroyos. Elevations in the portion of the Basin on HAFB range from 4000 to 4200 feet above sea level (ASL). One prominent exception to the flat Basin within HAFB is Tularosa Peak, a volcanic formation which rises to 4398 feet ASL, located at the northern boundary of the Base. It has been suggested that this peak may be the upper portion of a buried fault block mountain range which extends south to the Jarilla Mountains west of Orogrande.²

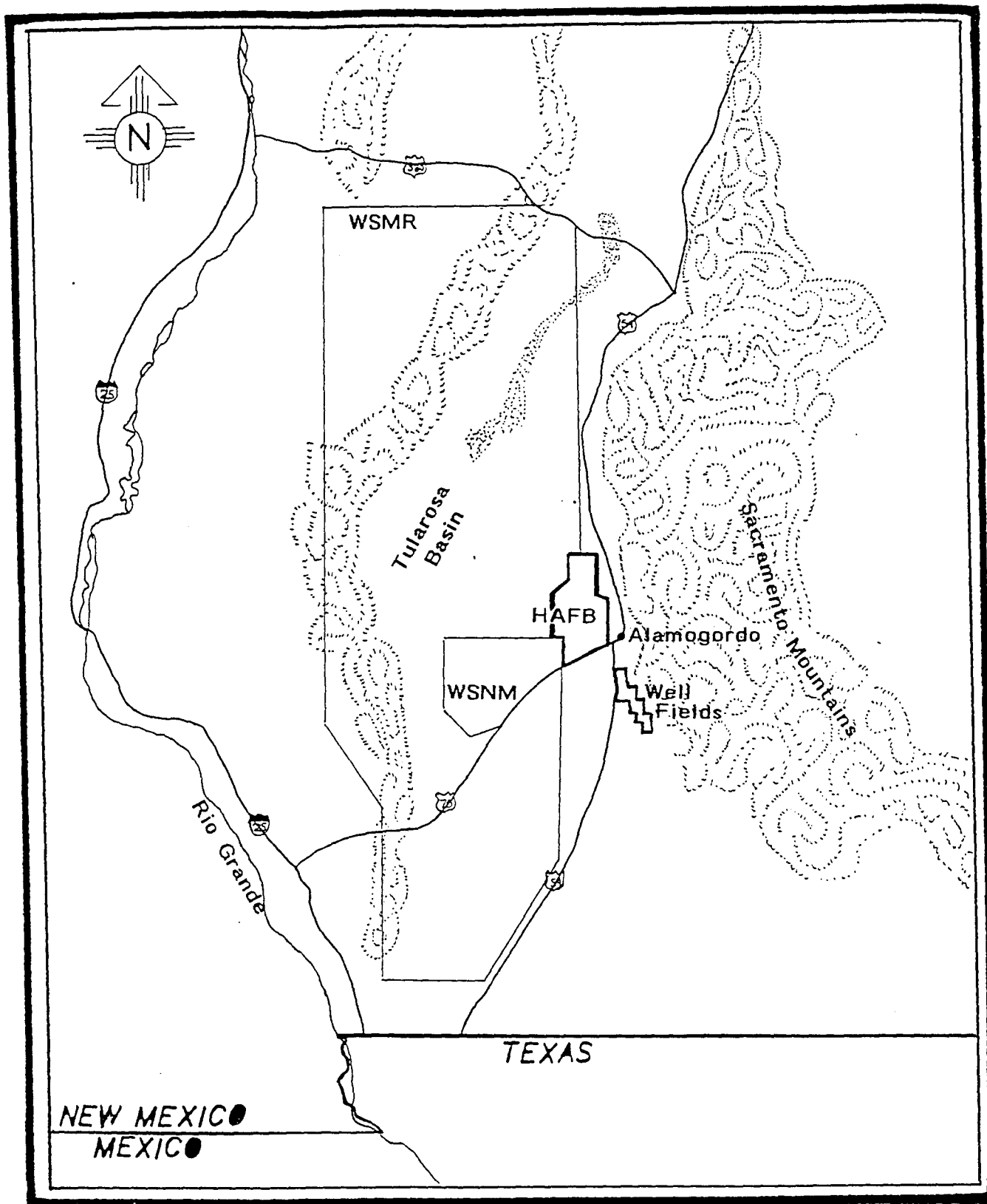


Figure 1. Holloman Air Force Base and the Tularosa Basin.

The white sands, another physiographic feature in the Basin, lie along Holloman's western boundary. They are a result of gypsum deposits from the ancient Lake Lucero and Lake Otero which covered much of the Basin in the late Pleistocene era. These deposits were gradually transformed by aeolian activity into northeast trending dunes which are still active.³ Approximately 224 square miles of these dunes are enclosed by the White Sands National Monument, created in the 1930s by the National Park Service, but the majority are administered by WSMR. Inside HAFB's west boundary are approximately 17,000 acres of white sand dunes.⁴

The Boles, San Andres, and Douglass well fields, administered by HAFB, are situated at the base of the Sacramento Mountains east of the Base. Here, the topography consists of piedmont slopes with prominent alluvial fans dissected by shallow and narrow drainages which begin in the mountains and flow westward down onto the Basin. Elevations in this part of the Base range from 4080 to 4500 feet ASL.

Water Sources

Appreciable water sources in the eastern part of the Tularosa Basin are scarce. The Basin receives much of its water in the form of run-off from the higher elevations of the Sacramento Mountains. The mountain watershed along the eastern edge provides an adequate amount of water for those areas in close proximity to its numerous drainages, the most important being the Three Rivers drainage and Tularosa River. Few of these canyons, however, continue their flow into the HAFB proper, and sink instead into the permeable sandy, calcium laden soils of the Basin. On Holloman, water sources consist of intermittent streams coursing through Malone Draw and Lost River, the Lost River Basin, seeps such as the Salt Lakes and White Sands Lakes, and several ephemeral springs scattered throughout the Base, most located along an active fault line. Doleman claims that the presence of springs indicates the water table may be relatively close to the surface in those areas.⁵

Climate

The climate in the Basin is arid and on average receives less than ten inches of rainfall annually. Like the mountains

bordering it, most of this precipitation falls during the summer monsoon seasons, but the mountains form a barrier which shields the Basin from much of the precipitation falling in the upper elevations. Temperatures are generally high in the summer and mild in the winter, and are variable from morning, afternoon, and night. The growing season in Tularosa and Alamogordo averages 216 days annually.⁶ Winds gust from the west and southwest at 25 to 65 miles an hour, especially in the spring and fall.⁷

Soils, Flora and Fauna

The soils on Holloman proper are mainly of the Holloman-gypsum land-Yesum type, a sandy loam which is high in saline and gypsum content.⁸ The soils at the well fields, Tome Mimbres, consist of sandy and silty loams and are heavily eroded.⁹ Fast runoff of water from the Sacramento Mountain watershed makes these soils especially susceptible to sheet erosion.

The main vegetative community found throughout the Basin is the Chihuahuan Desert scrub varieties, which consists of Creosote Bush, Mesquite, Four-wing Saltbush, Rabbitbrush, Tarbush, Crucifixion Thorn, desert grasses and many species of cacti, especially the prickly pear on the flats and yucca in the sand dunes. The dominance of mesquite increases in the lower elevations and creosote increases in the higher elevations. In the riparian areas of the draws, salt cedar, or Tamarisk, is the most prominent species. This is a relatively recent invader and can be found near water sources, often in association with cottonwood trees.

Fauna consists mainly of small to medium size mammals, reptiles, and birds. These include coyote, cottontail, jack rabbit, badger, kangaroo rat, snakes, and lizards. Numerous bird species inhabit the Basin and the endangered White Sands Pupfish have their home in the Lost River and Malone Draw drainages. The African Gemsbok, or oryx, was introduced in the late 1960s as a game animal and multiplied 600% between 1969 and 1983.¹⁰

It is believed that the Tularosa Basin has undergone extensive changes since the influx of Euro-Americans into the area. Many wells have been drilled and abandoned, and overgrazing has changed the vegetative community of the Basin which apparently supported much more lush grass in the past. As a result, the fauna inhabiting these areas has changed to adapt

to a more desert climate as opposed to its earlier grassland environment.

Farming Potential

"Although practically all of this area has been classified as cultivable land, its value for agriculture is very low and even the production of more hardy forage crops is extremely doubtful."¹¹ This statement by a Department of Interior classifier succinctly states farming potential in the Basin. Its value for cultivation is very limited because water supplies are irregular and unpredictable.

The potential for successful farming increases with the use of irrigation. For example, the Hispanic pioneers who settled Tularosa and La Luz developed extensive irrigation systems and harvested productive crops of vegetables and fruits. These areas continue to be productive and their success is based mainly on dependable water sources such as La Luz Creek and Rio Tularosa. When developers looked to similar irrigation techniques to bring the land south of Alamogordo into cultivation, however, they met with mixed results.

The Sacramento Valley Irrigation Company, established in 1907, intended to use water from the Sacramento River on the summit of the mountain range to develop the area around Dog Canyon. According to early newspaper accounts "This land ... is the very richest anywhere and it only needs water to bring it to a high state of productiveness."¹² The company, it turns out, was only a scheme and the high expectations were not met. The possibilities of irrigation so entranced some early pioneers that they attempted to convince Congress to put the Reclamation Act to work in the Tularosa Basin. The main promoter, Colonel D.W. Woods, believed 100,000 acres could be cultivated with this aid. Although the bill was introduced in Congress in 1911, it obviously did not receive extensive consideration.¹³ Instead of federal aid, private individuals undertook irrigation projects, mainly with the use of windmills designed to bring subterranean water to the surface.

The land to the west of Alamogordo has less agricultural potential, even under irrigation. In fact, irrigation was rare on the flats because of the lack of water, and the technique became less feasible farther west from the mountains. In addition, much of the ground water contained high levels of

gypsum and alkali which proved lethal to many crops. R.N. Woodward of Farmer's Flats, four miles west of Alamogordo, was one exception. He irrigated "trees and berries" with the first "electrically powered irrigation system in the valley". Others in that area raised alfalfa by irrigation.¹⁴

Instead of extensive irrigation, most settlers on the flats planted small gardens which did not require a large amount of water. Occasionally, when rainfall was especially plentiful, they planted cane and watermelons.¹⁵ With the use of flood water farming techniques, the large deep draws also provided enough water for raising corn or hay to feed livestock through the winter.

Despite the lack of water, many settlers still chose to farm. An upward trend can be seen in the amount of acreage classified as farm production in Otero County in the agricultural census: from 3639 acres in 1900 to 15,869 acres in 1920; and 180 farms in 1900 to 556 in 1940.¹⁶ The population census records also show that farming was a desired lifeway for most settlers, especially for those living outside of Alamogordo. Forty-four families, or 65% of the population, living west and south of the Alamogordo village limits chose farming for their income in 1910. By the 1920s, farmers along the foothills made a switch from subsistence farming to commercial ventures, especially in cotton.¹⁷ The most profitable areas remain those around Tularosa and La Luz.

Grazing Potential

One of New Mexico's most important industries is the production of livestock. Of the State's 78 million acres, 98% has been determined useful only for grazing purposes.¹⁸ On a smaller scale, this percentage is probably accurate as well for Otero County, of which a large majority is made up of semi-desert ecozones. Stock raisers have long used the Public Domain in this area year round, and the number of stock increases in the winter when mountain ranchers move their cattle to the milder climate of the Basin. Mesquite, Four-wing Saltbush, and Alkali Sacaton constitute the common forage resources.¹⁹

However, overgrazing has been heavy due mostly to the reliance on the open range system prior to the mid 1930s. As early as 1918, the Department of Interior estimated the range could hold only 15 cows per section year round. As a result of

overgrazing, erosion has taken its toll, especially along the edges of drainages.

The condition of the range itself was not the only factor hindering stock raising in this area. As previously discussed, water has always been scarce. Moreover, because of the alkali content of the ground water, ranchers had to enclose natural water sources in the summer to keep the livestock out and support their stock instead on well water. In the winter, on the other hand, the water sources did not seem to have adverse effects on the cattle.²⁰ Despite these problems, the land in the Tularosa Basin still remains chiefly suitable for grazing, especially that acreage in the interior Basin.

Mineral Potential

Commercially marketable minerals in the Tularosa Basin are scarce. At one point, the white sands were developed for market, as was marble, or Mexican onyx, from Marble Canyon. Neither of these industries added dramatically to the economy of Otero County. Three metal mining districts are located in Otero County along the western slopes of the Sacramentos: Jarilla, near Orogrande, produced copper, gold, and iron; Tularosa produced copper; and the Sacramento District produced copper, lead, and galena. The Sacramento District, closest to HAFB, ceased production in the late 1940s.²¹

Much of the area now within HAFB has been covered by oil and gas leases in the past. According to an Army Corps of Engineers' (COE) report completed in 1957, 6000 acres in Townships 16 and 17 South and Range 9 East were leased for oil and gas explorations between 1948 and 1951.²² Earlier, in the late 1920s, several large companies from Texas set up drilling operations northwest and south of Alamogordo. One of these, Johnson and Johnson, utilized \$30,000 worth of equipment and employed up to 30 workers.²³ Test wells to the south of HAFB were drilled an average of 6300 feet unsuccessfully.²⁴ Although experts have determined that source and reservoir beds are "abundantly present", most oil and gas operations seem to have failed. When the Alamogordo Bombing Range was established, a field examiner found no evidence of any potential minerals, including oil and gas, on the claims.²⁵

History of the Tularosa Basin

The Mescalero Apache (1500-1848)

The first occupants of the Tularosa Basin documented in historic accounts were the Mescalero Apache. Scholars believe this Indian tribe, an Athabaskan group, migrated south from Alaska in the 1400s. By 1541, they had established themselves in southern New Mexico. According to Spanish documents, the Mescaleros inhabited a large region between the Pecos River and the Rio Grande, and from the White Mountains south into northern Chihuahua, Mexico.²⁶

During the Spanish period, the Mescaleros effectively kept the colonizers from entering their homeland. Spanish troops, and later, Mexican forces, pursued the hostile Indians into the Sacramento and Guadalupe ranges, usually losing them in terrain more familiar to the Mescaleros.²⁷

The tribe made their temporary homes in mountain canyons, easily defensible but inaccessible to enemies. They lived in teepees made of well cured skins unlike northern Apache tribes who built jacales, mud and branch huts covered with hides. The Mescaleros subsisted mainly in a hunting and gathering economy. Wild plants and animals constituted their main food source with only minimal horticulture supplementing their diet when necessary. Cadete's White Mountain band is one such group who occasionally farmed in the vicinity of the present location of Alamogordo. Hunting parties often ranged far onto the flats of the Tularosa Basin and the Pecos River valley.²⁸

The bands moved their camps often, usually in response to subsistence needs. Seasonal migrations followed herds of buffalo or antelope or coincided with certain plant harvesting periods. They also moved for health reasons. Jose Cortes, a Spanish explorer, stated that they "change their location frequently in order to breathe new air and so that the site which they abandon might be purified."²⁹

The Spanish government eventually made an agreement with the willing Mescaleros who raided the small villages along the Rio Grande. In 1810, the treaty actually set aside the first reservation for the Mescaleros. The Indians agreed to remain in peace within a bounded area in exchange for rations. The Mexican

government upheld this agreement after Mexico gained its independence from Spain in 1820.³⁰

In 1846, Mexico and the United States entered a war which lasted two years. The reasons for the war centered around the annexation of Texas and President Polk's interest in California, which belonged to Mexico. By 1848, the war had ended after mostly one sided battles. The resulting Treaty of Guadalupe Hidalgo provided the United States with ownership of the New Mexico Territory, as well as California and Arizona. Thus, the United States also inherited the Mescalero Apache, who apparently chose this time to break their four decade peace.

The Mescalero and the United States Government (1848-1873)

By the middle of the nineteenth century, the Mescalero tribe consisted of 600 to 800 individuals divided into five separate bands. Territorial Governor David Merriwether stated in 1854 that the Mescaleros occupied an area of about 15,000 square miles, from the Rio Grande to the Pecos River, and from the northern boundary of Texas to the 34th parallel. Immediately after the United States possession of this area, the Mescaleros resumed raiding on nearby villages. The American forces fought back with more effectiveness than previous troops, and by 1855, the Mescaleros sued for peace with the United States government.³¹

The United States ignored the 1810 treaty between the Spanish and Mescalero because they believed if such a treaty had been made, Mexico would have included it in their demands of Pueblo grants to be upheld under the new government. As a result, the 1855 treaty, as negotiated but never ratified, proposed smaller boundaries for the Mescaleros within their homeland. Fort Stanton, the only fort authorized in southeastern New Mexico, was erected on the Rio Bonito to watch over the tribe. Because Congress did not ratify the treaty, however, the Mescalero increased raiding and were the main reason for the uninhabited condition of the Tularosa Basin, and the Sacramento and Guadalupe mountains, until late in the 19th century.³²

Raiding increased during the Civil War because United States military retaliation against the tribe waned due to other pressing engagements. Shortly after the war, military expeditions resumed. In 1863, the new commander of the Department of New Mexico, General James Carleton, sent all

Mescalero Apaches to the newly established reservation near Fort Sumner in the eastern part of the Territory. Meant to be a determined effort to subdue the tribe, the Bosque Redondo project failed miserably. By 1865, because of disease, lack of provisions, and an extreme dislike for the Navajos also at the reservation, the Mescaleros abandoned Bosque Redondo and returned to their homeland.³³

In the late 1860s, the Mescaleros hostility abated, and by 1871, most of the tribe lived peacefully near Fort Stanton. On May 29, 1873, an Executive Order finally established the boundaries of the Mescalero Apache Indian Reservation in the heart of their homeland.³⁴

Early Non-Native Presence in the Tularosa Basin (1860-1880)

Even prior to the Mescaleros establishment on a reservation, Euro-American people began moving into the Tularosa Basin. The first settlers consisted of Hispanic refugees from the flooded Rio Grande Valley. Floods of the late 1850s had devastated many small towns near Socorro and Mesilla. These people moved to the Tularosa Basin to start over. As historian C.L. Sonnichsen said, "To live [in the Tularosa Basin], has always been a risky business--a matter of long chances and short shrifts, of privation and danger."³⁵ That these people braved the unknown speaks volumes for their courage, determination, and perseverance.

In 1862, the first group of settlers made the move. Led by Cesario Duran and following a route taken by an unsuccessful settlement party two years earlier, over one hundred families relocated at the western foot of the Sacramento Mountains on the Rio Tularoso. They relied on stories of good water and land, and hoped for the protection of soldiers from Fort Stanton. The settlers built adobe huts and dug an irrigation ditch which watered fields of vegetables, grain, and fruit orchards as well as supplying domestic water for the community. They raised cattle, sheep, and horses.³⁶

The Mescaleros periodically raided the village and drove off stock, but little bloodshed occurred until April, 1868. The Battle of Round Mountain started when Fort Stanton soldiers returning to the fort encountered a band of Apache and called on Tularosa for help. Tularosans responded valiantly, and at the

end of the battle, only one of their group had been injured.³⁷ This battle ended the Mescalero threat for the Hispanic settlers.

A year after Tularosa was founded, another group of refugees, from the Socorro area on the Rio Grande, settled in La Luz Canyon, a few miles south of Tularosa. These newcomers lived in dugouts and surrounded their community with an adobe wall for protection against the Mescaleros. The La Luz families grew wheat and corn irrigated by a community ditch, much like their Tularosa neighbors. They raised small herds of cattle, goats, and sheep which at night were kept within the adobe wall surrounding the village.³⁸

The First Anglo-Americans and the Ranching Phase (1870s-1900)

By the late 1870s, with the Mescalero safely confined on a reservation, Anglos began to move into the Tularosa Basin. The first Anglo settlers came from Texas, many of whom, it is said, were wanted for illegal activities in their previous home. The Tularosa Basin looked like the promised land to many. According to one early settler, many moved to the area because of "droughts and overstocking in Texas as well as glowing stories of tall, thick seas of grass, plenty of rainfall, and free land...Here was an area of untold variety..."³⁹ In addition, Fort Stanton supplied a ready market for beef products. Overnight, it seemed, the Anglos overran the Hispanic towns.

One of the first Anglo settlers in Tularosa was Patrick Coghlan. Coghlan, an Irishman, came from Texas in the mid to late 1870s. He began large scale ranching operations near Three Rivers and apparently stocked his ranch with stolen cattle with the aid of Billy the Kid of Lincoln County War fame.⁴⁰ Although Coghlan did not get directly involved in the conflicts which erupted in the Tularosa Basin, other prominent cattle men did. Many of the details of these events are murky, and the stories have become folklore in southeastern New Mexico.

The first major incident involved the Good and the Lee families, both from Texas. John Good moved to the Basin in 1881. Wanted for murder in Texas, Good had taken the advice of many unfriendly neighbors to move on. He settled in La Luz and ran his cattle on the Lost River drainage to the west.⁴¹ By the end of the decade, Good had established himself as one of the main economic forces in the Basin.

In 1885, the Lee family moved to the Basin from Burnet County, Texas, because of "the blue grama grass that grew stirrup high with plenty of water to be had from dug wells...". Oliver Milton Lee, the youngest son of the family, and Perry Altman, his step brother, brought large herds of cattle and horses to the Basin.⁴² Gradually the Lee family acquired a large range near the Sacramento Mountains in the Dog Canyon area, and other members of the family moved out west of Tularosa as well.

The trouble which arose between these two factions appears to have had much to do with egos, greed, and stubbornness. Good wanted to control as much of the Tularosa Basin as possible and saw Lee as a trespasser. In 1888, hot tempers led to the murder of George McDonald, Oliver's best friend and his cousin's fiance. Suspicions fell on John Good's son, Walter, against whom Lee had good evidence, but the authorities in Las Cruces refused to indict Good. A few months later, Walter disappeared, and when his body was found in the White Sands, Lee and his friends received blame for the murder. Lee, Altman, and three other Basin ranchers were indicted and were to be tried in court in Socorro, but the case was delayed and finally dismissed at John Good's wife's request. John Good eventually left town, and the Lee group settled down to life in the Tularosa Basin.⁴³ From this point on, however, Lee was tagged as a dangerous man.

No sooner had the Good-Lee incident been settled than Lee became mixed up in a more dangerous political game, this time against the leading Republican leader in Las Cruces, Albert J. Fountain. Fountain was also a lawyer for the Southeastern New Mexico Livestock Association and responsible for trying all cattle rustling cases. Although Lee was a member of the Association, he was also a Democrat and backed by Fountain's arch rival, Albert Bacon Fall.⁴⁴

In 1894, the Republican lawyer charged Lee and his friend, Bill McNew, with stealing some cattle and defacing their brands. Lee and McNew were indicted in January, 1896, and the punishment for the crime was up to five years in prison. Many other small ranchers in the Basin were indicted on similar charges at about the same time.⁴⁵

In February, 1896, before the case came to trial, Fountain and his eight year old son were murdered in the Tularosa Basin while en route to Las Cruces from Lincoln County. Within two weeks, Lee was accused of murder again because a too obvious

trail led to Lee's ranch. Retired Sheriff Pat Garrett, killer of Billy the Kid, and the Pinkerton Detective Agency were called in to investigate but found very little concrete evidence against Lee. The Grand Jury also refused to indict Lee. The determined Republicans, however, issued warrants for the arrest of Lee, McNew, William Karr, and Jim Gililland.⁴⁶

The case did not come to trial until 1899, and by that time it seemed only a matter of procedure. The trial was held in Hillsboro, New Mexico, and after eighteen days of testimony, the jury handed down the not guilty verdict in only eight minutes.⁴⁷ This case was the last major conflict between ranchers in the Tularosa Basin.

Homesteading Phase in the Tularosa Basin (1890s-1920s)

Homesteaders began filing on the abundant land in the interior Basin as early as the 1890s. In 1890, the Las Cruces Land Office had 18,913,920 acres of available land in the southern part of the territory. As late as 1900, settlers could choose from 1,429,427 acres in Otero County alone. In addition to abundant land, settlers found it easy to acquire.⁴⁸ The United States government had made provisions allowing pioneers land free or for a very small charge of \$1.25 an acre through the Homestead Act.

The Homestead Act provided up to 160 acres of land free to any citizen or alien who declared their intention of becoming a citizen of the United States. The requirements entailed five years of continuous residence on that land beginning no later than six months after making an entry at the local Land Office. The settler had to make certain improvements, such as building a house and cultivating a small amount of acreage. The General Land Office (GLO) also accepted stock raising and dairy production as evidence of good faith and effort to establish a permanent home. After fulfillment of the five year residency period, the settler filed final proof and paid a ten dollar filing fee.⁴⁹

A clause in the Homestead Act, which was used frequently in the Tularosa Basin, allowed settlers to purchase their homesteads for the minimum price of \$1.25 per acre after only six months of residency. In 1891, because of widespread fraud, the government extended the residency period to 14 months. The settlers still had to make improvements on the land. Because the original act

forbade alienation of the land before the title officially was issued, commutation allowed settlers who could not prove up due to special circumstances, such as crop failures, sickness, or death in the family, to get quick title to their homestead.⁵⁰

The Desert Land Act was another law used frequently, but often unsuccessfully, by settlers in the Basin. It was an attempt by Congress to make land policy suitable to the arid portions of the West. The definition of desert lands included those lands that could not produce an agricultural crop without irrigation. If enough native grasses grew on the land "to make an ordinary crop of hay in usual seasons", these lands could not be claimed under this act. Also, the law forbade entering land along streams "until clearest proof of their desert character is furnished." The Desert Land Act provided up to 640 acres to each person who promised to put the tract under irrigation within at least three years of filing an entry. The entrymen paid \$.25 per acre at the time of entry and finished their purchase at the time of proof by paying an additional \$1.00 per acre. They could make final proof anytime within the three year period.⁵¹

Like all land laws, the Desert Land Act had flaws. The government soon found that the acreage was too large to irrigate and required exorbitant amounts of money and labor to fulfill the requirements. Although the law specified the entered tract had to be in compact form, speculators selected acreage in narrow strips along rivers, and gained control of the surrounding land. Widespread fraudulent use of the Desert Land Act occurred when cattle raisers filed entries on the land but never made improvements. They essentially used the act to provide immediate use of the land for grazing, similar to a three year lease, but were unconcerned with eventually owning the land themselves.⁵²

Despite the ease in acquiring land, settlers found it difficult to survive in the Basin. Prior to 1910, only 14% of the settlers proved up on entries made in the five townships south and west of Alamogordo. The next decade showed settlers much more successful and 34% received final patents.⁵³

The Railroad Brings Changes (1900-1910)

After the turn of the century, with the building of the railroad, a great influx of settlers began arriving in the Tularosa Basin. South central New Mexico was very isolated prior to this time. Most of the Territory already had been connected

by railroad transportation. The Atchison, Topeka and Santa Fe Railroad had been built from Santa Fe to Deming and on to El Paso in 1881. By 1893, the eastern part of the territory was connected by the Pecos Valley Railroad from Pecos to Roswell, via Eddy (later Carlsbad).⁵⁴ Conversely, prior to 1898, the south central region had no transportation routes other than wagon trails to bring settlers in or take produce out.

By 1898, however, economic isolation was no longer a factor limiting potential settlement in the region. On June 15 of that year, the El Paso and Northeastern (EP & NE) Railway reached its headquarters of Alamogordo at the western base of the Sacramento Mountains. Charles B. Eddy promoted the idea of the EP & NE and received the backing of eastern capitalists. His plan included a railroad north from El Paso to the gold mining town of White Oaks in the White Mountains, on to the coal fields of the Capitan Mountains, and a spur line into the Sacramento Mountains' rich timber land. Eventually, by 1902, the track met the Rock Island line at Santa Rosa, New Mexico.⁵⁵

In 1898, for the railroad's headquarters, John Eddy, Charles' brother, bought Oliver Lee's water rights to Alamo Canyon and his surrounding ranch land, and had the new town of Alamogordo laid out in its place. The Territorial Legislature reacted to this flurry of activity and created Otero County in 1899 from parts of Lincoln, Dona Ana, and Socorro counties.⁵⁶

Eddy sold the railroad to Phelps Dodge in 1905, and shortly thereafter, the railroad shops moved to Carrizozo. Alamogordo suffered economically because of this sale, but by 1907, the town started to regain its footing. The Fraternal City Sanitarium for health seekers was built south of town and the population again rose. By the end of that year, Alamogordo's population had grown to almost 3500 people, and the town boasted a variety of services including: the Baptist College, the blind institute, a dry goods store, general merchandise store, drugstore, grocery, meat market, 3 hardware stores, 2 lumber stores, a millinery, undertaker, livery stable, two banks, cleaners, hotel, opera house, billiard hall, jeweller, marble works, a masonry and concrete factory, 4 real estate brokers, 3 insurance agents, 3 attorneys, 4 doctors, and 2 newspapers.⁵⁷

Settlers continued to stream into the Basin. The Rock Island Railroad publication, Western Trail, devoted its entire February, 1907, issue to the Tularosa Basin. The railway

excursion packages and special homeseeker rates brought in groups of colonizers from the midwestern and southern states, such as Missouri and Louisiana. As a result of this great settlement boom, the population of Otero County almost doubled between 1900 and 1910 as compared with an increase of only about 10% in the following decade.⁵⁸

Alamogordo was not the only new town to spring up in the Basin after the turn of the century. Orogrande, the first stop on the railroad from El Paso, started as a mining town called Jarilla Junction in 1905. The Jarilla Mountains yielded rich veins of copper and gold. In 1906, a smelter was built and the town was renamed Orogrande. A decade later, the town boasted a 63 room hotel, 9 saloons, 4 grocery stores, a newspaper, and a population of around 2000. The boom didn't last, however, and by the 1930s, all of the mining companies were out of business.⁵⁹

Dog Canyon, located approximately nine miles south of Alamogordo, has always been a busy place in the Tularosa Basin beginning with the Mescalero Apache period. In the early 1900s, a railroad station for the EP & NE was located there, and soon a post office followed. The residents honored S.D. Camp, the first postmaster, by naming the town after him. In 1907, Camp City was "a thriving and prosperous little town" with a grocery store, a new cement and plaster company, and a school. The residents claimed water could be found not far below the ground surface and the soils would support all crops. In 1910, the town was renamed Shamrock, only to be changed once again in 1917 to Valmont. After drought conditions forced some families to leave, Valmont became a ghost town. The post office discontinued in 1922.⁶⁰

Other communities got a small start but did not amount to much. They consisted mainly of clusters of farming families. Fruitvale was located approximately 4 miles northwest of Alamogordo, and families in that area planted crops such as tomatoes, cane, and grains around 1909. Farmer's Flats, located about four miles west of Alamogordo along the Red Arroyo, consisted of dry land and irrigated farms specializing in alfalfa.⁶¹

Around 1906, a Kansas man named R.M. Nichols planned the town of Sacramento City about 14 miles south of Alamogordo. He laid out a town with a seven story hotel, post office, schools, and a block for industrial development, dug a canal from the Sacramento River to the town, and transported prospective buyers

to the area. By summer, 150 people lived at the town site, lured mainly by "planted" gold nuggets. At the end of 1907, the promoters of the town disappeared with the money that capitalists from midwestern states invested. Apparently, the promoters were con-artists. Nichols boasted to a Kansas newspaper that he "sold \$100,000 worth of worthless smelting, irrigation, and water works stock in the fake development project."⁶²

The Ranching Phase Returns (1916-1940)

For the most part, people residing outside of the towns, such as Alamogordo, La Luz, or Tularosa, lived on isolated individual tracts on which ranching was the main economic activity. The Tularosa Basin was especially attractive for ranchers because of the abundance of free land. Essentially, ranchers found the best water holes and filed homestead and/or desert land entries on up to 320 acres, 160 acres under each law, around the water hole. Because water sources were so limited, but necessary, for settlement in the arid Basin, the ranchers effectively controlled thousands of acres around their patented water source. In this way, they made sure settlers, or nesters as they were often called, did not get in the way of the open range.

In 1916, Congress attempted to make the land laws more adaptable to the stock industry. The Stock Raising Homestead Act provided up to 640 acres of land classified as "stock raising" to any individual who met the requirements of age and citizenship. Improvements were required in lieu of cultivation and water sources were to remain open for public use. Although the act was accommodating, especially in a region as arid as the Tularosa Basin, only 59 individuals filed stock raising homestead entries and of those, only 26 (44%), proved up and received a patent.⁶³

Possibly one reason the act was not used more extensively was because, in that era, use of the Public Domain was free. Stockmen used the open range without paying for anything but the improvements they had to make to get water to their stock. To own 640 acres meant payment of taxes and the cost of fencing to keep other ranchers' stock out. By 1934, however, the concept of open range, as it had operated in the Basin for over 50 years, ended.

By 1934, the open range system had ended and ranchers began to rely on state and federal lease permits on adjoining lands in

order to have adequate range for livestock. The federal government passed the Taylor Grazing Act mainly because of overgrazing on the Public Domain. Under the new act, the Grazing Service, in the Department of Interior, divided the remaining federal land into grazing districts, and settlers and stock raisers applied for 10 year permits to run their stock on this land. Preference was given to those individuals who had resided in or near each district prior to 1934. Improvements on federal land also had to be authorized by the Grazing Service.⁶⁴

State lease permits were not a new policy like the Taylor Grazing Act, but prior to 1934, many ranchers had ignored the requirement. Land had been given to the states and territories in the name of educational institutions since colonial times. In 1848, Congress officially granted sections 16 and 36 in each township to the territories, and final title passed over when the territory achieved statehood. Due to the aridity of the southwestern lands, Congress also gave two additional sections, 2 and 32, to New Mexico, Arizona, and Utah. These lands could be leased for grazing or other such purposes, but the state or territory retained ownership. The money obtained from leases was appropriated to normal schools, mining schools, or institutes for the blind.⁶⁵

Contrary to popular belief, stock raisers appreciated the efforts of the Taylor Grazing Act to regulate overgrazing on the range, especially because its first year in effect coincided with a severe drought. The range in the Basin was said to be "as bare as a rat's tail", and the federal government bought 10,000 head of cattle and either shipped them out or destroyed them. Another issue heartening to the ranchers was the fact that federal and state grazing permits were transferable with the private property with which they were associated. When a rancher sold his private, or base, property, the leases were figured into the cost for the ranch as a "unit" because without the leases, the efficiency of the ranch diminished considerably.⁶⁶

Federal Authority in the Basin (1907-Present)

The Taylor Grazing Act was not the first evidence of government influence in Otero County, nor was it the last. As early as 1907, federal authority could be felt in Otero County when the Forest Service established a reserve over most of the Sacramento Mountains' timberland. Next, White Sands National

Monument was created in 1933 and withdrew most of the gypsum dunes from the Public Domain.

By 1942, the presence of the federal government in the Tularosa Basin increased to an astonishing degree. With the United States involvement in World War II, the federal government saw the need for military training facilities and bombing ranges. The Tularosa Basin, with its sparse population and large amount of federal land, proved to be a perfect location. The Alamogordo Bombing and Gunnery Range, comprising 1,243,000 acres of Grazing Service and private land constituted the first military withdrawal. It encompassed most of the lands now contained in White Sands Missile Range and a part of what is now known as Holloman Air Force Base. Construction began in February, 1942. Within a few months, the base became known as Alamogordo Army Air Field, and its mission included a training area for the British Overseas Training Project.⁶⁷

In 1943, the mission changed to the training of American heavy bomber crews, a mission which remained static until the end of the war. The atomic age was escorted in when, on July 16, 1945, the military detonated the first atomic bomb at the Trinity site near the northern end of the range.⁶⁸ Soon after, with bombs dropped on Hiroshima and Nagasaki, Japan, World War II ended.

The immediate effects of the military base on Alamogordo were immense. The economic income of the town switched from one based on farming and ranching to one dependent on military expenditures. In addition, the scarcity of water to supply the new base had been remedied by a contract between the town and the Bombing Range, but by 1944, the town experienced a water shortage unlike any the residents could remember.⁶⁹

The effects of the military on Basin ranches was equally great. Initially, the Bombing Range was a temporary establishment, meant to deactivate after the war. In order to get the land for the range, the military, by authority of the Second War Powers Act, took over much of the privately owned ranch lands and federal grazing lands in the Basin by rental agreements. On January 1, 1942, the Grazing Service informed the ranchers that their leases had been suspended, and they must move their stock off immediately. They also had to move off their private land by the 15th of February.⁷⁰

By the 19th of February, some of the ranchers had not yet moved. Adverse weather conditions and an inability to find a place to move their stock hindered their leaving. According to the Alamogordo News, "The evacuees have not yet been advised as to the terms of settlement by the land acquisition office and are unable to make plans." Still, the ranchers did move, and apparently without much complaining. Some said, "If it takes this to win the war, well, there she is." Mainly, the ranchers were concerned that they had to get rid of their stock because they could not find the range to keep them. Although the price of beef had increased in response to the war needs, these ranchers' cattle flooded the local market and drove the price down drastically.⁷¹

Congress was determined that the ranchers be fully compensated for their sacrifices. The ranchers signed lease agreements giving the military sole access to their private and government land for the duration of the war, and the military promised that ranchers' improvements would be restored to their original condition and ranch units would be maintained for their reoccupation after the war.⁷²

At the end of the war, the base was temporarily deactivated although personnel still remained. Late in 1946, however, the area was chosen for the Air Force Guided Missile Program. The Air Materiel Command reactivated the base, and it soon became clear that it was to be a permanent installation. In 1947, the Air Force and Army became separate entities of the military, and the eastern portion of the bombing range became known as Holloman Air Force Base. The remainder of the range was known as White Sands Proving Ground (WSPG), and later as WSMR.⁷³

The ranchers now understood they would not regain use of their ranches in the near future. Although for a short period, WSPG offered a co-use arrangement to ranchers, a similar plan was not offered for the HAFB ranchers. They agreed that it would not work anyway because it would be impossible to run a ranch efficiently only two days a week.

In 1949, the government informed the ranchers that it would be taking the lands for continuing national defense purposes. They asked the ranchers to sign Lease and Suspension agreements which were renewable annually for 20 years and were to end June 30, 1970. These, in effect, forced the ranchers to lease their private property and agree to the temporary suspension of all

grazing leases. Rental fees were based on each ranch unit's carrying capacity.⁷⁴

When 1970 finally arrived, many ranchers hoped they would be able to return to their homes and desired lifestyles. At that time, however, the government informed them that lease payments over the past 20 years had amounted to a purchase price, and the government now considered themselves full owners of the Public Domain lands. In other words, federal grazing leases had been terminated, and consequently, ranch units broken up. Furthermore, the military desired lease agreements with the ranchers for their private property for the next ten years. The ranchers refused to sign rental agreements, so the government filed annual condemnations against the private lands until 1980. Condemnation proceedings drag on for many years mainly because of the disputes over the rate of compensation for ranch units, including the federal lease lands to which the ranchers felt they were entitled. When the cases came up in court the ranch as a "unit", with its lease properties, was no longer viable and the value of the private property dropped considerably as did the amount of lease payments. In 1980, the government condemned the lands permanently and paid the ranchers compensation on their privately owned ranch land only.⁷⁵

WSMR and Fort Bliss' McGregor Range, which was established in the 1950s, caused similar problems with ranchers in the Tularosa Basin. By the time all the cases closed, the Department of Defense owned most of the Basin, as it does today.

RESEARCH QUESTIONS

Research questions mainly centered around patterns for the pre-military historic sites as a whole as opposed to site specific questions. The topics of study were broad since it was desired to gain as much information as possible without limiting the research to very specific research questions. No areas of research were off limits, and as research advanced, other topics of interest were added or elaborated upon as deemed necessary. Interviews with informants included the research questions concerning land acquisition and land use discussed below. When interviewing people directly associated with one of the sites, however, questions tended to be very site specific.

The following is a list of the research questions established at the beginning of the project. All pertain only to pre-military historic trends.

1. Settlement Patterns

a. What are the settlement patterns on land currently administered by HAFB? How do factors of topography, water, distance to roads, etc., fit into the pattern?

b. What are the settlement patterns within each specific property unit? Where are the sites located within their respective tracts? How do factors of topography, water, distance to roads, etc., fit into the pattern? What is the relationship of specific features at the sites to these factors?

c. What patterns are discernable for the sites in relation to each other? How distant are the sites from neighbors, etc.?

2. Land Acquisition

a. How did people acquire land?

b. How much did they acquire?

c. How did subsequent owners get possession?

d. Do there appear to be any unscrupulous activities involved?

3. Land Ownership

a. How long did people own their land?

b. Why did they move?

c. Do these patterns have any relation to national, state, or local phenomena?

4. Land Use

- a. How did different people use the land?
- b. How do features visible on the surface correspond to land use?
- c. How have people modified the environment and how has the environment modified the lives of people?
- d. Do changes in land use appear to correspond with socioeconomic changes occurring on a national, state, or local level?
- e. How have later occupations impacted the site?

5. What are the major differences between the sites located at the well fields and those on Holloman proper? What could these differences be associated with?

6. How did the establishment of HAFB affect the people living in the study area?

7. What discrepancies exist between oral interviews and archival research?

RESEARCH METHODOLOGY

Historical archaeology has been defined as the study of material remains from any historical period. This definition almost ignores the contributions historical documents can make to the study of physical remains at a homestead, ranch, mine, or other historical site. It is more accurate to say the discipline of historical archaeology involves research in both the physical remains and written records and the interaction of these two modes of research to provide a complete and accurate picture of the activities at the site. In this way, each method of research can verify the other, and fill in gaps where necessary.

Significantly, the main objective of this project did not include exhausting the archaeological research potential of the sites. This point is stressed because the recommendations of this report are geared primarily towards unanswered questions

which could possibly be answered by archaeological work. Thus, in one view, this report could be looked upon as only the first step in an ongoing study of the historical occupation of lands now administered by Holloman Air Force Base. The information in this report can be, and should be, subjected to verification by in-field archaeological studies. Only then can this project be useful in determining models for historic site occupations such as settlement and subsistence patterns, or artifact-land use analyses. In other words, this report contributes to an accurate interpretation and a more complete picture than was previously available for the sites, but without archaeology the full interpretation is not complete.

The initial field documentation of the sites was the main extent of archaeological research completed for this project although supplementary visits to the sites were made when deemed necessary. The main objective was to exhaust the historical documentary research potential of the sites recorded during the survey. This, in turn, fulfilled the second objective which was to provide an historic overview concerning life on the lands now administered by HAFB for the 50 years prior to the establishment of the Base.

In order to fulfill the objectives, it was determined that a history of land use for the Base, in general, would be the most thorough and rewarding avenue of research. Consequently, the sites themselves were not the basic unit of research; the land on which they are located was. Because property units tended to remain stable through various owners, the historical background of each individual tract of land was researched, from which the history of the specific archaeological site could be reconstructed. In this way, the impact of later occupations on the site, as well as how the site may have affected previous occupations, also could be determined.

Another reason for this method of research is that many of the historical documents available view the land in terms of property units, as opposed to, for example, the location of the homestead within that property unit. The only cases in which this method did not work were for those sites on which the occupations of the sites were not documented at all, as in the case of squatters or improvements made on the Public Domain.

From the onset, it was clear that the Holloman sites were not associated with "prominent" or "famous" citizens of Otero

County. By using these terms, it is not meant to relegate the families who are associated to a lower class of people. Instead, it is used to differentiate between citizens who influenced the inner workings, politically, socially, or economically, of the county, from those who mainly were affected by that influence. This latter group of people constitute the common element of society, of which the majority of people are within their own communities today.

Dealing with this group of average citizens automatically raises a research problem which could have determined the success or failure of the project. Although much more can be learned about the past by studying the common or average people, documented histories tend to ignore the "not so famous", in favor of persons who are surrounded by legend or folklore. For example, the objectives of the Oral History Project conducted by the Alamogordo Public Library included, "to record...interview sessions with persons whose reminiscences may be significant...with persons of interest...descendents of some historic figures...[and] to encompass present day personalities and events that are likely to become interesting historically." Who determined what was "significant", "interesting", or "historic" is unknown. To their credit, the Library hoped "that the collection may be as complete and representative as possible", and to a certain degree, they succeeded.¹

Secondary sources, on the other hand, are much more discriminating than the oral sources available. Few historical accounts concerning activities in the Tularosa Basin exist. Those which do emphasize only the outstanding citizens in the early days of Alamogordo, much as historical accounts of Lincoln County tend to revolve around Billy the Kid and the Lincoln County War. Does anybody know anything about the "average" citizens who resided in Lincoln County at that time? In the Tularosa Basin, historical accounts center around such men as Oliver Milton Lee, Charles Bishop Eddy, and Eugene Manlove Rhodes, none of whom are associated with the following sites. Consequently, secondary sources useful for this project were limited and used basically to provide a background setting for the project area.

Therefore, the main sources referred to consisted of those that did not discriminate against any citizen. These sources, instead, emphasized the commonality of all people by focusing on

requirements asked of all citizens. For example, to get land from the federal government, all citizens had to file entries with the General Land Office and file testimonies when proving up. It was not required to file land transactions at the courthouse, but most people did to ensure quiet titles. Grazing leases were also mandatory of all persons desiring to run stock on state and federal land.

The primary focus of the research consisted of records in federal repositories such as the Denver Federal Records Center and Washington National Records Center, the Bureau of Land Management Las Cruces District Office, and the United States Army Corps of Engineers' Albuquerque office. State offices such as the State Land Office, State Engineers' Office, and State Archives were visited. Locally, the Otero County Courthouse, the Chamber of Commerce Museum, and the Alamogordo Public Library provided invaluable sources.

For the most part, a certain procedure was followed to obtain information in the most effective way. Initially, the Bureau of Land Management Historical Indices gave an idea of when certain properties left federal ownership. The patent book in the Assessors Office at the Otero County Courthouse then provided a name for that date and legal description. Names were taken to the County Clerk's Office where ownership and mortgage records could be followed for the property unit, much as title and abstract companies do today. Once a list of all names and dates associated with the property were derived, tax assessments, lease agreements, and the local newspapers became invaluable sources for associating names with activities and events. Census records and the Otero County Pioneer Family History series helped unite names with real people and often supplied the names of living informants who provided more names of informants. Finally, informants and Homestead Testimonies helped recreate the history of historic sites.

It is well recognized that historical documents can be anomalies. Records are kept and some are destroyed, sometimes without discrimination or sensitivity to the information they contain. Some records are inaccessible, while others just can not be found. Others are illegible and some abound with inconsistencies and gaping holes. Possibly most frustrating, but most exciting, to historians, however, is analyzing the records that do exist to ensure historical accuracy. It is called

internal and external criticism. External criticism judges the authenticity of the document itself. This becomes especially important when dealing with rare and unique documents, but is not a particular problem with the types of documents used for this project.

More problematic is internal criticism, or determining the credibility of the information within the document. For the documents used in this project, especially homestead testimonies or tax assessments, this can be difficult and sometimes impossible. Many of the sources are full of fabrications simply because they were not verified by the authorities responsible. For example, certain requirements had to be met before a homestead patent would be issued to a settler. The settler had to testify, and three witnesses corroborate the statements, as to the types of improvements on the land and the amount of cultivation done. If no officer of the Land Office ever visited the homestead, stretching the truth could get a settler a tract of land free with little, and sometimes no, improvements. Determining which settlers might have offered falsehoods and which ones were sincere in their testimonies can be an insurmountable job in some cases.

Analysis of informant interviews is important as well. More so than archival sources, oral reports contain informational biases and need to be subjected to intense internal criticism. A basic problem encountered is the selective memory of informants. Many are elderly and may be in poor health. Women informants are often not as well informed about activities typically considered "man's work". Often, informants' own recollections may be tempered by newspaper accounts or other people's perceptions of an event, and thus, their own account is less what they remember and more what they have picked up from other sources. In addition, over time many accounts gradually become idealized or romanticized versions of everyday activities because of the influence of television, books, or movies about the subject. Finally, although previously conducted interviews with informants who have passed away are available, the questions they answer may not be ones especially helpful to the project, or important aspects may be touched on but not elaborated.

Because of these biases and potential problems, every attempt was made to avoid discrepancies and inaccurate

information in the text. Data obtained from one source was subjected to confirmation through other sources when available.

Once research was completed, the sites were divided into categories according to the primary land use or occupation of the land owners (Table 1). In some cases, land use changed over time. These sites were categorized according to the earliest land use visible in the form of artifacts and features at the site. The categories included ranches and ranch activity sites, farms, and miscellaneous sites. Research areas without sites were also defined as a category.

Table 1. Categories of Historic Sites

<u>Ranches</u>	<u>Farms</u>	<u>Misc.</u>	<u>Non-Sites</u>
HAR-008	HAR-019	HAR-014	Barrett's (Area 4)
HAR-012	HAR-051	HAR-045	Burn's (Area 11)
HAR-042	HAR-053	HAR-052	Harris's (Area 19)
HAR-047	HAR-054	HAR-055	Sumner's (Area 21)
HAR-049	HAR-061	HAR-063	Schoolhouse
HAR-057	HAR-086	HAR-065	Graves
HAR-064	LA 103410		
LA 103411			

Ranches are those sites which fall within the realm of stock raising. Although some cultivation was done, the main economic base of the site was dependent on the sale of livestock as opposed to crops. The sites listed under the ranch category are headquarters, or residences, and are closely linked to the Ranch Activity Sites which make up the total ranch unit. Ranch activity sites consist of range improvements which were necessary to the operation of the ranch. They include windmills, corrals, and tanks located on federal or state property. These two types of sites are grouped together in the Ranches category of Table 1.

Farms are sites at which the land owners intended primarily to raise crops instead of livestock. Although many of these people owned stock, they hoped to derive income from the sale of their crops rather than from the animals. A dairy is also included

here because the economic activity is based on the sale of a by-product of the cattle as opposed to the sale of the cattle themselves.

Miscellaneous Sites is a catch-all category for sites on which no determination of economic activity could be made. Many of these sites were attributed to squatters on the Public Domain who left no written record of their activities. Others have been associated with particular people, but no evidence of their activity at the site could be located.

Non-site Research Areas. In addition to conducting research on historic sites recorded during the survey, information was sought for the historic occupations noted on GLO plats but for which no corresponding sites were found. These research areas are listed separately after the site descriptions. Included in the section is also information on a school which an informant indicated was at the Boles Well Field, and an apparent grave location near the school which was discovered by a later survey. This grave was recorded as an isolated occurrence by Human Systems Research (HSR). These areas were included in the research primarily because their use was as important as the sites in completing the full picture of the history of lands administered by Holloman.

The Site Descriptions

Every attempt was made to organize the following site descriptions consistently for easy reference and comparison. For each site, a short description of the site's location and features is followed by the historical background of the tract on which the site is located. This includes the various claimants and owners of the land and land use information. Each site is then discussed more fully in order to compare historical information to what is present on the site's surface. In depth feature descriptions and potential functions and a discussion of how the artifacts correlate with the background history is given. Finally, an impact and recommendations section notes the various disturbances to the site, potential management concerns, and remaining research potential. A recommendation of potential eligibility to the National Register of Historic Places completes each site discussion.

It should be noted that the sites were recorded using standard archaeological field survey methods, including pace and compass maps in metric measurements. It was felt that it was best to retain the continuity of the field observations without risking non-proportionate dimensions which may have resulted if maps had been converted to English measurements. English conversions for the features, on the other hand, does not defeat the uniformity of the field observations. Therefore, within the text, features are described using the English system, with the corresponding metric measurements in parentheses, for easier comparison to historic documents. Distances between features are given in meters, and site maps are also metric.

RANCHES AND RANCH ACTIVITY SITES

The Danley Ranch

The Danley Ranch was a community operation involving two cousins, Claude and Osie Danley, Claude's daughter Jewell, and James McNatt. The ranch was comprised of several separate ranch headquarters and a 16,500 acre federal and state grazing allotment which covered most of HAFB's western boundary. Two sites have been associated with the Danleys' occupation: HAR-008 and HAR-042.

HAR-008--The Jewell Danley Homestead

HAR-008, formerly called Danley Well, was recorded early in 1993 by the HAFB Archaeologist.¹ It comprises 7650 square meters in the SW1/4 of Section 6, T16S, R8E. The site is situated at the terminus of Hay Canyon near the base of the white sand dunes. Features recorded at the site include a collapsed lumber structure, corral, collapsed windmill tower, an earthen tank, and a well head. The artifact assemblage is relatively small and consists of some domestic refuse, as well as construction materials and livestock related items. Artifacts include whiteware ceramics, glass and tin can fragments, wash tubs, gas cans, paint cans, and construction materials. No diagnostics were located.

Historical Background. In November 1938, Miss Jewell Danley filed a Stock Raising Homestead Entry on the W1/2 SW1/4, SE1/4 SW1/4, and SW1/4 SE1/4 of Section 6, T16S, R8E (Figure 2).² This tract encompassed approximately 120 acres of valuable agricultural land in Hay Draw, and a small portion of the white sand dunes. Jewell Danley was the daughter of Claude Danley whose parents, William and Matilda Danley, moved to the Sacramento Mountains from Texas in the late 1890s.³ When Claude's cousin, Osie Danley, acquired a ranch on the flats west of Alamogordo, they formed a loose partnership in the stock business. Claude Danley acquired his own headquarters approximately 6 miles west of Osie's place. He must have used his homestead privilege already, so his daughter filed the land entry in his behalf.

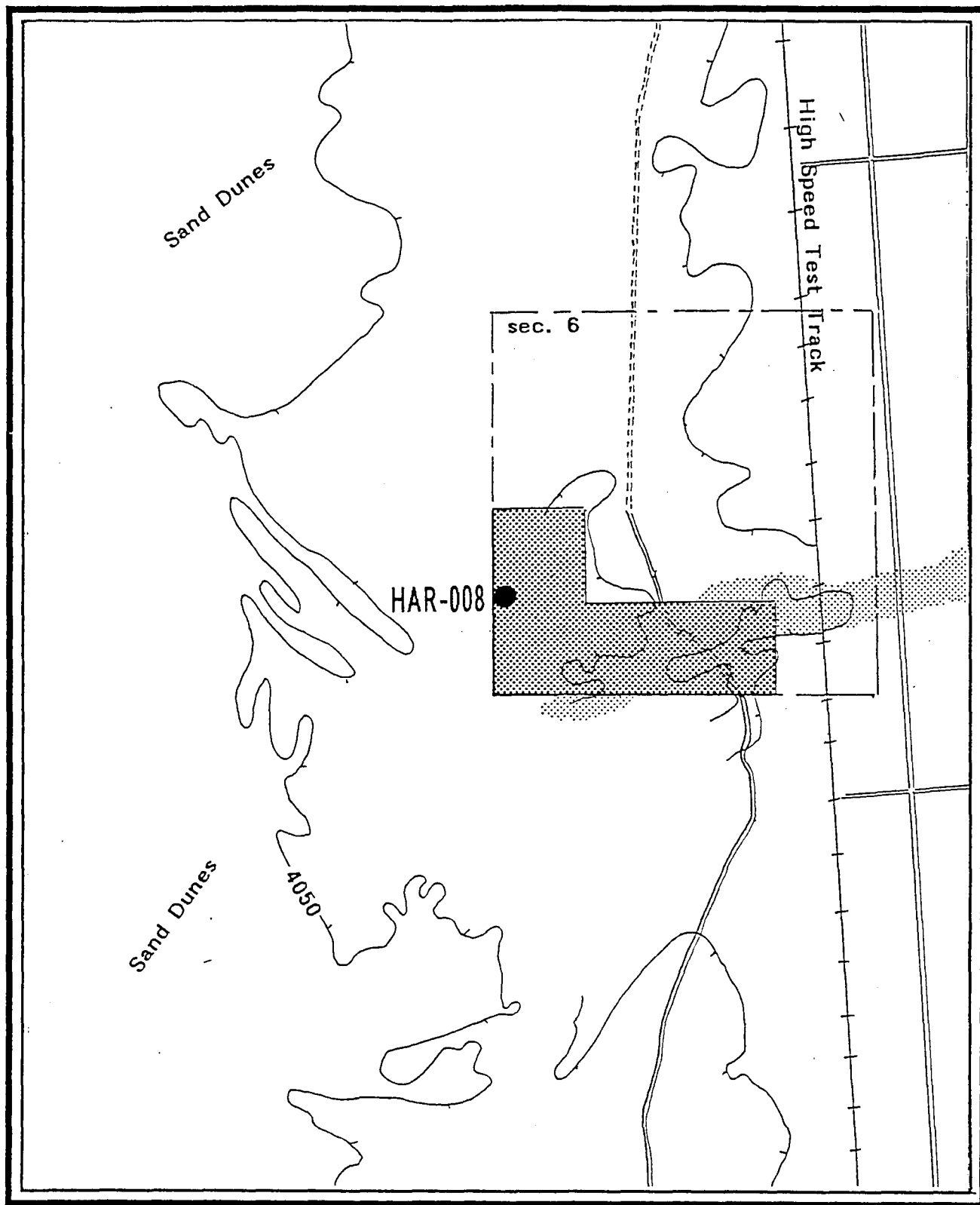
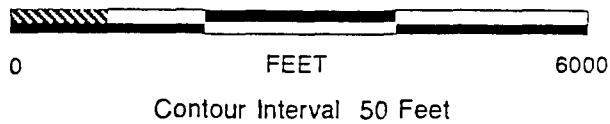
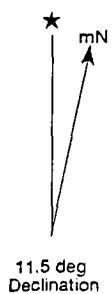


Figure 2.
Jewell-Danley Homestead Entry



- == Secondary Highway, hard surface
- = Light Duty Road, hard or improved surface
- ~ Stream, lake: Intermittent

According to Miss Danley, her family had been using the land since 1933, although she did not file for a patent until 1938.⁴ Whether Jewell resided on the land is unknown, but Claude did until he was displaced by the Alamogordo Bombing and Gunnery Range in 1942. He raised cattle and horses and planted 8 acres of corn, Johnson hay, and a vegetable garden in Hay Draw, which he cultivated with dry land farming techniques.⁵

The GLO cancelled the homestead entry in February 1944. According to the Commissioner, the reason for cancellation was not because the land had been taken over for military purposes, but because the "statutory period has expired".⁶

Feature Associations. The Jewell and Claude Danley ranch improvements consisted of a house, well, windmill, metal storage tank, and a trough. The features at the site are quite dispersed, uncommon for most ranch sites (Figure 3). In addition, the site appears to have been heavily disturbed, probably by military activity after 1942. Too little is known about the site and inconsistencies in the descriptions about where improvements were located hampered feature identifications. By a process of elimination and a comparison of various sources, the most probable picture of the site follows.

The only evidence of a structures at the site is Feature 1, a 10'x 10' (3x3m) scatter of milled lumber. This feature is probably the remains of a 9'x 9' frame house with plank siding, plywood walls, and a corrugated tin roof, which was built between 1933 and 1935.⁷ Domestic artifacts near the feature, such as an enamel pot and a shoe sole, support its identification as the house.

Fifteen meters north of the house is a corral of wood post and woven wire construction with a gate on the west side (Feature 2). The corral is small, measuring only 26'x 16' (8x5m), and may have been used to keep a single type of livestock, such as hogs, calves, or milch cows. A barbed wire fence extends to the southwest from the corral. The windmill, Feature 3, located 100 meters southwest of the house, was a 6 foot steel Clipper mill attached to a 20 foot tall wooden tower (Figure 4).⁸ It straddled a hand dug well, about 15 feet deep, and was hooked up to a Ford Model T gas engine for pumping. The well, which was dug in 1933, produced a flow of around 12 to 16 gallons per

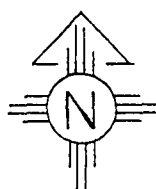
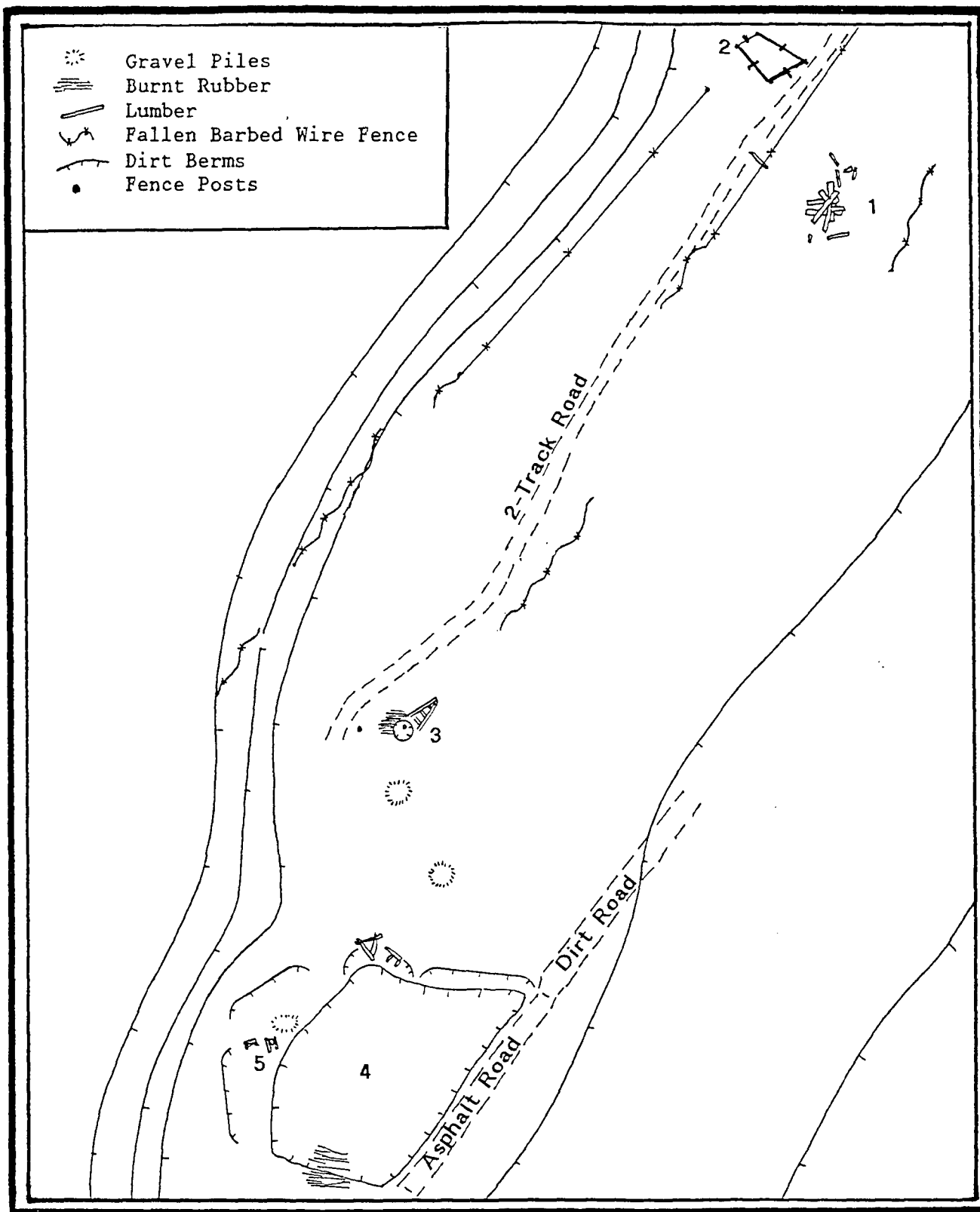


Figure 3. HAR-008 Site Plan.



Figure 4. Windmill at the Jewell Danley Place, 1957.
(COE Files)

minute.⁹ The remains of this improvement consist of the collapsed tower near a 9'x 9' (3x3m) depression from which a metal pipe protrudes. The mill is no longer present at the site.

Located approximately 60 meters further south is a large earthen tank, Feature 4, measuring 98'x 82' (30x25m). Dirt is bermed up on the north and west sides. Apparently, this reservoir was added between 1941 and 1942 as it is not listed on range inspections before that time. On the west side of the earthen tank is another well head (Feature 5), a metal pipe embedded in the ground and flanked by railroad ties. This seems to be the well marked as Danley Well on current topographic maps, but it is not the family's original well. Tommy Danley stated that the well was between the tank and the house, which more closely correlates to Feature 3.¹⁰ It is unknown when Feature 5 was added or by whom.

Piles of burnt rubber and gravel are later additions and an asphalt road along the eastern side of the reservoir does not appear to be associated with the Danleys' occupation of the site. Improvements cited in 1949, such as the wood trough and storage tanks, are no longer present.

HAR-042--The Osie Danley Ranch

HAR-042 is a 24,150 square meter habitation in the NE1/4 of Section 1, T16S, R8E, on the western side of Malone Draw, approximately 6 miles east of HAR-008. Its features include a windmill, water tank, collapsed frame structure, collapsed semi-subterranean structure, and a round depression in the draw. A corral is located on the upland flat above the draw. The artifact assemblage consists of common domestic refuse including whiteware ceramics, glass fragments, and tin cans, which lie concentrated within close proximity to the features.

Historical Background. In January 1903, William J. Karr filed on the tract of land on which this site is located, the S1/2 SE1/4, NE1/4 SE1/4, and the SE1/4 NE1/4 of Section 1.¹¹ Karr and his wife Laura were some of the early pioneers in the Sacramento Mountains and were one of three families who first settled on the western slopes of the mountain range. Once moving to the Basin, they began running cattle with the KAR brand, many of which ranged along the Lost River arroyo.¹² Having already used his homestead privilege, Karr had to file under the Desert Land Act. His wife also filed on an adjoining 320 acre tract to the south. Late in 1904, Thomas C. Crawford filed a contest against Karr's Desert Land entry, and on October 31, 1904, Karr relinquished his entry to John Q. Grant, who converted it to a homestead entry on the very same day (Figure 5).¹³ In addition to his homestead entry, Grant also filed a Desert Land entry on the adjoining SE1/4 SW1/4 of Section 1, and the E1/2 NW1/4 and SW1/4 NW1/4 of Section 12, T16S, R8E, which Laura Karr had relinquished at the same time as her husband. Grant relinquished this tract to his brother, Edward, in 1906.¹⁴

After moving to New Mexico from Ohio in 1903, John Grant quickly became well known in Alamogordo. During a time when the town was experiencing rapid growth, he became involved in the real estate business, or more specifically, "locating

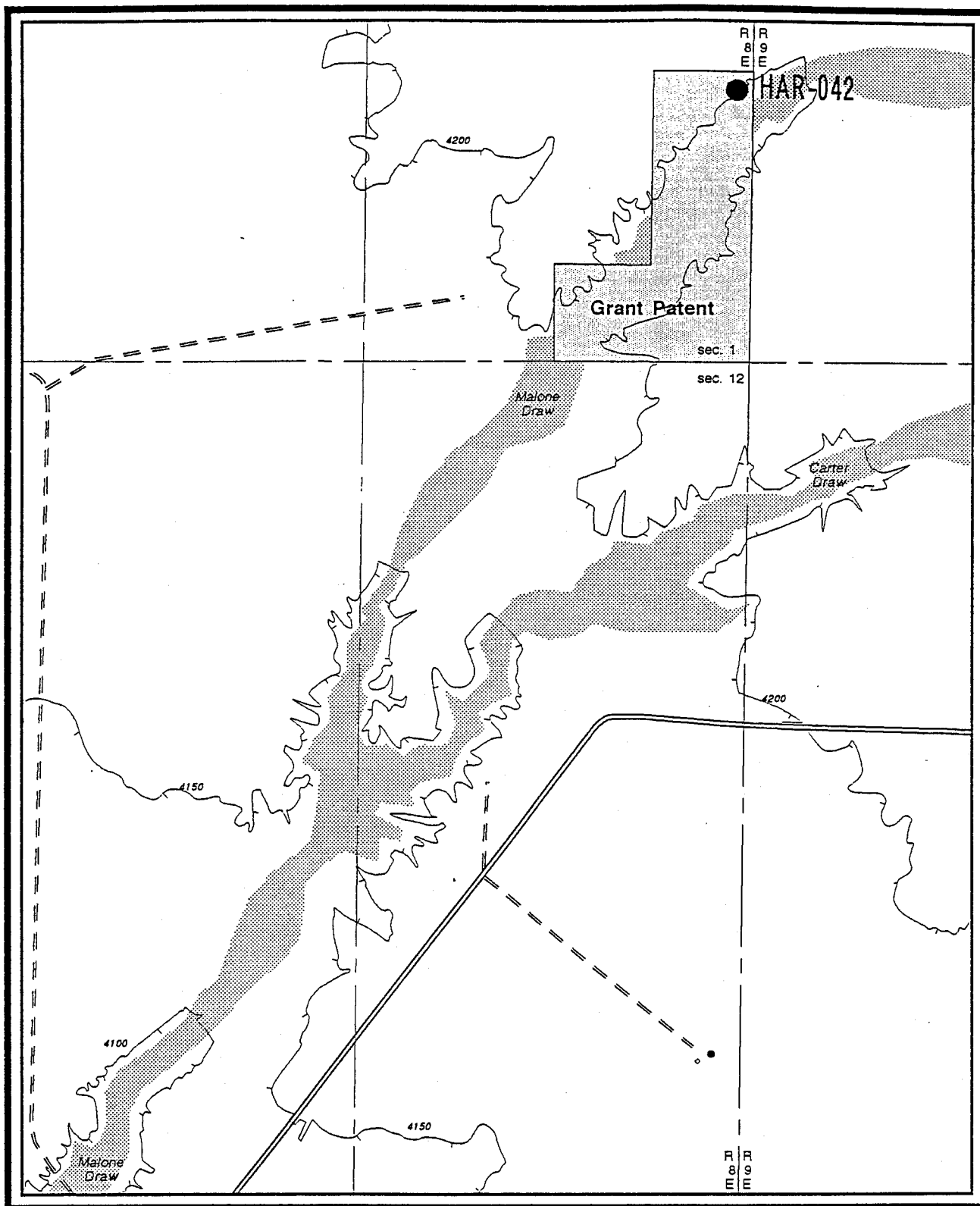
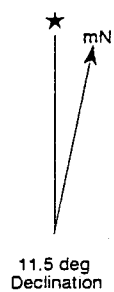


Figure 5.
John Grant's Homestead Patent



Contour Interval 50 Feet

- == Secondary Highway, hard surface
- = Light Duty Road, hard or improved surface
- ◇ Buildings

homesteaders" who poured into Alamogordo on the El Paso and Northeastern Railway. He also put himself in charge of sprinkling the dirt streets of the town with water to keep the dust at bay. In 1906, Grant married the divorced daughter of F.W. Pelman, Delia Brown.¹⁵

The 320 acres of land Grant filed on supposedly served as a family home for Grant, his wife and four children, but they moved to town in the spring for school.¹⁶ Grant was a versatile man who raised hay (70 tons in one year), and also bred for sale thoroughbred Jersey cows which he imported from Sedgewick, Kansas. His herd remained small, however, and never seemed to surpass 20 head of cattle and horses combined.¹⁷

Although he claimed to have used the land, Grant made few improvements during his proof period. When he established residency on his homestead tract in October 1904, he claimed a house was already on the land. By 1906, he had improvements valued at \$200 and consisting only of fences and corrals. Nevertheless, on May 21, 1907, the United States issued the patent to Grant for his 160 acre homestead tract after he commuted the entry and paid \$200 (\$1.25 per acre). At that time, the improvements had decreased in value to only \$100.¹⁸

In 1908, Grant and his family lived in Alamogordo and leased the ranch to James Gould, a rancher from the Sacramentos.¹⁹ The Grants probably never again resided on the tract. In 1913, Grant sold the property to James M. McNatt, who had shared the tax responsibility with Grant as early as 1911 (Table 2).²⁰ McNatt had moved to the Sacramento Mountains in the 1880s along with his relatives C.C. McNatt (HAR-047) and A.A. McNatt (LA 103411), and in the early 1900s moved to the Basin. Little is known about McNatt's residence or use of the land. Although he kept 18 head of cattle and 12 horses at the ranch in 1917, improvements dropped in value to only \$24.²¹

At some point prior to February 1939, James McNatt passed away and his heirs sold the tract to Osie Danley for \$500.²² Osie Danley's parents were also early pioneers of Otero County. He had been born on the Sacramento River, where his parents settled in 1898.²³ When Osie and Garnie Danley purchased the place in 1936, they called it "one of the oldest settled ranches in that part of the country...".²⁴ It remained their home until 1942, when they were displaced by HAFB. They moved back in 1944, but were permanently moved off in 1952.²⁵ The Danley heirs

Table 2. Ownership of the Osie Danley Ranch

<u>Grantor</u>	<u>Grantee</u>	<u>Date</u>	<u>Instrument*</u>	<u>Price</u>
John Grant		10/31/04	HE	
USA	John Grant	5/21/07	HP	\$200
John Grant	J.M. McNatt	3/7/13	WD	\$1500
Mrs. J.M. McNatt	Osie Danley	2/6/39	WD	\$500
Thomas Danley	USA	6/14/88	WD	\$186,000

*See acronym list on page xiii.

retained ownership of the land until deeding it to the USA for HAFB in 1988.²⁶

Feature Associations. According to the Lease and Suspension Agreement of 1949, the Osie Danley Headquarters had many improvements including a house, windmill, well, three tanks, corrals, and a combined saddle and chicken house. In 1950, on an updated agreement, the COE also mentioned a privy, a second well, and a dugout. The features at the site (Figure 6) have been compared to their documented descriptions and the recollections of Tommy Danley, Osie Danley's son, to determine their identifications. Several of the features were not located during site documentation.

The house, located in the bottom of Malone Draw, was a 16'x 23'x 7.5' one room, box construction building with wood block foundation, wood plank floor, and an enclosed 7'x 16'x 16' lean-to porch with a dirt floor. It had several windows, a gable roof covered with corrugated tin and was enclosed by a yard fence of woven wire (Figure 7). This house predates the Danley's occupation in 1936, and Tommy Danley assumed that McNatt built it.²⁷ It is possible it is the same structure that was located on the tract since before Grant's residence in 1904. Today, the remains of the house, Feature 1, are hidden by a grove of salt cedar trees (Figure 8). The eastern wall is still relatively intact, and is propped up by trees. A central door, flanked by two long narrow window frames, are visible, and a plank porch with a pole ramada extends about 5 feet from the wall. Tommy

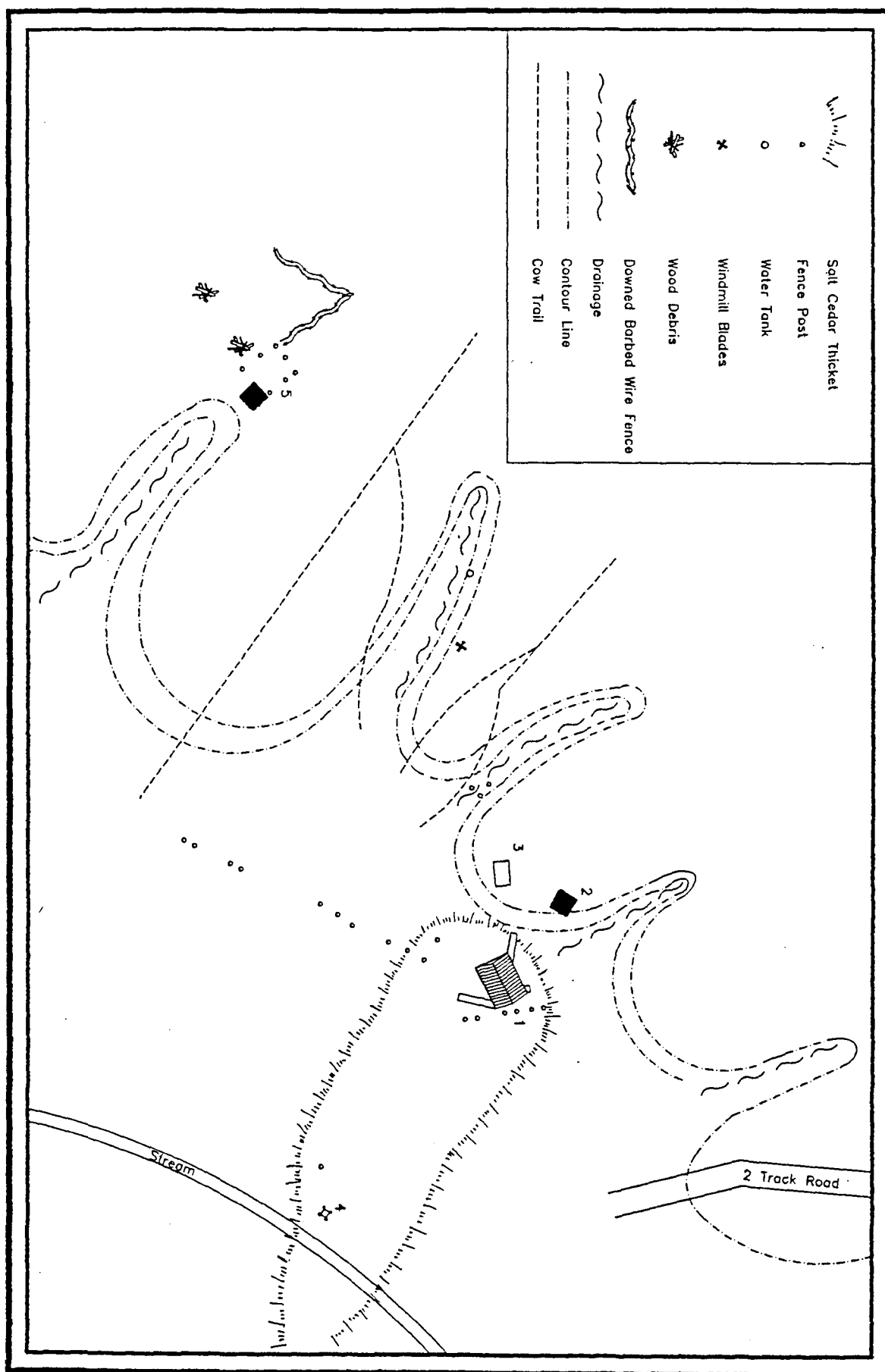




Figure 7. The Osie Danley Residence, 1957 (COE Files).

Danley mentioned that the house had a screened porch on the back which may identify this portion of the house. The remaining walls seem to have collapsed inward and are represented by a haphazard pile of milled lumber which measures 30'x 13'x 8' (9x4x2.4m). A portion of the wood block foundation is still intact. The yard fence is visible on the northeast and west with a gate on the western side.

The privy associated with the house was a 4'x 4.5'x 6' box structure with a concrete floor and seat box, and a corrugated tin roof. According to the Lease and Suspension Agreement, this privy was built by the Works Progress Administration (WPA) in the Depression era. Danley remembered that it was situated against



Figure 8. The Osie Danley residence as it appears today.

the side of the hill to the north of the house; however, it was not located during site documentation.²⁸

Feature 2, located 10 meters north of the house, is an 11'x 11'x 7' (3.5x3.5x2m) semi-subterranean lumber structure which has collapsed inward (Figure 9). It had railroad tie posts at each corner, horizontal plank siding on the walls, and a plank roof. This feature has been identified tentatively as the chicken house which Danley claimed was also in the area north of the house. According to the 1950 Lease and Suspension Agreement, the chicken house was an 8'x 8'x 6' shed type structure with a board roof.²⁹

Approximately 10 meters west of the house is a roughly circular depression (Feature 3), the remains of the cellar or dugout. This dugout was a semi-subterranean, 9'x 9'x 6' structure with posts supporting a wood and tin roof covered with dirt. Although this improvement was not listed in 1949, one year



Figure 9. Feature 2, Chicken House.

later, the COE said that the dugout consisted of "4 old timbers, partly covered with poles and earth, few boards, caved in."³⁰ This cellar is represented by a 16'x 10' (5x3m) depression with a single post in the far western edge and a possible entrance on the east. There are no artifacts associated with this feature.

Forty meters south of the house is the windmill tower and well (Feature 4). According to Tommy Danley, this well was called "New Well". It was a 110 foot deep drilled well with a 32 foot steel tower and an 8 foot Bradley steel mill.³¹ A range investigation report stated that the well was drilled in 1927 or 1928, and it produced a flow of 35 gallons per minute with the help of a 1935 Ford Model T auxiliary engine.³² The mill is located in a small drainage 100 meters away, but the tower still stands and looks much like it did when it was photographed in 1956. Two of the three galvanized metal tanks which were near the well and a trough made from an oil drum are missing. One tank is in the drainage with the mill. Apparently there was also an earthen tank at the site which measured 100'x 40'x 4' and was enclosed by a fence with 4 gates.³³ This feature, which Danley indicated was south of the windmill, was not located during site

documentation. Because of the dense vegetation, it is probably completely overgrown.

The descriptions of the "Old Well" are inconsistent and confusing. This well, which was not located during site documentation, was situated close to the New Well, according to Danley. It, like the earthen tank, is probably hidden in the vegetation. In 1939, a range examination revealed that the well at Osie Danley's Headquarters was a hand dug well, approximately 16 feet deep. This same description is given on the Lease and Suspension Agreement in 1949, which also mentions a steel tower and an Aermoter mill. One year later, the COE claimed that there were two wells on the property. Probably the "Old Well" was dug in the early 1930s, or maybe even during Grant's ownership, then abandoned when the "New Well" was drilled sometime after 1949.³⁴

Corrals and horse traps were located mainly in the draw.³⁵ These could not be located because of the dense vegetation. On the flat above the drainage is the remains of a barbed wire corral (Feature 5) where the milch cow, pig, and calves were located. Danley said a milk pen was attached to the corral, and this seems to correspond with the collapsed structure visible at the east side of the feature. Many galvanized buckets were found in this area, possible confirmation of milking activities.

Artifacts at the site, consisting primarily of domestic trash, offer few clues as to activities at the site. Bottle maker's marks from the 1930s are consistent with the dates of Danley's occupation, but three pieces of purple glass are the only suggestions of an earlier occupation.

Discussion of the Danley Ranch

The two tracts of fee land described above, in addition to another tract north of HAFB, gave the Danleys' adequate base property and water sources to qualify for a Taylor Grazing Allotment (Figure 10). The Grazing Service labeled it a community allotment involving the stock of Claude and Jewell Danley, Osie Danley, and James McNatt. They also had 300 acres of State Lease Land. Their leases covered the northern part of HAFB, in between the two ranches, and the western boundary covering some of the white sand dunes. During their first year, 1935, the partners applied to graze 150 cattle and 15 horses, a relatively small herd for four ranchers combined. This number

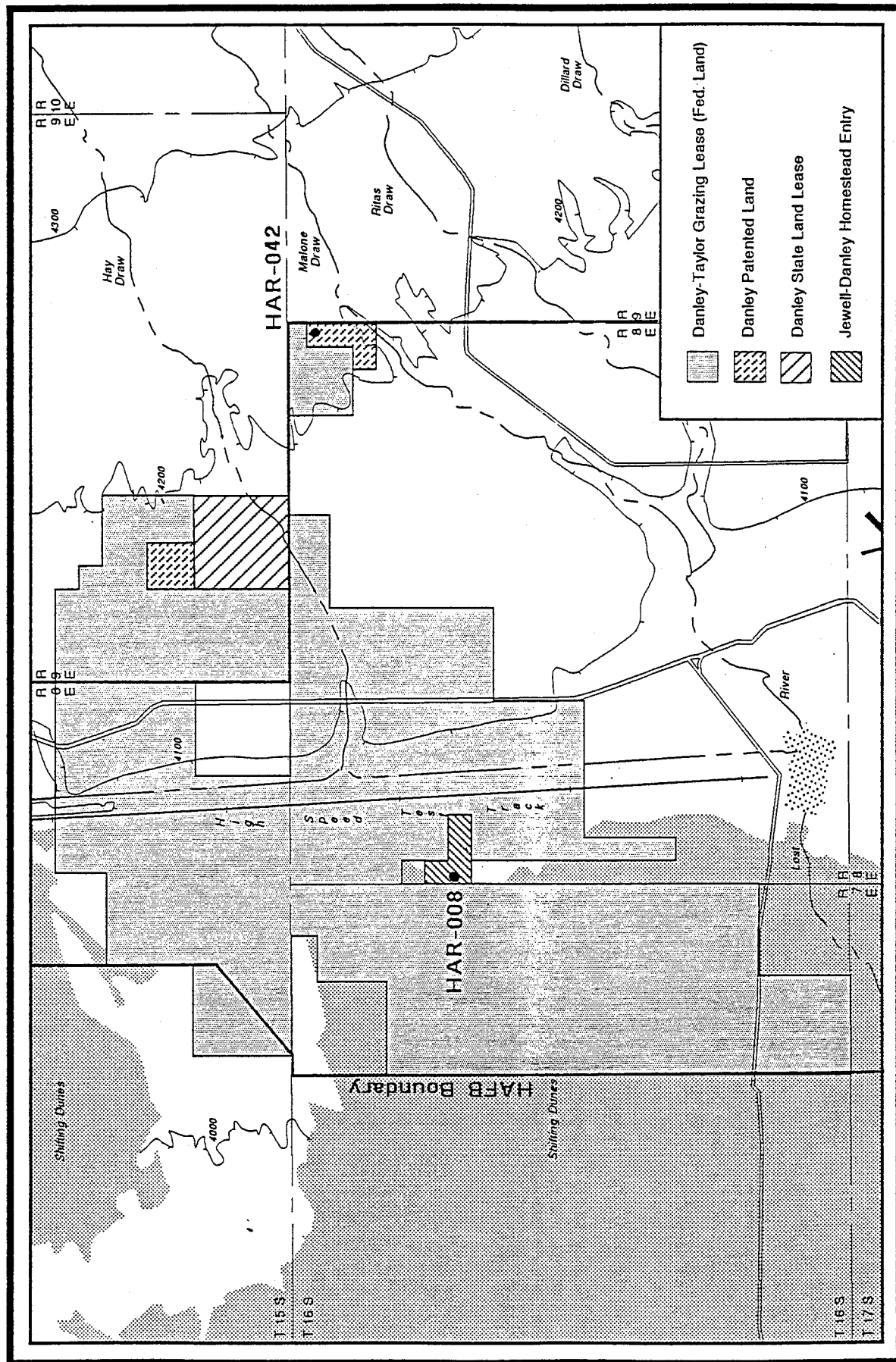


Figure 10.
Danley's Grazing Allotment

Secondary Highway,
hard surface
Stream, lake, intermittent

continually dropped until in 1943, only 14 cattle and 20 horses grazed on their federal allotment. By this time, their acreage had been drastically cut from 16,500 to 570 by the take over of the Alamogordo Bombing and Gunnery Range, and James McNatt was no longer on the permit.³⁶

In 1940, their range was "seriously deteriorated due to destructive use, past and present, by numerous [225] drift horses and by cattle." This major problem occurred because the allotment wasn't fenced. The fencing issue was a continual controversy between the Danleys and C.C. McNatt, their allotment neighbor. McNatt claimed they did not have prior use of a certain section of the allotment and therefore, could not fence it off. The Danleys, of course, insisted they did have prior use. The District Grazier noted that "it does appear doubtful that there was any prior use made after 1930 when the fence was constructed but that there might have been some prior use of the area...before 1930." After several months of bickering meetings between the two parties, they reached a mutual agreement in late 1939, which determined the location of their fences and allowed a right-of-way for Danley's cattle through McNatt's allotment.³⁷

The Danleys cultivated small fields of row crops, such as corn, and both men had small vegetable gardens at their homes. Most of the cultivation was done in Hay Draw at Claude's place, although Osie planted corn if rainfall was plentiful. A percentage of the corn crop was fed to the milch cows and saddle horses, but they did not supplement the feed of the rest of their herd. Pickleweed and coyotes presented occasional problems for the cattle, but admirable profits were made during fall sales.³⁸

Like other Basin ranchers, the Danleys had few of the amenities that town residents enjoyed. As late as 1942, the houses were not supplied with electricity. When they first moved out to their ranches, the Danleys maintained homes in town so their children could attend school in the winter. In 1938, however, the county funded school bus, driven by Claude's son Jack, transported the children into town.³⁹

After the Danleys permanently moved off their ranch headquarters in 1952, Claude Danley and his wife Maggie moved to Washington. Osie bought 6 tracts of land north of HAFB from R.M. Daugherty. Upon doing so, the federal grazing lease transferred to Danley, and he was able to continue ranching. He formed a business with his father-in-law, Tom Jones, and by 1952, they had

a range encompassing 14,700 acres with a carrying capacity of 112 cattle.⁴⁰

Impacts and Recommendations

The condition of these ranches today appears to be primarily the result of natural deterioration, although the military might have bulldozed the structures to keep unwanted tenants off the land. HAR-008 has been heavily impacted by military dumping of rubber, asphalt, and gravel, and the site's location near the High Speed Test Track makes it susceptible to vandalism. HAR-042 has been more heavily affected by erosion along the slope of the draw and grazing is still taking place on the land, albeit illegally. Weathering has also affected the appearance of the features at both sites.

Further archaeological research could be conducted at these two sites. Extensive artifact analyses would contribute to studies concerning consumer behavior, and archaeological testing would help determine the location of missing features at HAR-042. Especially important is to locate the WPA constructed privy at this site. In addition, further attempts should be made to have Tommy Danley visit the site and discuss more thoroughly his family's occupation (extensive construction projects in Alamogordo prevented Mr. Danley from accompanying the author to the sites for the current project).

Together, these two sites offer information about ranching activities and settlement patterns in the Tularosa Basin. They are thought to be eligible to the National Register of Historic Places under Criterion D. Specific research areas to be considered especially from the artifact assemblages are: subsistence patterns, consumer behavior, market accessibility and availability, gender studies, and overall daily ranch lifestyles and marginal environment adaptations. In addition, the sites are thought to be eligible to the National Register under Criterion A on a local significance level. Ranching was a significant economic event in the Tularosa Basin. It led to the use of marginal lands which otherwise would have remained vacant. It was also one of the main economic foundations of the region supported by the town of Alamogordo. HAR-042 exhibits integrity of design, feeling, and setting, and both sites have integrity of association. At HAR-042 especially, enough of the Danley Ranch

remains to convey a sense of how the property was organized, as well as a feeling of ranch life in the early 20th century.

The C.C. McNatt & Son Ranch

The McNatt Ranch encompassed a large part of what is now Holloman Air Force Base. Private property and grazing leases provided the McNatt's with approximately 15,000 acres, all of which was included within the original boundaries of the Alamogordo Bombing Range. Three sites have been associated with the McNatts: HAR-012, the old home place; HAR-047, McNatt Ranch Headquarters; and HAR-049, West Well. These are discussed in this order below.

HAR-012--"The Old Home Place"

HAR-012 is a 8250 square meter habitation site located within Malone Draw just below the western bank of the draw in the NW 1/4 of Section 12, T16S, R8E. This site, formerly called Owl Well, was recorded by the HAFB Archaeologist in February 1993.¹ Included within the boundaries of the site are a collapsed wooden A-frame structure, a one foot diameter pipe imbedded in the ground, and a shallow depression containing 4 railroad ties. Other features include a 15 x 10 meter scatter of broken wooden crates, metal scraps, bolts, screws, square cut nails, purple, clear, and green glass fragments, and brick pieces. This dump is located in an erosional channel west of the features. The final feature (Locus B) is located on the flat above the draw and is a 10 x 4 meter refuse scatter containing domestic trash and construction hardware similar to those items discussed above.

Historical Background. The land on which this site is located was first entered upon by Laura Karr, the wife of William Karr of La Luz (see HAR-042). On May 22, 1903, Mrs. Karr filed a Desert Land entry on the SE1/4 SW1/4 of Section 1; the E1/2 NW1/4, SW1/4 NW1/4, and the SW1/4 of Section 12, all in T16S, R8E. This land, along with her husband's Desert Land entry in Section 1, would have given the Karr's ownership of two miles of valuable bottom land in Malone Draw as well as a part of Carter Draw to the south. The Desert Land Act expressly forbid this practice, requiring entry persons to file on solid, compact

tracts to prevent one person from acquiring all the land along such a waterway. Nevertheless, the General Land Office accepted Mrs. Karr's entry, and according to one of her witnesses, she planned to irrigate this tract by digging wells and "erecting a pumping plant".² William Karr, however, was a rancher, so there is little doubt that they wanted the land for stock use and not the farming activities to which the Desert Land Act applied.³ At any rate, when Thomas Crawford filed a contest notice against William Karr's entry causing him to relinquish it on October 31, 1904, Mrs. Karr relinquished hers as well.

As soon as the Karrs' relinquished their entries, John Grant filed a Desert Land entry on much of Mrs. Karr's tract to adjoin the Homestead entry he filed on Mr. Karr's tract. Although Grant proved up his homestead entry (HAR-042), he relinquished his Desert Lands on August 24, 1906. At this time, Edward Grant, John's brother, entered on the NE1/4 NW1/4 of Section 12, only to relinquish it six years later without proving up.⁴ On May 6, 1912, yet one more brave soul, John Bishop, filed on the land, but he relinquished the tract within two years.⁵

Because all these persons failed to prove up their entries, no direct evidence exists as to who, if anyone, actually lived on the land. They may have been using it for grazing without competition by filing the entries but had no intention of proving up. If, on the other hand, these were legitimate entries, the succession of failures indicates the difficulties ranchers and homesteaders faced at that time.

After Bishop relinquished his tract in 1914, the State of New Mexico acquired it as an "in lieu" selection. The tract included 240 acres in Section 12: N1/2 NE1/4, SW1/4 NE1/4, NE1/4 NW1/4, and S1/2 NW1/4. When their application was approved, the State recognized the preference right of C.C. McNatt over the E1/2 NW1/4, and SW1/4 NW1/4 of Section 12, part of Mrs. Karr's original entry.⁶ On March 17, 1916, McNatt purchased the entire state selection of 240 acres at an auction for \$840 (Figure 11). Also included in the sale were 40 acres in the SE1/4 SW1/4 of Section 1, T16S, R8E. The fact that he paid only the minimum price of \$3.00 an acre for the land suggests he was the only bidder. The State Land Office listed as improvements on the land: a house, corrals, well, windmill, troughs, reservoir, and fencing valued at \$1715. McNatt had to pay the appraised value of the improvements and at least a 10% down payment at the time

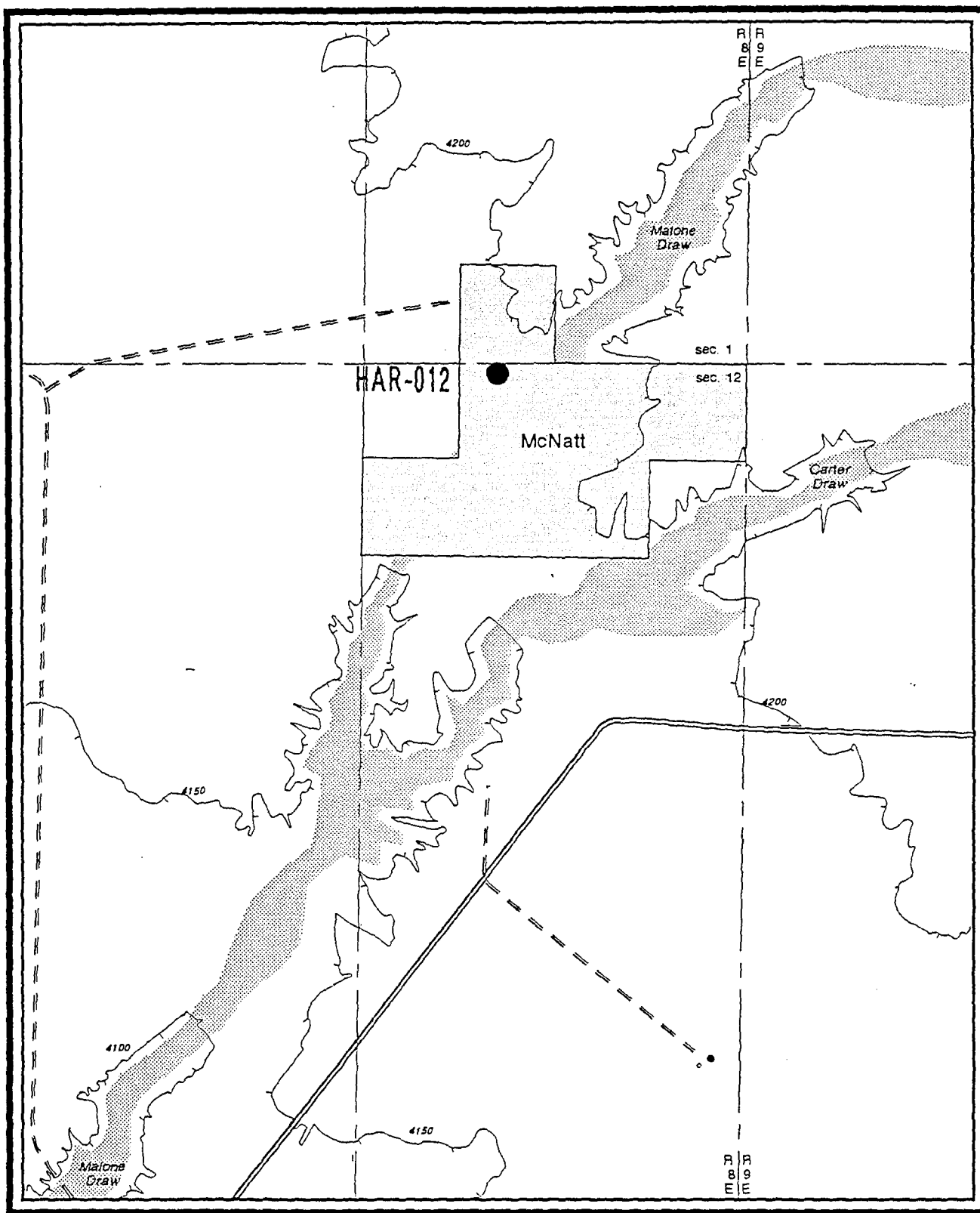


Figure 11.
C.C. McNatt's State Purchase



Contour Interval 50 Feet

- == Secondary Highway, hard surface
- == Light Duty Road, hard or improved surface
- ◇ Buildings

of the auction. He then had 30 years to pay the remainder, but he paid it off in 24 years.⁷

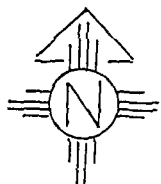
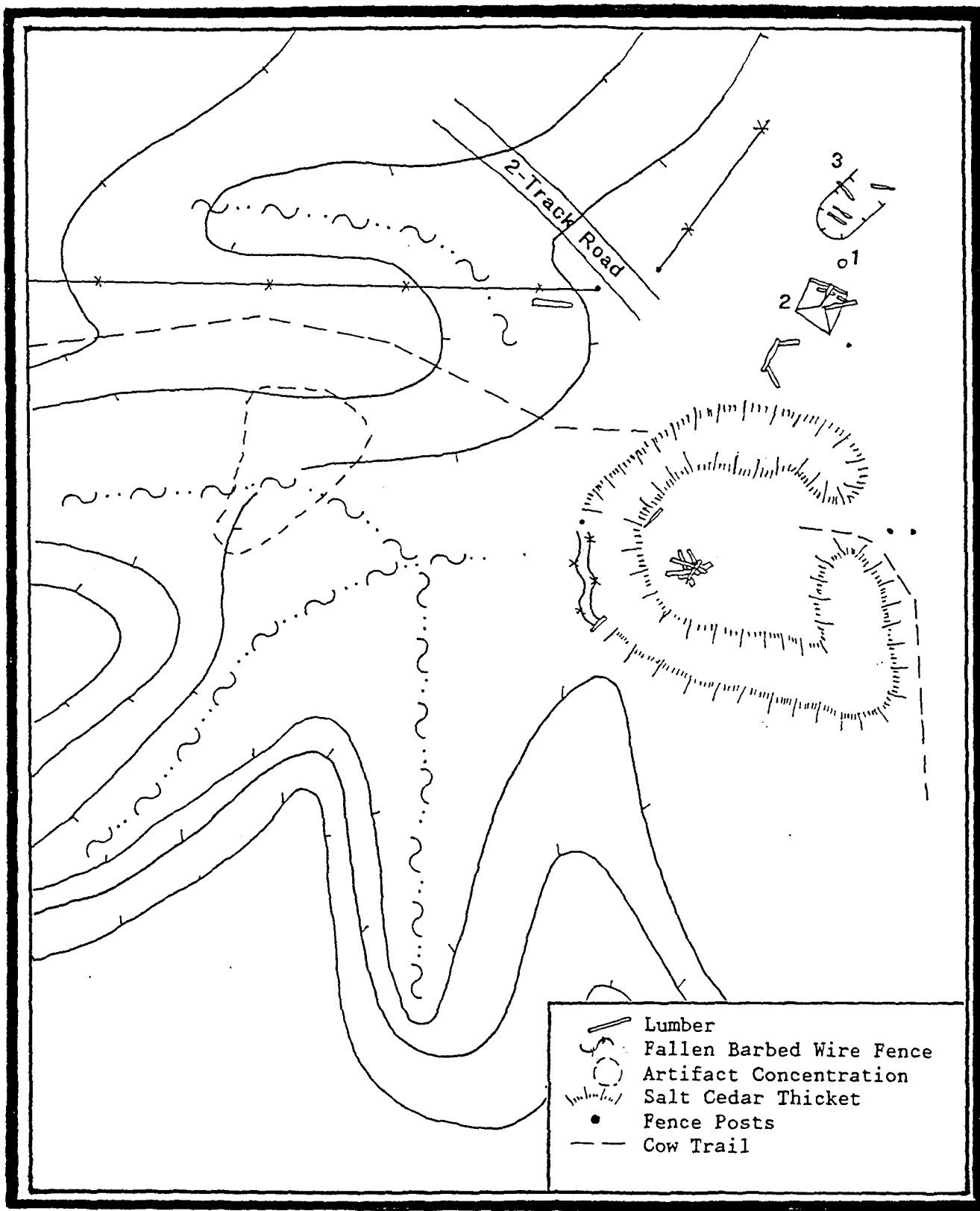
Although McNatt purchased the land from the State in 1916, the family continued to live in town so the children could go to school. During this time, he kept the improvements maintained and stocked cattle and horses on the land.⁸

Throughout the 1920s, various members of the McNatt family sporadically resided on the ranch. C.C. and his wife Ella lived there for a short period before moving back to town where Mr. McNatt was employed as a jailor at the courthouse. Later, their oldest daughter and son-in-law, Vivian and Doss Bradford, lived at the homestead and ran cattle. Apparently, it was during a drought and the cattle had a hard time surviving. When Mr. Bradford caught the hay stacks on fire, they decided to give up and move back to town. "They just didn't have the stomach for country living." Early in 1928, McNatt's daughter Gladys and her husband John Richards moved out to the place. The Richards attempted to raise goats but quickly gave up.⁹

Later that year, the McNatts' youngest son, Doug, and his wife Susie moved to the homestead, and the elder McNatt's joined them in 1931. Ella's doctor had told her she only had six months to live, and she wanted to spend it on the ranch. Because of the house location in the draw, however, flood waters often flowed through the home making long term residence unpleasant. In late 1931, therefore, the family decided to move south to a new residence overlooking Carter Draw.¹⁰

Feature Associations. According to Susie McNatt, the improvements at "the old home place" were located in the draw (Figure 12). There was a house, cellar, outhouse, chicken house, pump house, workshop and saddle house. The house and a well were already on the tract in 1916. McNatt moved a two room house onto the land to add to the two room frame dwelling already located there. This completed 4 room house had a screened porch across the front. The structure is no longer present at the site. Feature 1, the well, was drilled in 1912 to about a 153 foot depth. By 1939, it was not in use and the windmill had been dismantled.¹¹

The remaining improvements were constructed by McNatt between 1917 and 1918.¹² Feature 2 is the 13'x 13' (4x4m) collapsed remains of a an A-frame structure with 1x6" plank



0 Meters 20

Figure 12. HAR-012 Site Plan (Locus A only).

siding and gable roof covered with corrugated tin (Figure 13). It represents a 10'x 24' box frame pump house with post foundation and a 4 foot eave.¹³ Behind the house, McNatt built a dugout cellar, Feature 3, which had a front wall made out of railroad ties, and measured approximately 23'x 10' (7x3m).¹⁴

Most of the improvements and the house were relocated to the new ranch headquarters in 1931 and there is no evidence of where they once stood. The privy was not moved but could not be located. Diagnostic artifacts, such as purple glass and bottle maker's marks, suggest a date consistent with the McNatt's earliest occupation of the site. These artifacts may just as well be associated with the earlier entries of Laura Karr, Edward Grant, or John Bishop, but because of the written and oral evidence that the McNatts resided at the site, they are thought to be associated with this latter family.



Figure 13. Feature 2, Pump house at "the old home place".
(HAFB Archaeologist's Photo Files)

HAR-047--McNatt Ranch Headquarters

HAR-047 is a 49,950 square meter ranch complex located in the S1/2 of Section 12, T16S, R8E, on the northern edge of Carter Draw. The site consists of numerous features including: 3 round metal storage tanks, a square concrete tank, 4 depressions, a windmill, eight collapsed frame constructed structures, a trough, and a corral with numerous pens. Associated with these features is a low density artifact scatter concentrated mainly on the flat within close proximity to the structural remains. Artifacts consist of domestic refuse such as glass, ceramic, and tin fragments. An east/west dirt two track road bisects the site.

Historical Background. The land on which the site is located passed through a long chain of ownership before the McNatt's purchased it (see HAR-061). The site, however, is only associated with the McNatt's ownership. In 1941, C.C. McNatt purchased the land from his daughter and son-in-law, Vivian and Doss Bradford, although the McNatts established residence there at least ten years earlier.¹⁵ The property remained in the McNatt family until final Warranty Deeds were signed between the C.C. McNatt heirs and HAPB, turning the land over permanently to the Air Force in 1988, after long drawn out condemnation proceedings.¹⁶

In 1932, the elder McNatts and Doug and Susie McNatt, moved to this new ranch only .6 miles from the old home place. At this time the two families shared a house until the older couple built a new one approximately 60 meters to the east. In 1938, the elder McNatts moved back to Alamogordo, and Doug and Susie planned to purchase their part of the ranch. At that time, a school bus came out to pick the kids up for school, so they didn't have to move to town in the fall. Mr. McNatt and Doug ran the cattle like a partnership until Doug could buy his father out.¹⁷

Feature Associations. The McNatt Ranch Headquarters had two houses and numerous outbuildings, tanks, and corrals. Susie McNatt was interviewed at the site and an attempt had been made to associate her recollections and the COE descriptions on the Lease and Suspension agreements to what is currently present. All outbuildings were located during the site documentation except for one outhouse. Features 1 and 2, originally thought to

be cultural features, now appear to be sinkholes associated with the "underground river" which flowed under Carter Draw.¹⁸ The depressions noted in a grove of salt cedar trees east of the site also appear to be sinkholes. Most livestock/ranching related features were located in the bottom of this draw (Figure 14), and residential features were located on the bank above it.

Water Control Features. Features 3 and 4 appear to be associated (Figure 15). The well, Feature 3, was hand dug by McNatt in 1929 to a depth of 12 feet. The top of the well is squared off with a framework of 2x4" lumber. The windmill which once straddled the well was on a 24 foot tall wood tower with a 12 foot steel Samson mill. The well produced a flow of 16 gallons per minute.¹⁹ The bracings of the tower legs are still in place, and the damaged

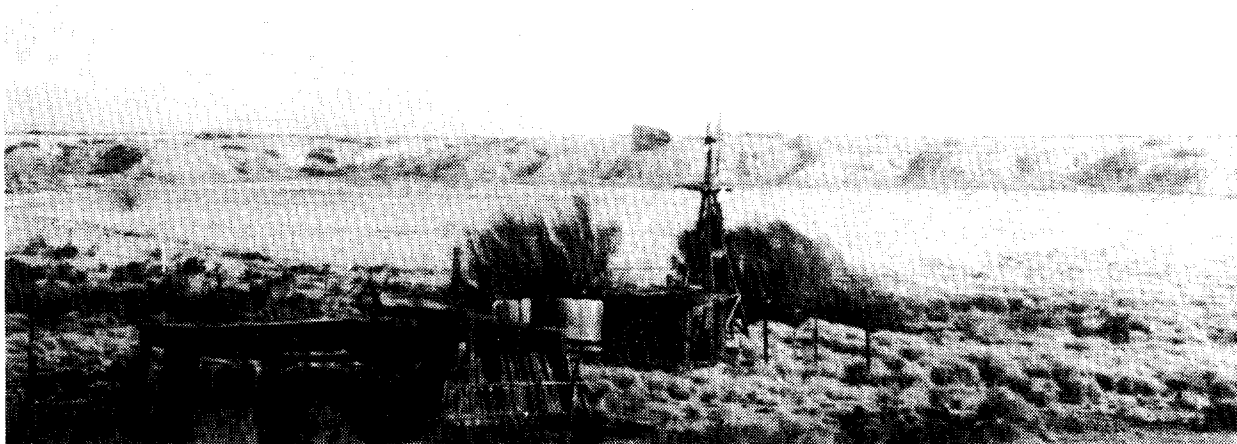


Figure 14. Outbuildings at McNatt Ranch Headquarters, 1957.
(COE Files)

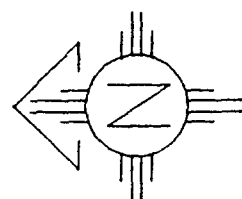
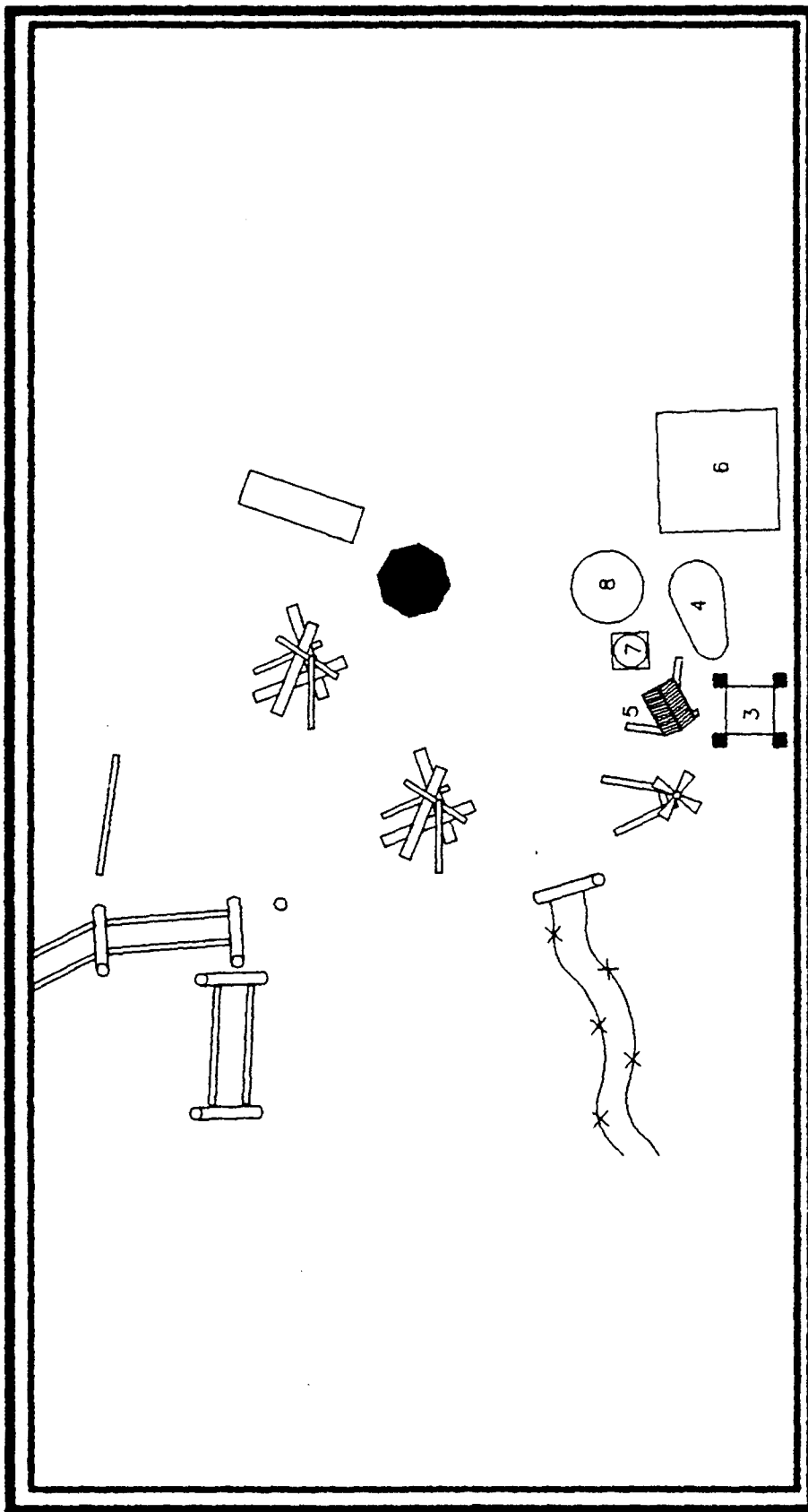


Figure 15. HAR-047 Site Plan (inset).

mill is lying to the northwest. Some lumber fragments are scattered around and within the 3'x 3' well hole.

Feature 4 is a 12'x 9'x 9' (4x3x3m), hand excavated bell shaped depression located approximately 2 meters east of the well. It appears to have a lumber roof and post supports. The function of this feature is unknown, although a couple of possibilities exist. According to an investigation made by a Grazing Service range examiner in 1941, "a natural spring...rises near the well..."²⁰ The depression could be this spring, and the lumber may represent McNatt's development of it. A more plausible possibility is that it is a second well. Although Mrs. Susie McNatt did not remember two wells at the ranch headquarters, McNatt's 1939 grazing inspection report indicated that he had two wells tunneled together. The second well was run on a gas engine.²¹ The Lease and Suspension Agreement of 1952 also listed under the well improvements: "cover 8 1/2' x 8 1/2' of 1" x 4" pine flooring & misc 1" material; pump jack w/1 cyl air-cooled gas engine."²² This flooring is possibly the lumber seen within and covering the depression.

The pump house, Feature 5, is located directly north of the windmill and well. It was an 8'x 8' frame structure with plank



Figure 16. Rear of pump house at McNatt Ranch Headquarters as it appears today.

siding, hand cut wood shingles on the roof, and a dirt floor.²³ Currently, the back wall of the structure is still standing, propped up by the roof which has collapsed forward (Figure 16). This structure housed the well equipment for the windmill, and judging from the wood shingles on the roof, it was brought over from the old home place (HAR-012) at the same time as the house (Feature 19).

Directly east of Feature 4 is a "rubble masonry" tank (Feature 6). It measures 15'x 15'x 2' (5x5x.5m) and the 8 inch (.28m) thick walls and floor are capped with cement. The McNatts engraved their brand "+ L U" into the wall of the tank. This feature was probably added after 1939 because it is not listed on a range inspection report for that year.²⁴

Three round galvanized metal storage tanks are located in the draw. Two of these tanks, Features 7 and 8, are situated next to each other and appear to be in their original locations. They are both 6 feet in diameter and 6 feet and 9 feet tall respectively. Feature 7 is set up on a 5'x 5' (1.5x1.5m) foundation of crisscrossed railroad ties capped with cement. The other storage tank, Feature 9, is located a few meters away. It is smaller, only about 2 feet tall and 6 feet in diameter and is overturned, suggesting it has been moved from its original location. All three tanks were used to store water for stock use. Mrs. McNatt stated that they used to put goldfish in the smaller tank.²⁵

Feature 10, a wooden trough measuring 10'x 1.5' (3x.52m), is the final water control feature at the site. It was probably constructed in 1931 or 1932 and was the first watering trough at the ranch.²⁶ It is located approximately 7 meters north of Feature 9. The trough is constructed of wood planks and at one time measured 16'x 1.5'x 1.5'. Apparently, a 2 inch lead pipe transported water from one of the storage tanks to this trough.²⁷

Stock Related Features. The saddle house, Feature 11, stood to the southwest of the water trough and at the eastern end of the corral. It was a 10'x 14' frame structure with a corrugated tin roof and a wood plank floor. The corral was attached to one side of the structure.²⁸ Today it appears as a pile of milled lumber with no definitive dimensions.

Northeast of the saddle house was a corn shed or feed house, Feature 12. It was an 8'x 12' frame structure with a corrugated tin roof and siding, and a wood plank floor. This structure was used until the granary was built, and all that remains is a pile of milled lumber. The granary, Feature 13, located on the flat above the draw, was a 12'x 12' frame structure with a floor and double walls covered with galvanized tin (Figure 17). The McNatts stored corn and feed in this building to protect it from mice.²⁹ The building has been pushed over, its walls crushed, and it has been shot at.

Also on the flat and only a couple of meters south of the granary was an open front work shop, Feature 14. It measured 16'x 20' and had a corrugated tin roof and a dirt floor. The farm equipment and tools were stored in this building.³⁰ Part of the post foundation is still visible, but otherwise the building has been completely demolished.

The McNatt Ranch had at least two chicken houses. One of these, Feature 15, is located immediately north of the granary. Today a small drainage separates the two features, but Mrs. McNatt claims that the drainage did not extend that far up slope at the time they lived there. This chicken house was a 6'x 14' frame structure with a corrugated tin roof and a dirt floor. Currently, it is a pile of lumber with one window covered with chicken wire still visible. A feed bin is located in the draw. Another chicken house was located on the western portion of the site. Either Feature 16 or 17, two discrete piles of lumber, could be the remains of this building. It was an 8'x 10' frame structure similar to Feature 15. Neither of these features had pens attached, because the chickens ran loose about the ranch.³¹

Corrals. The corral in the draw comprises Feature 18. It was separated into several pens which provided space for different activities. According to the Lease and Suspension Agreement, there were as many as six separate pens varying in size from 90 to 475 linear feet, as well as crowding pens and chutes which measured 66 linear feet. The crowding pens had one 9 foot gate, four 8 foot gates, and five 6 foot gates, all constructed of 2x6" boards. The corral's several pens controlled the saddle horses when they were needed, the milch cows, the calves, and the hogs. The hog pen had a little shelter over one corner. Another pen was used for breaking horses.³² The corral, as it appears today,

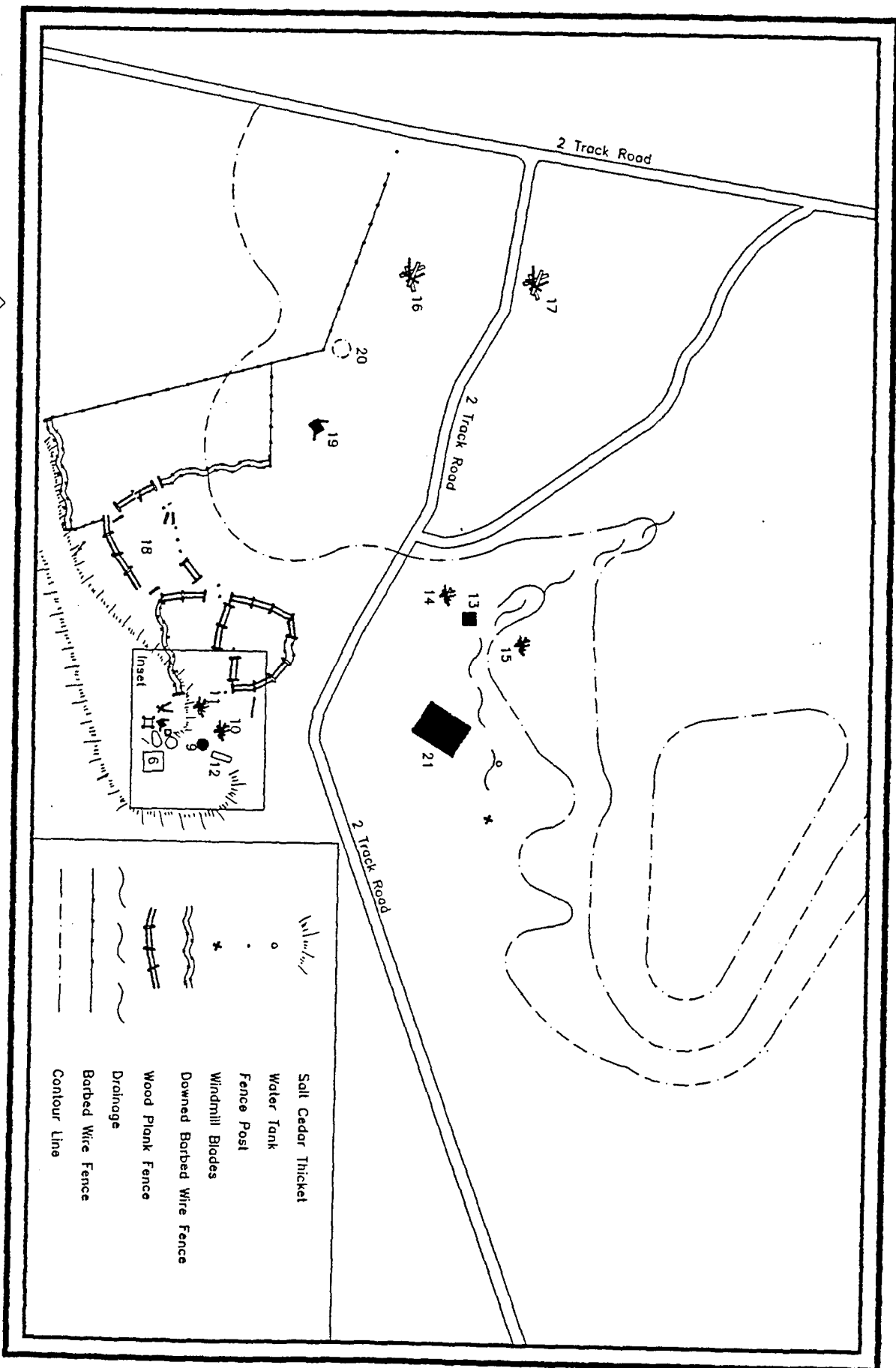


Figure 17. HAR-047 Site Plan.

is mostly collapsed and it is not known which pen had which function. The different types of construction throughout the corral may give some clue to the activities. Most of the pens appear to be constructed of 5 horizontal planks attached to railroad tie posts approximately 5 feet tall. The southern and western outer fences were of 5 strand barbed wire, and the fence along the north section of the corral was picket style with vertical planks attached to horizontal braces (Figure 18). Portions of the corral have been burned in a campfire.

Residences and Related Features. The first house on the property was the four room structure from "the old home place" (HAR-012). This house was actually two separate houses that McNatt connected. One of these houses predated McNatt's ownership of the State property at HAR-012. When the family decided to move to their new headquarters in 1932, they used skids and horse teams to transport the house across Malone Draw to its present location on the flat above Carter Draw (Feature 19). Each part of the house was moved individually and then reconstructed at the new ranch with a breezeway between the two houses and a porch



Figure 18. Portion of corrals at McNatt Ranch.

across one side.³³ The 12'x 30' frame structure had a pier foundation and a low gable roof with hand cut wood shingles.³⁴ Mr. and Mrs. McNatt used two of the rooms and Doug and Susie the other two. The porch was also divided in half with a bed serving as a divider. The younger couple built an additional bedroom onto their half for their sons.³⁵ In 1952, the COE stated that the roof had blown off the structure, yet today, the roof is the most intact portion of the house (Figure 19).³⁶ It is sitting on top of a 60'x 60' (20x20m) pile of lumber that probably represents the walls of the structure.

The outhouse for this house was located only a few meters to the west, Feature 20. It was a 4'x 4' frame structure with a corrugated tin roof.³⁷ There is nothing left of this structure except for a 3'x 3' (1.5x1.5m) round depression.

The main house, Feature 21, is situated on a little finger of the flat which extends out into the drainage. This 28'x 28' structure was built in 1932 to house the elder Mr. and Mrs. McNatt (Figure 20). Mr. McNatt constructed it out of materials recycled from a railroad warehouse he had purchased for this purpose. It had four rooms, an 8'x 28' screened porch on the



Figure 19. First house at McNatt Ranch (Feature 19).

north side, and a 7'x 12' covered porch on the east side (the front of the house). The house was of frame construction with a wood block foundation, and had a corrugated tin roof, pine floors, and sheet rock interior walls and ceiling.³⁸ A rain water cistern, now located in the draw to the north of the house, sat at the northeast corner of the house, between the two porches, and supplied the residents with domestic water. The McNatts built a nine strand barbed wire fence around the house and planted salt cedars for a windbreak.³⁹ The house has collapsed into a 40'x 30' (12x9m) pile of lumber but the foundation is still visible (Figure 21). The yard fence and salt cedars are intact. The outhouse associated with this house was apparently located between the house and the work shop to the west. This feature was not located during site documentation. Apparently, it was similar to Feature 20 except it measured 5'x 5'.⁴⁰



Figure 20. Main house, 1957. (COE Files)



Figure 21. Main house in current condition (Feature 21).

Only a very small artifact assemblage is associated with this site and the majority of the trash is located near the residential structures. Glass fragments, blue and white decorated ceramics, earthenware, stove pipe, construction hardware, and buckets are the artifacts that remain of the once substantial holdings of the McNatts. Diagnostics such as purple glass and bottle maker's marks suggest an occupation between 1900 and the late 1940s. One reason for the lack of artifacts is Mrs. McNatt's insistence that she needed to come clean up after the military took over the land. She explained, "...'cause I never moved out of a place that I didn't clean up." The McNatts also buried their trash in the small drainage south of the main house.⁴¹ There is no evidence of this trash pit on the surface.

HAR-049--West Well

HAR-049 consists of a 22 square meter earthen tank surrounded by a five strand barbed wire corral. It is located in the NW 1/4 of Section 24, T16S, R8E, on a flat approximately 1.4 miles from the ranch headquarters. The remains of a collapsed windmill tower and a dilapidated wooden trough are present outside the corral. A small concentration of glass fragments, crockery and lumber scraps is located south of the tank.

Historical Background. The land on which this site is located was filed on numerous times by homesteaders, but it remained a part of the Public Domain until the establishment of the Alamogordo Bombing and Gunnery Range. The first person to file on the land was Vivian McNatt, C.C. McNatt's oldest daughter. She filed on 640 acres in Sections 13 and 24 including the NW1/4 NW1/4 of Section 24 on which HAR-049 is located. At the same time, her soon-to-be-husband, Doss Bradford, the brother of another Basin rancher Fred Bradford (HAR-034), filed on 480 acres nearby. Both cases were cancelled early in 1918.⁴² Bradford attempted to enter on the tract again in March 1918, but this was also cancelled by 1923.⁴³ Mrs. Susie McNatt stated that the Bradfords never lived there, although they were thinking of building on it at the time they were staying on the McNatt Ranch two miles north (HAR-012). After the burning hay stack incident and the drought, they gave up ranching and moved to town.⁴⁴

The next year, Della McCommis filed on the tract containing this site, as well as acreage in Section 25. According to Mrs. McNatt, it was actually Della's daughter Dovey who wanted the land. Dovey was married to Ed Calentine who owned land nearby. Apparently the Calentines had already used their homestead privileges and needed someone to file in their behalf. They also never proved up or even resided on the property, and the entry was cancelled in 1928.⁴⁶

The well on the property had been drilled long before any of these individuals filed on the land. McNatt claimed it had been drilled about 1910, although it is unclear if he drilled it.⁴⁷ He did take the Calentines to court because he had already claimed the water rights to the well when they filed on it.⁴⁸ The McNatts had established their preference to the land by the time of the Taylor Grazing Act because they ran between 150 to 200 cattle and horses on the water source.⁴⁹ In 1938, the

McNatts applied for permission to maintain the well "in good serviceable condition", and the Grazing Service approved the application.⁵⁰

C.C. McNatt moved off the ranch headquarters and planned to sell the entire ranch, which also included the transfer of the grazing leases, to his son Doug. In July 1941, Doug bought the improvements at West Well, which included a windmill, water trough, dirt tank, and storage tank, from his father for \$1000.⁵¹ In 1942, the property became a part of the Alamogordo Bombing Range along with the rest of the McNatt Ranch, and the McNatt's grazing lease over the area was temporarily suspended.

Feature Associations. The improvements at West Well were not extensive and were used solely to supply water for the stock. The well was drilled to a 67 foot depth and water was pumped by an 8 foot steel mill attached to a 24 foot wooden tower. It produced about 10 gallons per minute when it was working. The water was piped into a 3 foot deep earthen tank and then into the 16'x 1.5'x 1.5' wooden water trough by 2 inch lead pipe.⁵² McNatt grazed his stock at the water source year round, although by 1940 only 16 horses were found on this southern portion of the McNatt allotment causing the Grazing Service to believe it was "underused".⁵³ By this time, the well was in need of repairs. In 1939, the sucker rod was disconnected so the pump didn't work.⁵⁴ This problem was fixed, but in both 1940 and 1941, range examiners observed that the well was pumping but the tank and the trough were both dry.⁵⁵ In 1952, the COE noted that the windmill had been removed.⁵⁶ By this time, the McNatts had been off the land for 10 years.

Today, the 72 foot (22m) diameter tank (Feature 2) is in good condition although it is silted in (Figure 22). The windmill tower (Feature 1) is in shambles and the mill is lying on the edge of the tank 20 meters away. The trough, which measures 16'x 2'x 1.5' (5.15x.64x.43m), is still intact (Feature 3) but in poor condition due primarily to deterioration from the weather (Figure 23). These features are obviously the same ones present on the land since at least 1934. The artifact concentration (Feature 4), consisting of domestic refuse, may indicate a single event such as camping while maintaining the improvements. There is no evidence of long term permanent occupation at the site.

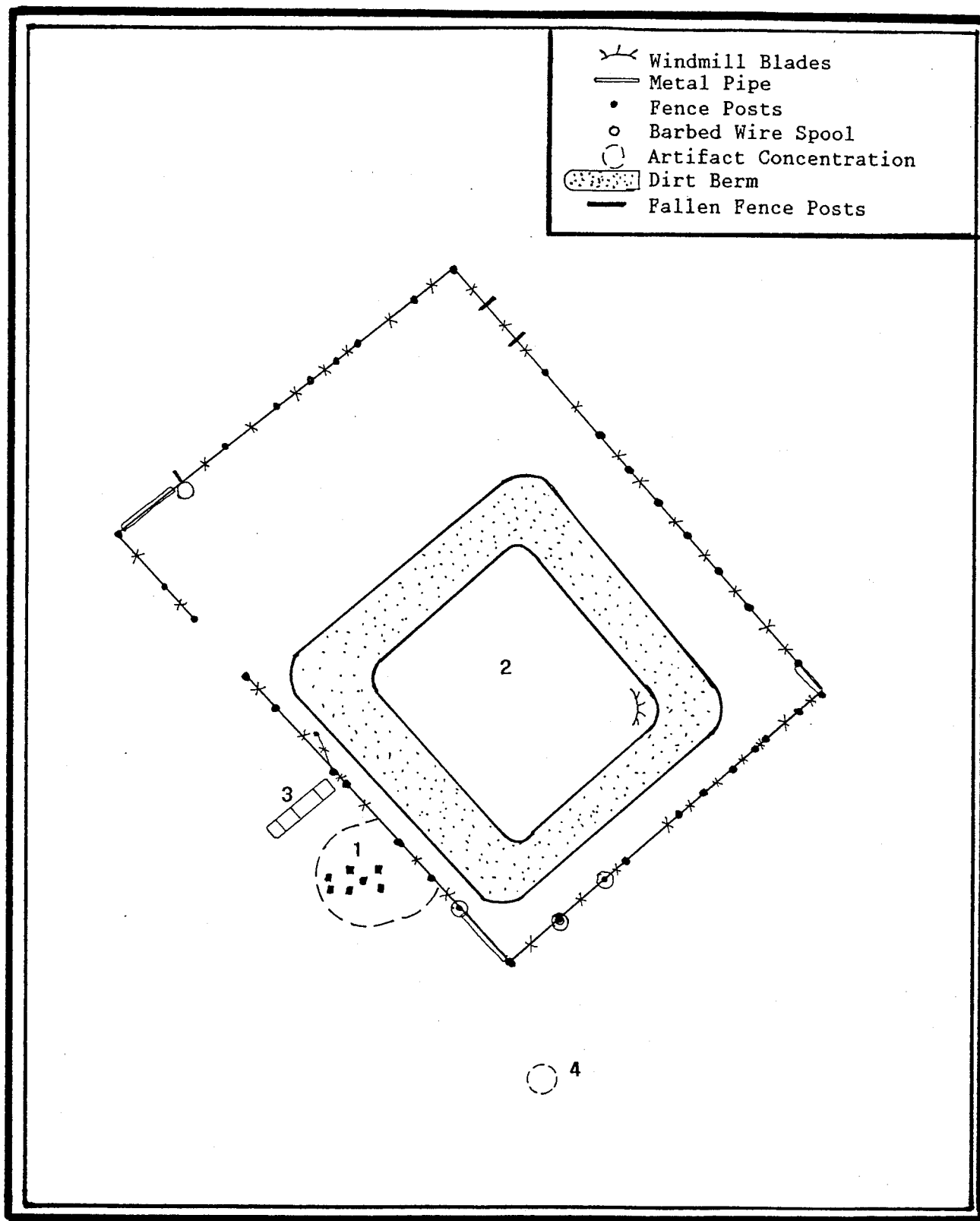


Figure 22. HAR-049 Site Plan



Figure 23. Trough at West Well as it appears today.

Discussion of the McNatt Ranch

Christopher Columbus "Lum" McNatt moved to New Mexico from Arkansas with his parents when he was 15 years old. They settled in the Sacramento Mountains in the late 1880s. McNatt married Ella Fleming in 1893, and they homesteaded on the lower Rio Penasco. Later they moved to the Sacramento River on the summit where they raised horses, then moved back to the Penasco until 1911. By this time, they had 3 daughters and 2 sons, and Mrs. McNatt was in poor health. The family moved to Alamogordo so she could get medical care and McNatt began acquiring his ranch holdings in the Basin.⁵⁷

The McNatt Ranch represents a pattern commonly used by individuals who participated in ranching as an occupation and a way of life. Often they started on a homestead which they obtained free from the government, especially in regions relatively undeveloped. McNatt had already used his homesteading privilege during his residence in the nearby mountains. He, therefore, bought land from the State to give him his beginning

in the Basin. Commonly, ranchers had homes in the nearest town where the family resided in the fall so the children could attend school. Summers were spent on the ranch. Occasionally, the land was leased to others.

McNatt gradually added land to his original purchase to provide security in an irregular system of open range where control of water sources was of the utmost importance. By the time of the Taylor Grazing Act, McNatt had established his right to particular water sources through longevity of use and perseverance, and use of the justice system when necessary.

Prior to the establishment of the Grazing Service, the McNatts raised 700 cattle and horses on the ranch. Some of this stock belonged to ranchers in the foothills who could not get Forest Service grazing permits. From 1930 to 1935, McNatt claimed to have grazed between 500 and 600 cattle, but in 1935, when he applied for a grazing permit from the Grazing Service, he owned only 150 range cattle and 50 horses.⁵⁸

The Grazing Service provided McNatt with an allotment west and south of his private land (Figure 24). His allotment bounded on the north and west to the Danley allotment (see HAR-042). This lease encompassed 12,000 acres of federal land, in addition to 1270 acres of controlled private land (either owned by McNatt or leased from another land owner), and 2000 acres of uncontrolled private range (not owned or leased by McNatt but within his allotment boundary).⁵⁹

The McNatts controlled their stock in fenced pastures and supplemented the cattle's diet with hay and corn fodder in the winter months. Cattle buyers came to the ranch around early December and again in mid-February to choose the cattle they wanted to buy. The McNatts then drove the cattle to the stock pens near the railroad in Alamogordo.⁶⁰

In addition to range cattle, the McNatts owned milch cows and saddle horses. They also raised hogs and chickens for their personal consumption. According to Mrs. Susie McNatt, who had married Doug in 1926, the draw, which they called La Luz Canyon, was cultivated with 40 acres of hay and corn and an aisle was plowed between the two for easy access. Fruit trees, such as apples, peaches, apricots, and grapevines were planted along the aisle. Farming was done with flood water techniques and was very successful, averaging 60 tons of hay and 50 bushels of corn per acre. When the family moved to the new headquarters, they tried

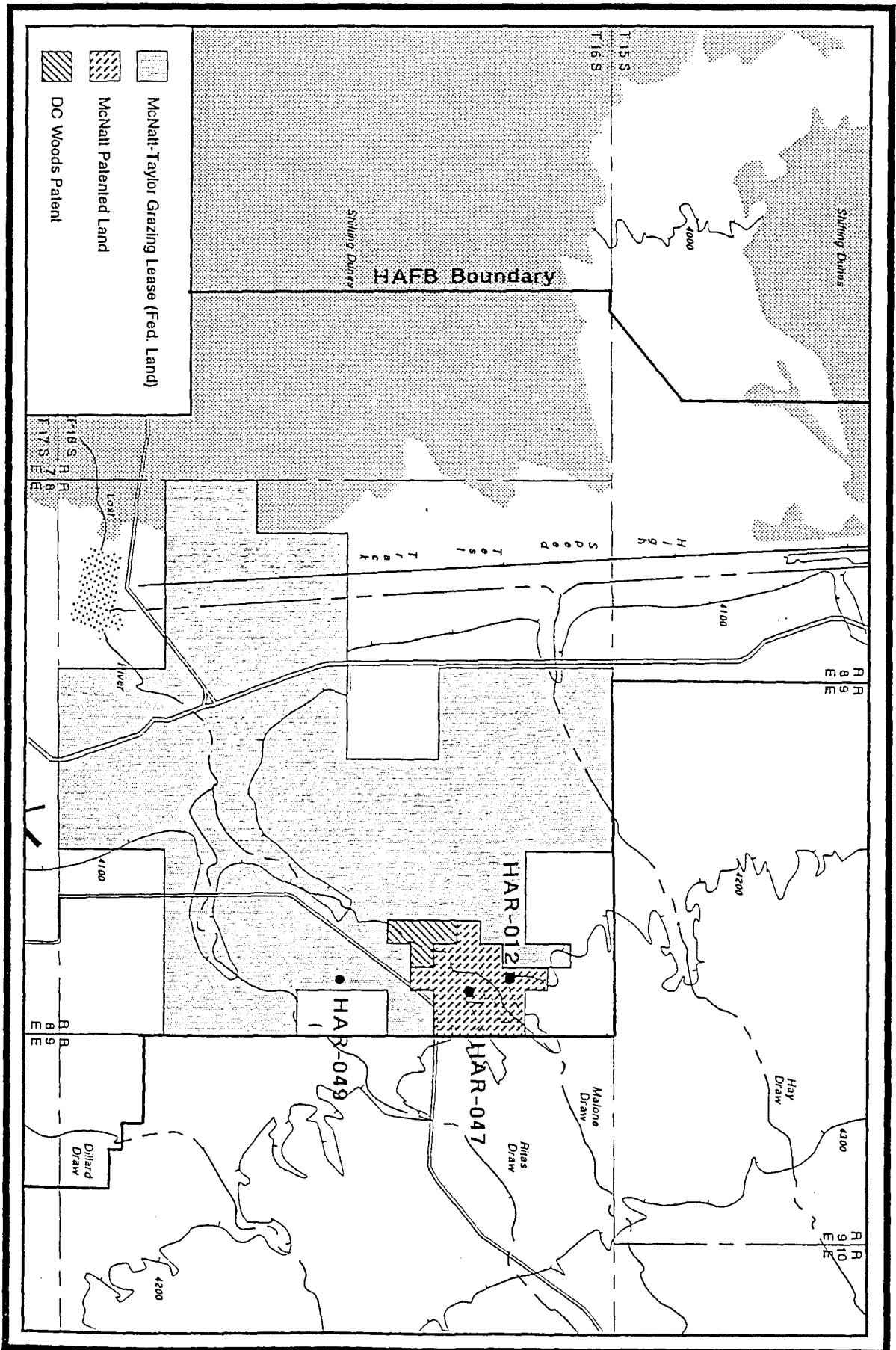


Figure 24.
C.C. McNatt's Grazing Allotment

11.5 deg
Declination

0 3
MILES
Contour Interval 100 Feet

to move their hay field closer to the ranch. Carter Draw, however, turned out to be undermined by a shallow alkali water table and the crops always were poisoned and molded before they matured. They were able to plant a vegetable garden in Carter Draw, and the "underground river" provided the McNatts with ample stock water.⁶¹

The drought of 1934 had a profound effect on the range conditions in the Tularosa Basin, but by 1940, the grass was beginning to recover and water sources were starting to produce to pre-drought capacities. The Civilian Conservation Corps (CCC) approved McNatt's request for them to build his allotment fence along the southern boundary to keep out trespass cattle, and McNatt sent away to San Saba County, Texas for some expensive quaking asp posts. The McNatts' biggest problems in 1940 seemed to be an infestation of jack rabbits and severe gully erosion in Carter Draw.⁶²

In 1941, Mr. and Mrs. Doug McNatt lived at the ranch full time and were planning to buy Doug's father's interest in it. A school bus paid for by the county came out to the ranch to pick up the children. The house had no electricity or gas. Heat and cooking was done on a wood stove in which they burned mesquite or pine logs. Air conditioning was cross ventilation and refrigeration was done by use of a "California Cooler", a multi-level unit in which water from melted ice on the top level trickled down through a series of drains to the lower levels.⁶³

In July 1941, Doug and Susie were waiting for a representative of the Federal Land Bank to inspect the ranch. They needed approval on a loan to pay for C.C. McNatt's interest in the ranch. When the man showed up, Doug took him to the Grazing Service Office to determine the extent of the McNatt allotment. Mr. Ahl, the District Grazier, told them that the government planned to take the land over for military use. They did not get the loan, and by January 1, 1942, the Grazing Service had informed the Basin ranchers to move their stock off federal land. By early the next month, the land owners had been served with condemnation orders against their private land and had until the 15th to move. The McNatt's had to sell their stock, but the number of cattle of all ranchers having to move flooded the market. Mrs. McNatt explained her feelings about the takeover: "We didn't like having to leave. The ranch was the only home our

son's had ever known. But our country was at war and we all had to make sacrifices and that was part of ours."⁶⁴

The McNatts moved off the land and eventually bought a dairy near Alamogordo. When the war ended, they believed they could return to their ranch, "but we never did". Although the McNatts were not able to return, other people had access to it and before long the ranch was unusable anyway. One nearby rancher who hadn't been relocated by the government took their CCC constructed fences down and allowed his cattle to ruin the hay and corn fields. The windmill at the ranch headquarters had been torn down and drug several hundred feet. Another person stole their farm machinery and sold it for scrap metal. "If they had let us have it back, we couldn't afford to have done anything with it. We would have never gotten it cleaned up and a ranch again."⁶⁵ When the McNatt's signed a Lease and Suspension Agreement in 1952, ten years after they moved off the ranch, all improvements had been listed as in poor or very poor condition, with the exception of the corrals, reservoir and "the old home place" well. Roofs had blown off the buildings, the mill removed from the windmill, and the privies blown down.⁶⁶ At some point, possibly after 1970 when the government filed final condemnation proceedings, the remaining structures were bulldozed.

C.C. McNatt died in 1950 and his wife joined him shortly thereafter, in 1953. Doug McNatt died in 1980. In 1988, the McNatt heirs signed the final Warranty Deed giving HAFB full ownership of the McNatt Ranch. Susie McNatt is the only living heir of the McNatts with the exception of some grandchildren who are not familiar with the ranch. She is 84 years old.⁶⁷

Impacts and Recommendations

All three McNatt sites have been affected by natural deterioration, grazing, and erosion. Two track roads and cow trails also dissect the sites. HAR-047 has been extensively impacted by vandalism, such as burning part of the corral, shooting at the features, and off road vehicular activity. The features at this site were bull dozed by the military to keep unwanted tenants out of the area. The HAFB Archaeologist has erected a sign to keep people out of the area and to minimize future vandalism.

Individually, the sites possess further research potential archaeologically. Because of the amount of flooding in Malone

Draw during the first few decades of the twentieth century, artifacts and features may be buried at HAR-012. Archaeological testing might provide additional information to that presented in this report and may help identify locations of the structures once at the site.

Archaeological testing in known trash dumps and the privy at HAR-047 could provide information about subsistence patterns at early ranching sites. Extensive artifact analyses are recommended at both sites. HAR-012 and HAR-047 are thought to be eligible to the National Register of Historic Places under Criterion D because of their potential to provide archaeological information which could be used in various studies, such as subsistence patterns, consumer behavior, market accessibility and availability, gender studies, marginal land adaptations, and daily ranch living.

All three McNatt Ranch sites are thought to be eligible to the National Register under a district nomination as the best representation of the ranching phase on Holloman Air Force Base, under Criterion A. They collectively exhibit the history of the family from the early 1900s through the 1940s. This is not only a significant amount of time for a family to remain in one area, but also to remain in a single activity which so obviously was dependent on factors beyond their control. These three sites are significant in that they document every aspect of the ranching lifestyle in the Tularosa Basin through a well developed arrangement of ranch resources necessary in order to be efficient, effective, and profitable. The McNatt Ranch Headquarters, HAR-047, exhibits integrity of design, setting, feeling and association, and HAR-049 has integrity of feeling and association. These three sites could easily be developed into a walking interpretive tour for visitors to HAFB.

As a final note, Mrs. Susie McNatt, who has already expressed her willingness, should be taken to all three sites for a videotape of her recollections. This development in oral history interviews adds a new dimension that can not be obtained from audio recordings or photographs.

A.A. and C.A. McNatt Ranch

Arthur Augustus McNatt moved to the Basin about the same time his brother, C.C. McNatt, did. He and his son, Columbus Arthur

McNatt, began a ranch which, by 1942, encompassed much of the southern half of HAFB in the form of grazing leases. The ranch headquarters did not fall within HAFB's boundaries, but two of their range improvements, HAR-064, a corral, and LA 103411, Dillard Well, were located during the survey. The corral is currently on BLM property which HAFB is in the process of acquiring. Dillard Well is located on State Lease Land under a HAFB restrictive easement.

HAR-064

This site is a 52' x 40' (16x12m) corral located on an upland flat in the NE1/4 of Section 21, T17S, R8E, west of a large borrow pit and west of the main Base (Figure 25). A man made drainage ditch forms the site's southwest boundary and a dirt road forms the north boundary (Figure 26). The corral is constructed of large wooden posts, railroad ties, and woven wire fencing. It is divided into a large western pen with a metal storage tank, and two smaller pens on the east which are further divided by a narrow loading chute (Figure 27).

The property on which the corral is located has never left federal ownership, nor has anyone attempted to file a homestead entry on the land. The site is thought to be associated with the A.A. and C.A. McNatt Ranch because of its location within their grazing allotment.¹ In addition, Arthur McNatt patented a Stock Raising Homestead on the SW1/4 of Section 21, and W1/2 of Section 28, T17S, R8E, which is located only 1/2 mile west of the site.²

Technically, allottees were to get permission from the Grazing Service before constructing improvements on federal property. The BLM has no record of this particular corral which may indicate it dates to the open range period when the Public Domain was unregulated. More likely the corral dates to the same time as Dagger Tank, which the McNatts built in 1938, 1/2 mile north of the corral.³ Because of the lack of water sources in this area prior to 1938, the corral probably was built as a crowding pen for moving cattle from Dagger Tank, which has since been destroyed by HAFB's development, to another water source or a different part of the range. There are no artifacts which can help determine the age of the site.

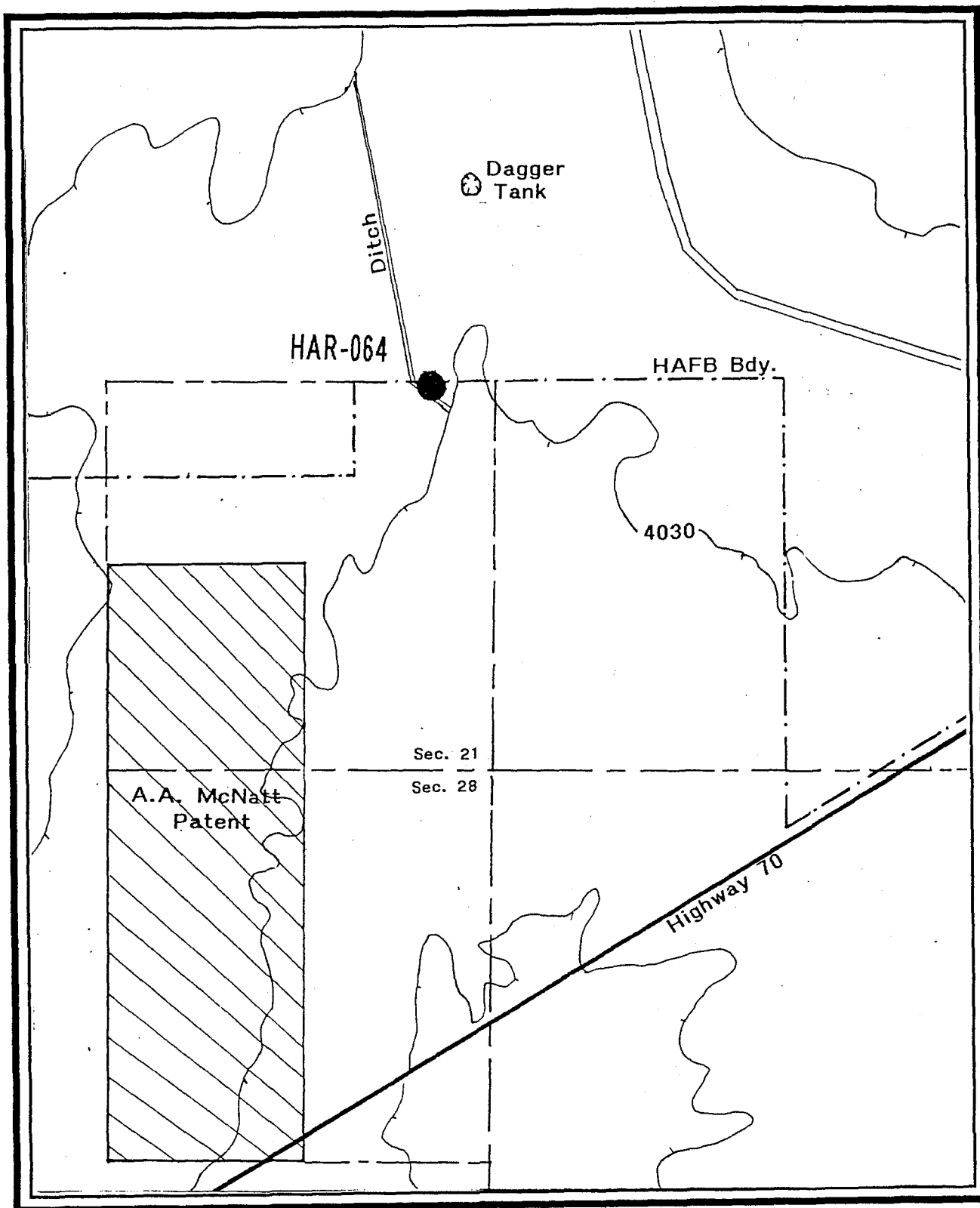
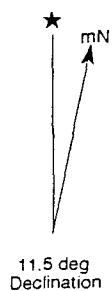


Figure 25.
HAR-064

A.A. McNatt Homestead Patent



Contour Interval 50 Feet

- Secondary Highway, hard surface
- = = Light Duty Road, hard or improved surface
- ⋯ Stream, lake, intermittent

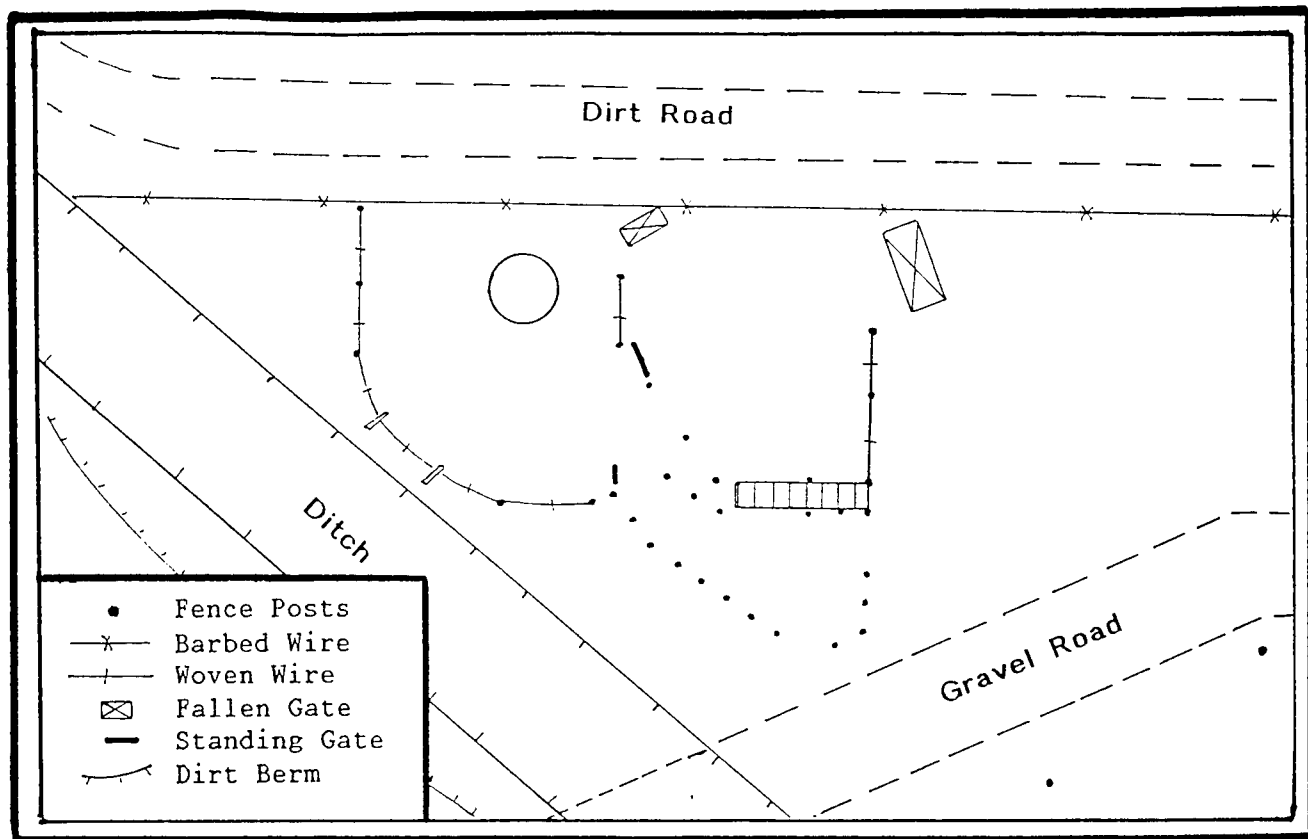


Figure 26. HAR-064 Site Plan



Figure 27. Loading chute, HAR-064.

LA 103411--Dillard Well

LA 103411 is a 9500 square meter ranch activity site consisting of both water and animal control features including an Aermoter windmill on a steel 3-legged tower, a metal storage tank, a concrete tank, and a wood plank corral. These features are located in Red Arroyo on State Lease Land in the SW1/4 of Section 32, T16S, R9E, and have been heavily modified by continuing use. On the flat above the southern edge of the arroyo, is an 1880-1920 refuse scatter containing common domestic items such as glass and ceramic fragments and tin scraps. Two track roads and fence lines have impacted the area.

Historical Background. On May 6, 1907, Richard B. Dillard filed on the SE1/4 SW1/4 and SW1/4 SE1/4, of Section 32, T16S, R9E under the Desert Land Act (Figure 28).⁴ Richard was the oldest son of George T. and Jane Narcissus Dillard who moved to the region from Texas just prior to the establishment of Alamogordo. According to their family history, the Dillards had three ranches near the White Sands, and Richard took care of one.⁵ He was 22 years old in 1907 when he filed his land entry, and in 1910, he listed his occupation as "stockman".⁶

The GLO cancelled Dillard's entry on the land in April 1911, probably for failure to comply with the law which required a certain amount of improvements to be made in order to bring the land into cultivation.⁷ Although they may not have made the proper agricultural improvements, George Dillard, Richard's father, did live on the land. In 1910, he served as a witness for William Hyde's Homestead Proof (see LA 103410). Dillard stated, "I live within 3 or 4 hundred yards of their house...."⁸ Today, only the HAFB railroad tracks separate these lands. Probably, like most ranchers, the family lived in town during the winter and on the ranch in the summer.

Still determined to own the land, Richard Dillard filed on the tract again on the date his first entry was cancelled. This time he relinquished the claim in November 1915.⁹ At the same time, the State of New Mexico applied for the land as an "in lieu" selection to provide funds for common schools in the State. Their application was approved in 1922, and they immediately leased the land to A.A. McNatt for use in cattle grazing. A.A. McNatt held the lease until 1940 at which time his son C.A. "Sam" McNatt, took over. According to Mrs. Susie McNatt, the McNatts

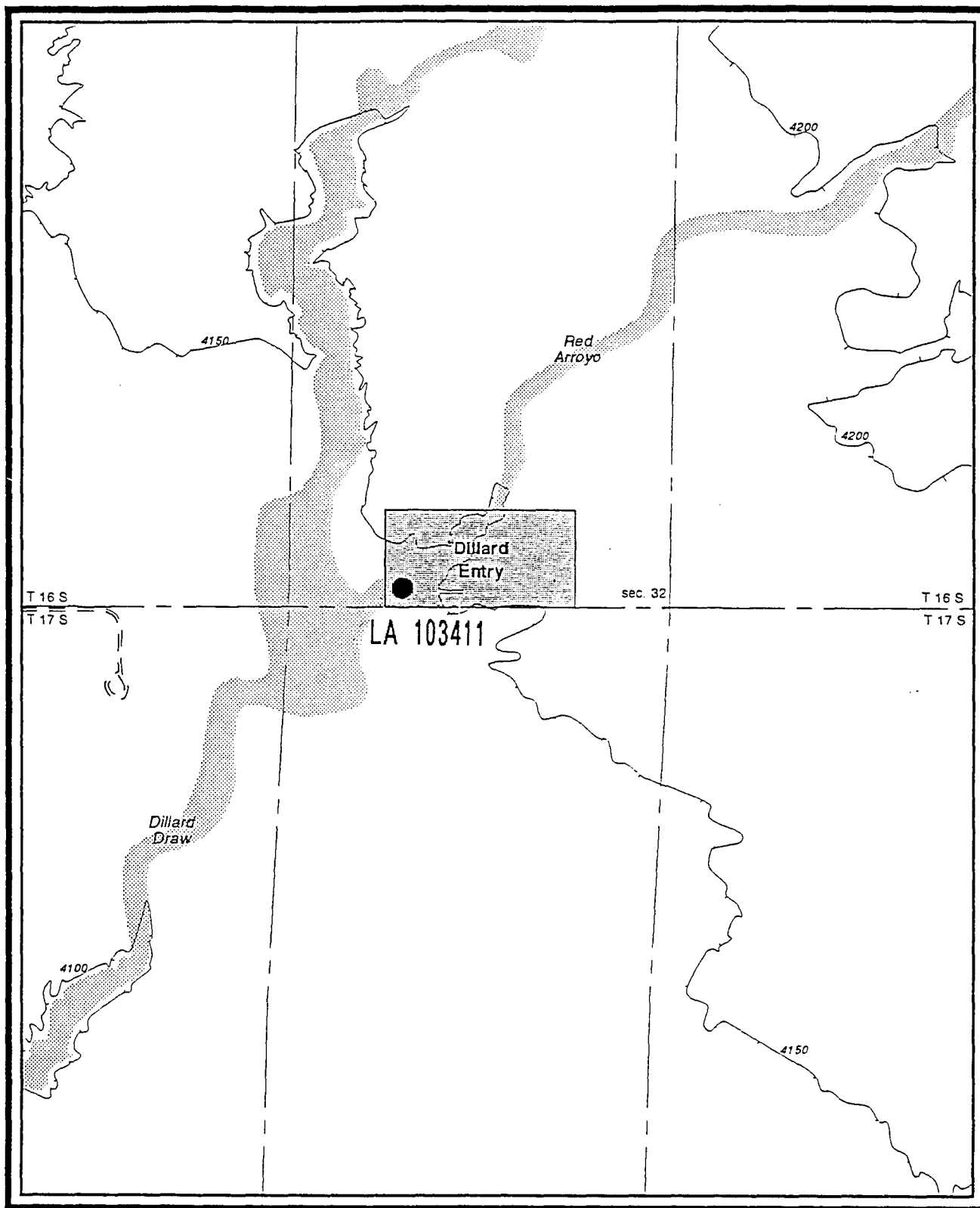


Figure 28.
Dillard's Desert Land Entry



Contour Interval 50 Feet

== = Light Duty Road,
hard or improved surface

did not live at the site but camped there during roundups. In 1960, the State granted HAFB a restrictive easement over the surface of the tract. While the graziers could still use the land, they were restricted to a smaller number of cattle and the type of improvements they could erect. Sam McNatt held the lease until 1975 when Wesley Walker (et al) took over.¹⁰ Cattle still graze and water in this area.

Feature Associations. The features and artifacts at the site are probably attributable to several different occupations. The early artifacts located on the flat above the draw (Feature 1) are probably evidence of the Dillard's use of the area (Figure 29). The trash, such as stove parts and ceramic fragments, suggest a permanent residence, and concentrations of nails, bolts, and window glass are confirmation of a structure. Many of the artifacts appear burnt, a possible indication of the structure's fate. The house was present in 1916, when the USGS mapped the area.¹¹ By 1918, however, it was not indicated on a Department of Interior inspection map.¹² A 1936 GLO plat again showed some improvements in the area, but these probably represent the developed well, since no one resided on the property after the State acquired ownership.¹³

Because the well, Feature 2, is named "Dillard Well", it is assumed the Dillard family drilled it (Figure 30). A range inspector noted that it was first put to use around 1900, on the "old Dillard place". In 1939, the well was 100 feet deep and produced a flow of 16 to 20 gallons per minute. The water was pumped by an 8 foot Aermoter mill on a 30 foot tall tower with a three horsepower gas engine. The water was stored in a dirt tank approximately 35 feet in diameter. Livestock watered from an 18'x 36'x 2' cement trough.¹⁴

The windmill appears today exactly as it did in 1956 when HAFB was inspecting the area for potential expansion of their water facilities.¹⁵ The 25 foot diameter metal storage tank currently at the site, Feature 3, can also be seen in the 1956 photograph. It must have been added after 1939.¹⁶ There is no remaining evidence of the dirt tank, and possibly the metal tank replaced it. The cement trough, Feature 4, is in poor condition and no longer used for watering purposes. Several additions have been made to the water features, primarily military rocket cases as water storage units.

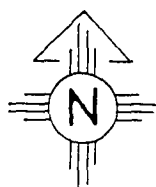
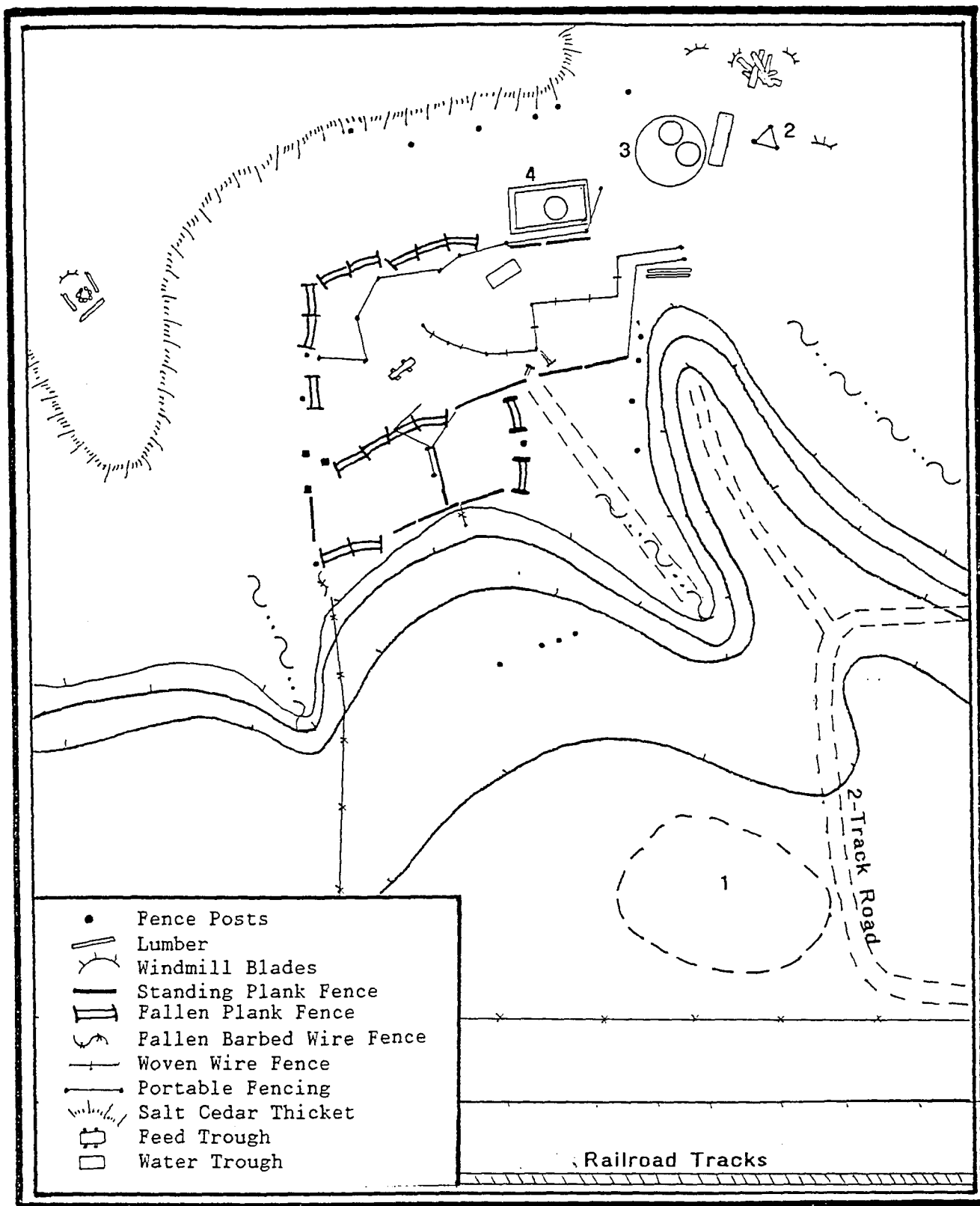


Figure 29. LA 103411 Site Plan.



Figure 30. Windmill and Tank at Dillard Well, 1956.
(COE Files)

The corral at LA 103411 appears today much as it did in 1956 (Figure 31) as well, except for the recent addition of numerous red metal portable corrals.¹⁷ The northern portion and southwestern corner of the plank corral are missing. The loading chute appears to have been added after 1956 and is constructed of military pierced steel plates.

Discussion of the McNatts' Ranch

Arthur Agustus McNatt moved with his family to the Sacramento Mountains from Texas in 1887. He grew up on a ranch on the Penasco River with his brother, Christopher Columbus McNatt (see HAR-047). In 1901, McNatt married Minnie Nations, a daughter of the well known Weed area teacher, John Nations.



Figure 31. Corrals at Dillard Well, 1956.
(COE Files)

After ranching on the Sacramento River for many years, in 1911 the McNatts moved to Alamogordo so their children could further their education. McNatt purchased a place west of Alamogordo and began the tedious process of building up his cattle herd and gradually adding to his property.¹⁸ He filed a homestead entry in sections 21 and 28, T17S, R8E, and by 1939, he owned 4300 acres and leased 10,600 acres of federal and state land.¹⁹

Prior to the Taylor Grazing Act, the open range caused severe losses of cattle, especially during droughts. Minnie McNatt stated in her memoirs, "It was a hard struggle, for we did not have our range fenced. In dry years, people would throw their cattle in on us, and they all died together."²⁰ In 1936, Arthur McNatt suffered a concussion from which he never fully recovered. He sold the ranch to his son, Sam, who had been born on the Sacramento River homestead in 1906.²¹

At this time, the range was still in poor condition because of the 1934 drought and also because of "past unregulated grazing", a result of the elder McNatt's inability to take care of the ranch due to his failing health.²² Nevertheless, the range examiners were impressed with the water situation, which they called the best in the District. Sam's management ability and maintenance of improvements was also commended. During the winter months, he fed the weakest cows cottonseed cake and alfalfa which he grew on the ranch. He marketed his cattle around the beginning of October and the middle of February.²³

Sam McNatt and his wife Olive managed the ranch until 1949 when Civil Action #453 resulted in the immediate suspension of all grazing leases in the area withdrawn for the Alamogordo Bombing and Gunnery Range. The new military establishment did not take over McNatt's Ranch in its entirety, however, and they were able to continue ranching in the Basin until the 1970s when Sam retired.²⁴

Impacts and Recommendations

HAR-064 is impacted only by natural elements such as the weather. It does not appear to have been significantly affected by any other factors. LA 103411, on the other hand, is currently being used to corral cattle. Recently, the corral and water control features in the draw have undergone extensive modifications, some of which are temporary, such as the portable corrals. The earlier component of the site, the artifact scatter on the flat, has been crossed by a two track road and a fence line. The on-going grazing in the area continues to have a destructive effect on the artifacts.

Neither of the sites associated with this ranch are thought to possess any remaining integrity or significance to make them eligible for the National Register of Historic Places. Their research potential has been exhausted by the documentation given in this report.

Miscellaneous Ranching Activity Sites

HAR-034--Fred Bradford's Place

HAR-034 is a 7586 square meter site located in the SE1/4 of Section 31, T16S, R8E, on a low rise south of the Lost River Basin. It was recorded by HSR for the High Speed Test Track Survey in 1993.¹ The site consists primarily of domestic refuse, concentrations of nails, and an almost complete stove. No structural evidence exists.

Historical Background. A 1916 topographic map indicated a house in the vicinity of this site.² The land on which it is located, however, was not patented until 1919, by Frederick Monroe Bradford, Jr., under assigned rights of the Soldier's Additional Homestead Act. He filed his claim before November 1917, and the GLO issued his patent on January 10, 1919 (Figure 32).³

Fred Bradford, Jr. was the son of early Otero County pioneers Frederick and Mary Bradford. They moved to the Sacramento Mountains in 1898 from Plainview, Texas, and Fred, Sr. died shortly thereafter. Fred, Jr. worked for the Alamogordo Lumber Company and the Forest Service before settling on the Sacramento River in 1909. He married Maggie Lou McNatt, a sister of Columbus and Arthur McNatt (see HAR-047 and LA 103411, respectively). The Bradfords raised livestock on the river until 1915, when they moved out of the mountains and into the Tularosa Basin. While his wife remained in Alamogordo to put the children in school, Fred maintained an Angora goat ranch in the San Andres Mountains on the western edge of the Tularosa Basin.⁴

In 1918, Bradford moved closer to his wife and bought into the cattle enterprise of J.S. Brooks, "which he regarded as the greatest mistake of his career, since droughts and the economic condition were persistently adverse factors, setting him back again and again." Because of one drought in the early 1920s, the partners shipped over 1000 head of cattle to better pastures in Mexico only to lose them during the Mexican Revolution.⁵ In 1923, Bradford deeded his 1/2 interest in the ranch back to Brooks, but held onto the SE1/4 SE1/4 of Section 31 which he had acquired in 1919.⁶ In 1930, the Bradfords sold the 40 acre tract

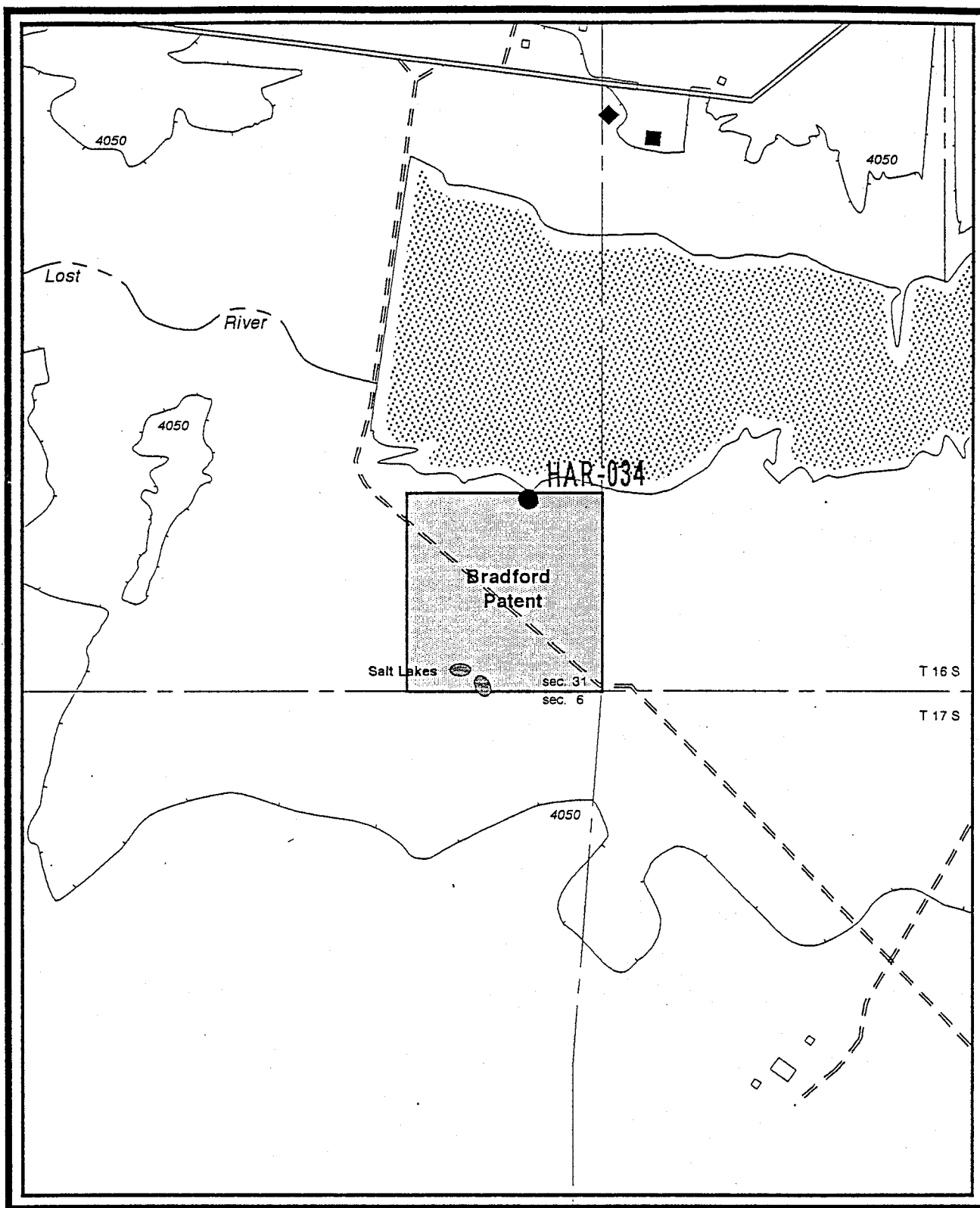
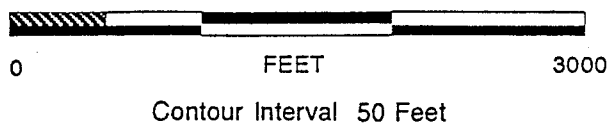


Figure 32.
Fred Bradford's Patent



- == Secondary Highway, hard surface
- = = Light Duty Road, hard or improved surface
- ◇ Buildings
- ~ Stream, lake: intermittent

"together with the water thereon" to Mal Walters.⁷ Bradford then returned to goat ranching in the San Andres Mountains.⁸

Mal Walters and his wife Bertha probably bought the land to acquire the water source, Bradford Spring, in the southwestern corner of the tract. Prior to this time, they had been ranching in the Tularosa Basin but had rights to only one water source at which to keep their cattle. Their ranch headquarters was located in Section 23, T17S, R7E on WSNM property, and Walters had a permit to run 150 head of cattle on the land.⁹ In 1935, he applied for a grazing permit under the Taylor Grazing Act. Walters claimed that he had been ranching in the area for 25 to 30 years and owned 100 head of cattle under the "C L V" brand.¹⁰ In 1939, he had a 7000 acre federal grazing allotment in addition to 640 acres of State Lease Land in Section 32, T16S, R8E.¹¹ The majority of his allotment fell outside of HAFB boundaries.

In 1940, Walters ran into trouble with C.C. McNatt over the placement of a fence line to be constructed by CCC labor. Walters believed the location of the fence as per McNatt's project application would encompass a northern portion of range land to which he felt entitled. The two men disagreed on this matter until the District Grazier settled it himself in favor of McNatt because Walters had never established a prior use privilege to the land in question.¹² The fence line formed the south and west boundaries of McNatt's allotment which adjoined Walters' northern boundary.

In 1942, when the military initiated condemnation proceedings, Walters was running 60 head of cattle on a combination of private, State, WSNM, and BLM land totaling 2181 acres.¹³ The Walters moved to Alamogordo where he ran a pool hall until he passed away in 1947.¹⁴ At this time, the Walters' heirs quit claimed the 40 acre tract to one of the sons, William, who retained it for the rest of his life, drawing a nominal rental fee from the United States government. In 1988, his heirs signed the land over to HAFB.¹⁵

Feature Associations. No features were recorded within the site boundaries. The presence of a concentration of nails near the stove parts suggests a structure was once on the land. It is unknown who built this building or when. It is probably the remains of the structure noted on the 1916 topographic map and a later 1918 Department of Interior inspection map. The Bradford

family stored farm and ranch equipment at the site and kept 54 horses on the land.¹⁶ The building may have been a barn or a storage shed. The presence of domestic refuse, however, indicates a residence on the land, and the diagnostic artifacts, such as purple glass, are consistent with the dates of Bradford's ownership.

The Walters never resided on the land or used it for more than cattle grazing. They acquired the land only to use as a base property needed to obtain a federal grazing lease. Walters did make some improvements on the 40 acre tract; however, these lie 300 meters southwest of the site boundaries. Up until 1939, Bradford Spring in the southwest corner of the tract was an undeveloped spring with a submerged flow of water. The spring was fenced.¹⁷ In 1940, the range examiner suggested that Walters provide more storage at the spring because that portion of the range was underused.¹⁸ As a result, the following year, the spring was developed with a 5'x 5'x 4' board spring box sunk in the middle and the water was piped to a 12'x 1'x 1' wooden water trough.¹⁹ Walters also added a 6 foot diameter galvanized steel tank. The trough and tank were recorded as isolated occurrences during the Historic Ranch Survey.

Bradford Spring is called Salt Lakes on current topographic maps. Herds of oryx utilize the spring in place of cattle. The trough is barely visible and has deteriorated immensely, and the galvanized tank is crushed and overturned on the north side of the spring. The fence line, built prior to 1918, still encircles the water source.

Impacts and Recommendations. This site has been affected by minor erosion along the edge of the hill slope and some possible military activities in the area. HSR conducted extensive artifact analysis during site documentation and it is not thought that further work along these lines would add to the present level of information about the site. However, archaeological testing may uncover evidence of the structure and the artifact analysis which has been completed could add information to studies concerning consumer behavior and subsistence patterns. For these reasons, the site is potentially eligible to the National Register of Historic Places under Criterion D.

HAR-057--Fairchild Well

Current topographic maps locate Fairchild Well in the SW1/4 of Section 35, T18S, R10E, in between two small unnamed drainages on an alluvial fan of the western foothills of the Sacramento Mountains (Figure 33). The site consists of a drilled well head imbedded in a concrete pad and straddled by a wooden windmill tower, two storage tanks, and some associated refuse (figures 34 & 35). The Initials "S.W.F. Jr." engraved into the cement slab under the tower are associated with Samuel Wilson Fairchild, Jr. Another name engraved in the slab, "DICK...GAT", remains a mystery. The artifacts are thought to be associated with the initial construction of the windmill or later repairs to the mill. There is no evidence of any kind of human occupation of the site for habitation purposes. This well is located on BLM property and HAFB has a subsurface lease for the water resources.

Historical Background. The Fairchilds have been ranching in Otero County since 1887. Sam Fairchild, Sr. moved to New Mexico to escape the drought which was devastating Texas in the 1880s. He brought along 500 head of cattle. Fairchild homesteaded in the Sacramento Mountains for many years and then moved to the Tularosa Basin after World War I.¹ In 1928, Sam's son, Tom Jones Fairchild, entered a Stock Raising Homestead on the S1/2, NW1/4, of Section 35; and the S1/2 NE1/4, E1/2 SE1/4 of Section 34, in T18S, R10E. At some point, the case and entry were closed without further explanation.² This entry, however, along with lands acquired from other ranchers, did give the Fairchilds a prior use privilege when the Taylor Grazing Act was implemented by the BLM in 1934. The Fairchild's then legally leased the land on which the well is located today.

Feature Associations. Fairchild Well was a range improvement designed to provide water and habitat for livestock on public rangelands. Its establishment was based on a cooperative agreement with the BLM and the Fairchilds, in which both parties contributed labor and supplies. In 1947, the BLM drilled the well, and the Fairchild family erected the windmill over it. The property on which the well is located was used by the Fairchilds for cattle grazing under lease from the BLM through the Taylor Grazing Act.³

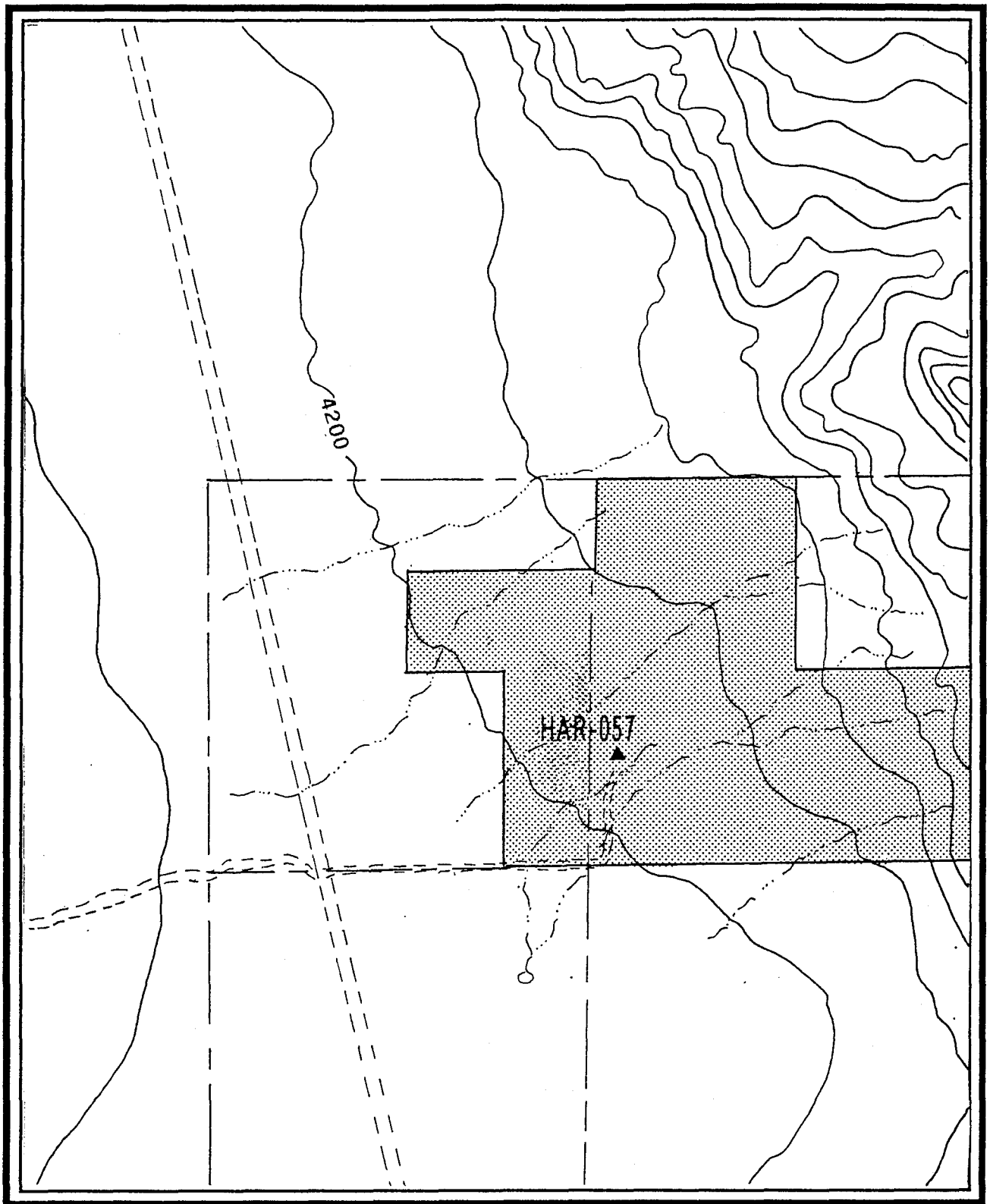
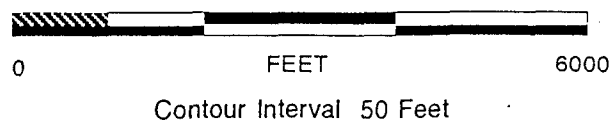
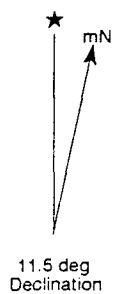


Figure 33.
Tom Fairchild's Land Entry



- == Secondary Highway, hard surface
- = = Light Duty Road, hard or improved surface
- Stream, lake: Intermittent



Figure 34. Fairchild Well.

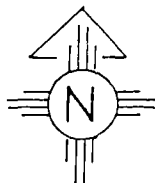
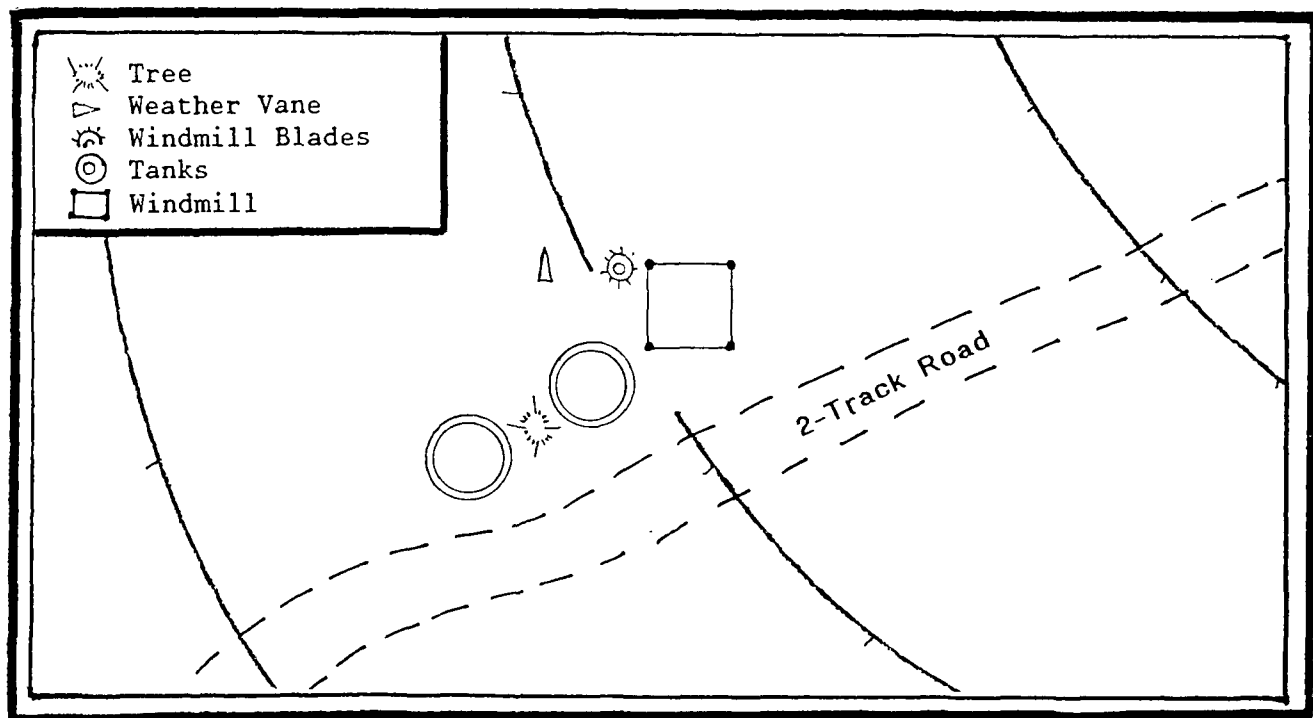


Figure 35. HAR-057 Site Plan.

The Fairchild windmill was manufactured by the U.S. Challenge Company of Batavia, Illinois. This company began producing a mill almost identical to the Challenge 27 windmill created by the Challenge Company, also of Batavia, Illinois. During World War II, this latter company switched to war production and did not return to its original purpose. The Challenge 27 windmill was considered the "top of the line" and "the most successful mill of the twentieth century". It was a self oiling, back geared, steel pumping mill.⁴

Despite the mill's obvious quality, the well produced too little water to be useful or efficient. For this reason, when the windmill blew off the tower, the Fairchilds did not deem it worthy of repair.⁵ The windmill and well, therefore, are no longer in use, although the Fairchilds continue to lease the land from the BLM for cattle grazing.

Impacts and Recommendations. Fairchild well has been disturbed by natural elements and deterioration. Evidence of minor vandalism includes a campfire ring at which several pieces of lumber are located. Sheetwashing and continuing grazing also affect the site.

The range improvements that graziers made on federal property provided them with additional water sources necessary for the cattle's survival. The windmill represents this integral part of ranching in the Tularosa Basin. The condition of the wooden windmill tower is better than any other recorded on lands administered by Holloman Air Force Base. Moreover, its association with a well known pioneer family in Otero County which continues to ranch in the Basin, makes the site additionally significant to the history of the County. It is believed that this site could be nominated to the National Register in a thematic group, taking into account various parts of the extensive ranch units, to emphasize the importance of the ranching phase in the Tularosa Basin. Fairchild Well is potentially eligible to the National Register under Criterion A.

FARM SITES

Farms at the Well Fields

HAR-019--The James McKillip Farm

HAR-019 is a 11,600 square meter habitation site in the midst of a much larger Jornada Mogollon prehistoric site. It is located in the SE1/4 of Section 19, T17S, R10E, on an alluvial flat west of the Sacramento Mountains. The HAFB Archaeologist recorded this site in early 1993.¹ Features include the base of a steel windmill tower, two defined rock alignments, and one possible rock alignment. The artifacts associated with one of these alignments appear to be burnt and there is a scatter of nails within the feature. The overall artifact assemblage consists of tin cans and glass fragments, construction hardware, and dinnerware items such as ceramics and utensils.

Historical Background. In 1908, a GLO surveyor indicated that J.S. and F.A. Gibson shared a house in the vicinity of this site and they had a cultivated field surrounding their house (Figure 36). The Alamogordo to San Andres Canyon Wagon Road ran just west of their house and several other settlers had built houses in the area. According to the plat, the location of the house was directly on the NE/SE 1/4 section line of Section 19.² Often settlers, especially relatives, would build a house straddling their property lines and plant a joint field to fulfill two adjacent homestead entries at one time. Oddly, the GLO tract books show no indication of entries on this land until 1910.

Late in February, 1910, James C. McKillip, a lawyer, travelled from Indianapolis, Indiana and settled in the Alamogordo area.³ The tract he chose, the SE1/4 of Section 19, T17S, R10E, included some flat arid land six miles south of the town (Figure 37).⁴ McKillip stated that there was a house on his claim when he moved there. This house could have been the one inhabited by the Gibsons. It measured 16'x 26' and had three rooms.⁵ In March 1911, McKillip's house burned down due to "an overheated chicken brooder which was being operated in the house by the heat of an oil lamp". According to the newspaper, the house had two rooms on the ground floor and one on the second

story.⁶ After the fire, McKillip and his mother moved to Alamogordo for a short time while a new two room, 20'x 14' house was built.⁷ Other improvements on the land included: a 7'x 14' barn, a 4'x 6' chicken house, two wells, a windmill, 10 acres fenced with three and four strands of barbed and smooth wire, 1800 feet of rabbit proof fencing, and 600 feet woven wire stock fence.⁸

According to McKillip's homestead testimony, during the first year on his entry, he had cultivated 15 acres of milo maize, millet, and cane, and planted a small garden patch. The attempt proved fruitless as the crops produced only enough millet to feed McKillip's stock. His 1910 crop disaster caused him to bypass cultivation in 1911, instead spending the year

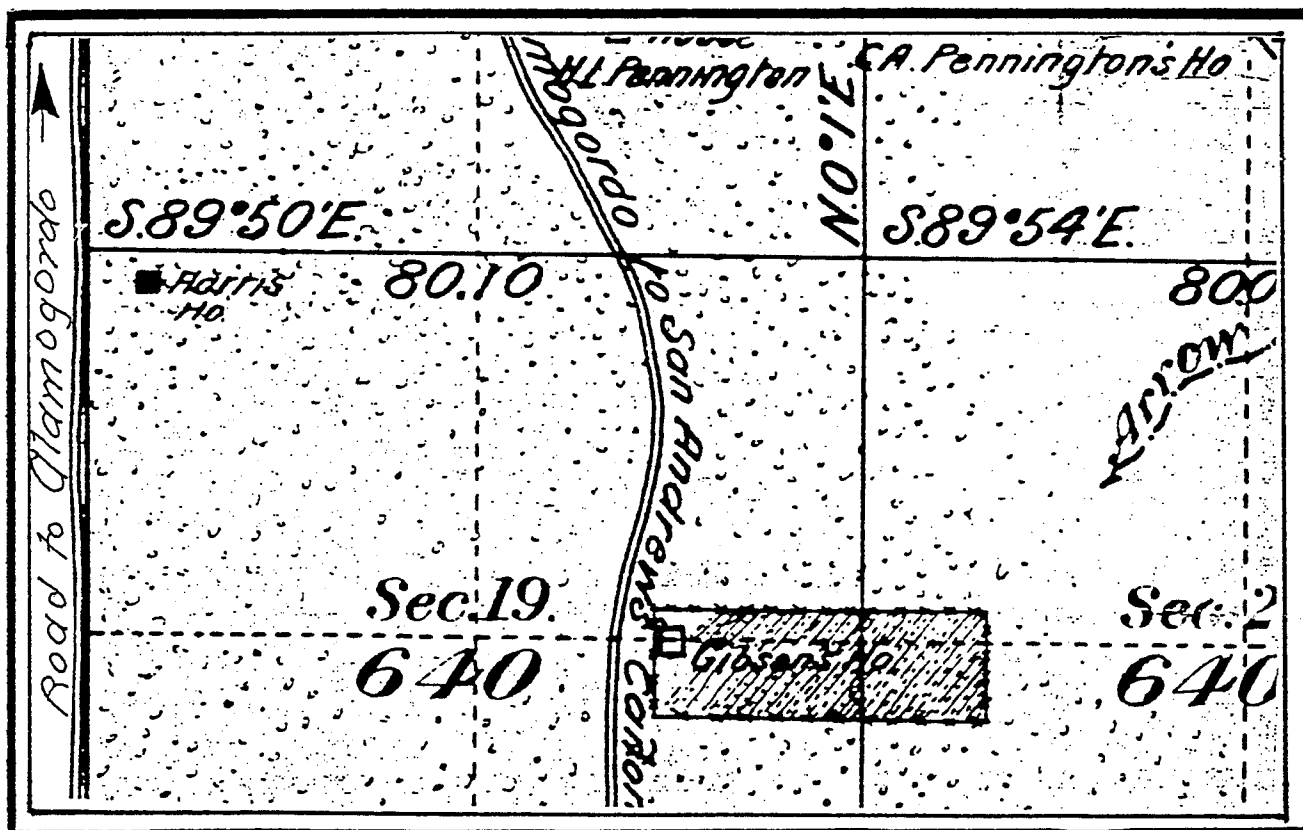


Fig. 36. GLO Plat Showing Gibsons' Improvements.

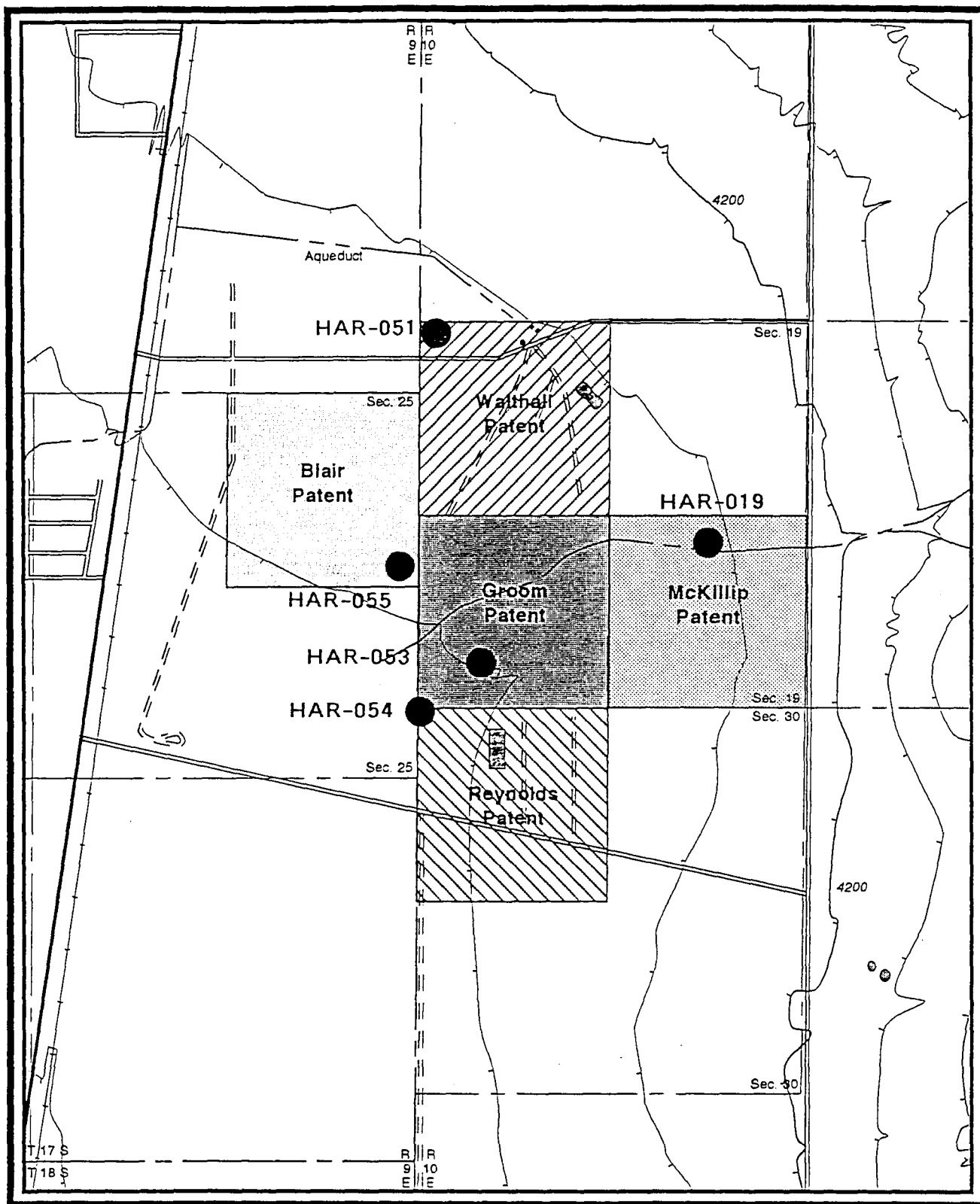


Figure 37.
McKillip, Walthall, Groom, Reynolds,
and Blair Homestead Patents



Contour Interval 40 Feet

- Primary Highway, hard surface
- == Secondary Highway, hard surface
- = Light Duty Road, hard or improved surface
- - - Stream: Intermittant

"observ[ing] water conditions and study[ing] the best methods of planting". When he did plant in 1912, the results were even more devastating. He planted "20 acres in cane and sowed it very lightly [sic] thinking that possibly if I got a rain on it that I might be able to make a crop, but the first rain that came was a very hard one, and on portions of the planted area the water ran knee deep sweeping the surface seed and soil entirely away..."⁹ The fact that McKillip had such a difficult time cultivating his claim caused the Commissioner of the GLO to reject his three year proof for "insufficient cultivation" and, in essence, failing to show a good faith effort.¹⁰

After his proof was rejected, McKillip obtained advice from a Mr. Edwin Kellar, and then he planted 20 acres of cane and planned to terrace the plot to prevent washouts. Unfortunately, 1913 proved to be a very dry year, and the cane failed to mature. McKillip allowed his stock to graze in the unproductive field.¹¹

McKillip, being a lawyer, successfully appealed the Commissioner's decision by outlining his various crop disasters as proof of good faith. He concluded that "...it would be the most acute injustice to deprive appellant of the result of practically four years of effort and the expenditure of a large sum of money by denying this appeal".¹² On August 14, 1914, the GLO issued McKillip's patent after the Commissioner agreed to reduce the required acreage as allowed by a circular of November 1, 1913 when circumstances were "beyond [the settler's] power to overcome".¹³

Shortly after receiving his patent, McKillip became the Secretary of the Democratic Central Committee in Alamogordo and apparently was living in town at this time.¹⁴ In 1915, he returned to Indiana. There is no evidence that he returned to his homestead. Tax assessments for years following 1915 indicated McKillip's residence in Jeffersonville, Indiana.¹⁵ In 1953, when HAFB was attempting to acquire the land for expansion of their water facilities, they found McKillip had passed away in Indiana two or three years prior to that time.¹⁶ His only heir, a sister named Mary Lutz, also of Indiana, deeded the property to HAFB in 1956.¹⁷

Feature Associations. Very little structural remains exist at the site (Figure 38), making it difficult to

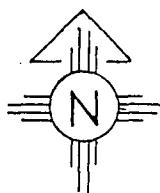
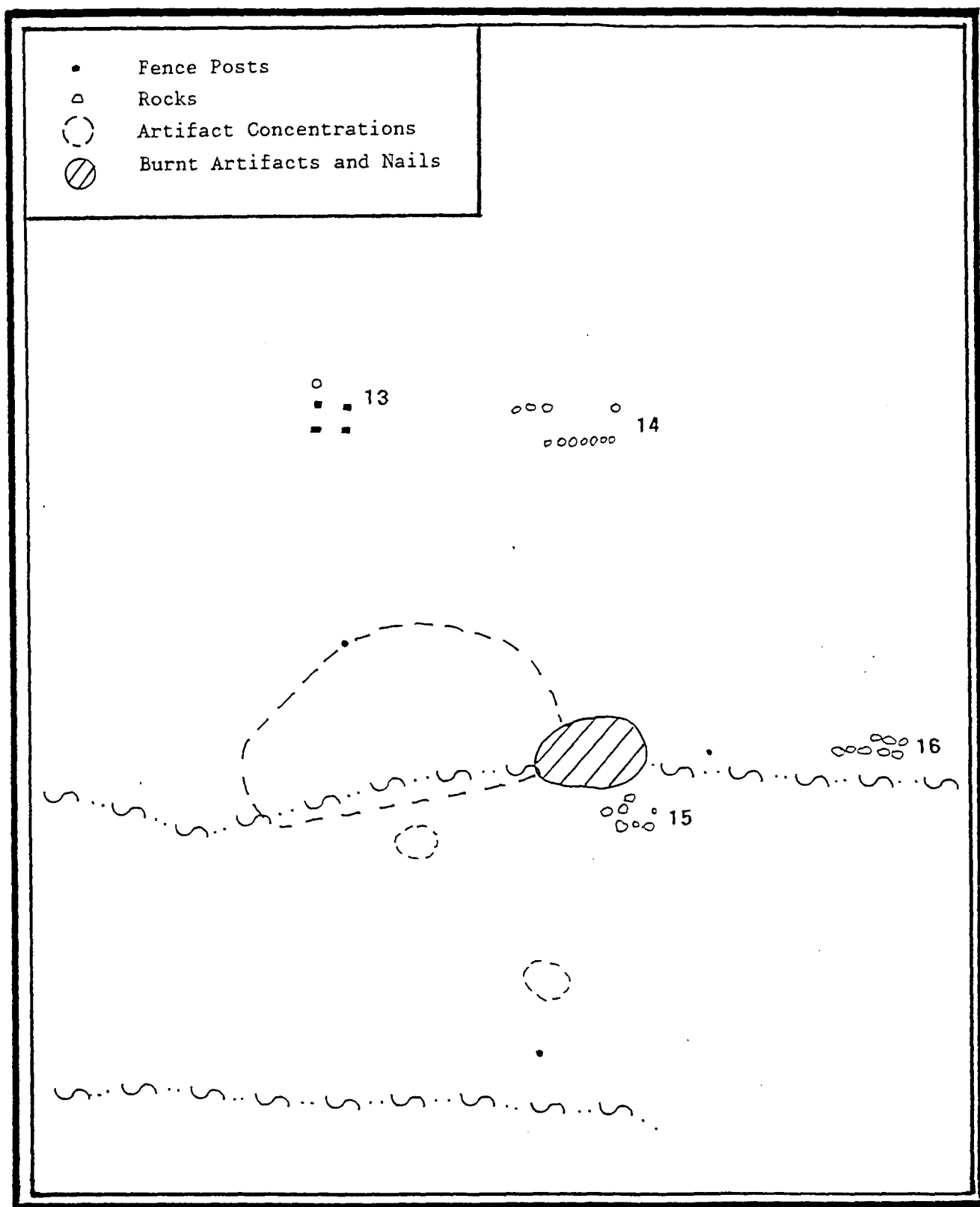


Figure 38. HAR-019 Site Plan.

determine the functions of the features. Feature 13 is the remains of the windmill tower. It consists of four partial legs embedded in the ground. The well was probably under the tower but has silted in. The absence of a pipe suggests that the well was hand excavated. A wash tub and a crank type handle are next to the feature.

Feature 14, located 12 meters east of the windmill, is a 10'x 10' (3x3m) cobble rock feature consisting of two parallel linear alignments. It may be the remains of the barn because its dimensions are too large to be the chicken house. Very few artifacts existed in this area and the feature was almost obscured by vegetation. The remains of the original house, which burned in 1911, are represented by Feature 15, 25 meters south of the previous feature. It consists of an irregular rock scatter and a concentration of square cut nails and burnt artifacts, such as glass and earthenware fragments. The final feature, Feature 16, is a 16 foot (6m) long linear rock alignment situated on the far eastern boundary of the component. There were no artifacts in this area.

The majority of the artifact assemblage is located directly northwest of the burnt house remains and consists primarily of food containers such as sardine tins, crimped seam fruit cans, condensed milk cans, and canned meat tins. Other domestic type artifacts include stove parts, Mason jar lids, clothing fasteners, enamel pails, and buckets. A few livestock related items (horseshoes and wagon and saddle hardware) were noted within this main artifact concentration. The diagnostic artifacts, including purple glass and bottle maker's marks, are consistent with both the Gibsons' and McKillip's occupations.

Impacts and Recommendations. The site has been affected by moderate sheet wash erosion and grazing. The archaeological research potential is thought to be high, based on the amount and nature of the artifact assemblage. An in depth artifact analysis should be conducted. This information could tie into studies, such as consumer behavior, market accessibility, subsistence patterns, gender studies, marginal environment adaptations, and daily farm life. The assemblage also may be a good candidate for analysis to determine an artifact/land use model since McKillip's activities are so well documented. Heavy silt in the area may also make archaeological testing profitable to determine the

functions of the features. The site is eligible to the National Register under Criterion D, based on its potential for further research.

HAR-051--Luther Boles' Farm

HAR-051 is a 40,000 square meter habitation in the NW1/4 of Section 19, T17S, R10E at the Boles Well Field. It is located on an alluvial flat west of the Sacramento Mountains. The site contains two historic components. The earliest occupation is represented by a medium density scatter of domestic refuse located on the northern portion of the site. The second component, which is separated from the first by a man made ditch, consists of various concrete rubble piles, a concentration of nails, a cobble alignment, short concrete walls, the stumps of ornamental trees, and miscellaneous domestic artifacts scattered throughout the southern portion of the site.

Historical Background. The first documented evidence of an habitation of this land is on a 1908 GLO survey plat of T17S, R10E. At this time, the surveyors indicated "Harris' House" in the NW1/4 NW1/4 of Section 19 (See Figure 36).¹ No information could be found concerning this person. Later the same year, William L. Walthall moved onto the property.² Prior to 1908, Walthall lived in El Paso where he worked in a grocery store, but he frequently came to the area to help during the spring roundups on the Prather Ranch near the foothills of the Sacramentos.³ He married Jennie Prather, and after moving to the Alamogordo area, he found work in another grocery store and set about improving his farm south of town. Walthall, his wife, and one son also owned a house in town at that time.⁴

In 1909, Walthall had improvements on government land valued at \$120 and also kept some horses and a couple head of cattle.⁵ He cultivated 5 acres each of corn and cane, but harvested very little that year. Early in 1910, Walthall filed a claim on the land he had been improving for a year and a half: the NW1/4 of Section 19 (See Figure 37). He claimed to have 10 acres in cultivation but professed a "poor outlook" again that year. In September 1910, Walthall commuted his claim and probably moved to Alamogordo for his job.⁶

When the Land Office issued Walthall's patent, he had several improvements valued at \$150 on the land. These included a 14'x 32' lumber house with a 12'x 20' addition, a 14'x 16' barn, two wells, one 60 feet deep and the other 93 feet deep with a windmill, a 75'x 100' dirt tank, a 50'x 50' eleven strand wire corral, a 40'x 40' eight strand wire corral, and 3/4 mile of irrigation ditches. He also had all 160 acres fenced with three strands of wire.⁷

Three years after receiving the patent, the Walthall's sold the property to Mrs. Carrie C. Woollen on October 10, 1914 (Table 3). By this time, one acre in the extreme southwest corner of the tract had been deeded to the County for a schoolhouse (see Non Site Research Areas).⁸ Woollen and her husband had 7-1/2

Table 3. Ownership of Boles' Farm

<u>Grantor</u>	<u>Grantee</u>	<u>Date</u>	<u>Instrument</u>	<u>Price</u>
Wm. Walthall		1/19/10	HE	
USA	Wm. Walthall	4/10/11	HP	
Wm. Walthall	Carrie Woollen	10/10/14	WD	\$1.00~
Woollens	Clyde Woollen	1/9/15	WD*	\$1.00~
Woollens	Thomas Woollen	1/9/15	WD*	\$1.00~
Thomas Woollen	Woollens	7/28/17	WD*	\$1.00~
Clyde Woollen	Woollens	7/28/17	WD*	\$1.00~
Woollens	L.F. Russell	10/24/23	WD	\$1.00~
L.F. Russell	E.H. Henderson	9/7/39	WD	\$1200
L.F. Russell	E.H. Henderson	9/8/39	CM	\$150
E.H. Henderson	Kirby Weems	1/9/42	WD	\$2000
Kirby Weems	W.A. White	2/17/43	WD	\$10
W.A. White	Frank Davis	11/18/43	JT	\$1.00~
Frank Davis	Luther Boles	3/14/44	JT	\$2000
Luther Boles	USA	7/29/47	Contract	
Luther Boles	USA	6/30/59	WD	\$75,000

^See acronym list on page xiii.

~Grantors were not required to state the specific amount for which they sold their land. As a result, many only put \$1.00.

*Warranty Deed for 60 acres of 159 acre tract

acres in cultivation between 1917 and 1919 and kept two horses on the land. They gradually added improvements and in 1921, these were valued at \$1090.⁹ The Woollens also owned an interest in several oil and gas placer mining claims in the interior Basin which they sold off between 1919 and 1920.¹⁰

In 1923, Carrie and T.G. Woollen of El Paso sold the land to L.F. Russell, also of El Paso.¹¹ Russell and his wife Scottie sold it to E.H. Henderson in 1939 for \$1200 and, at the same time, granted the new owner a chattel mortgage on 5 head of dairy cattle and one bull.¹² Henderson made a small profit when he sold the land to Kirby Weems for \$2000 in 1942.¹³ Weems passed it on to W.A. White the next year, and White granted joint tenancy to Frank and Vera Davis in November 1943.¹⁴ By 1944, Davis was the sole owner of the property and he sold the land to Luther and Gladys Boles for \$2000, with a car as a down payment.¹⁵

Nothing is known about the various owners between the Woollens and Davis. Davis cultivated some land and had cattle, horses, and a pig. When he moved, he left one of his horses behind for the new owners.¹⁶ Luther Boles' ownership of the land was continuous until 1954 when HAFB filed condemnation proceeding to acquire the land for expansion of the Base water facilities.¹⁷ His use of the land proved to be more extensive and productive than the level previous occupants achieved.

Luther Boles grew up in Texas, served in World War I, and then moved to New Mexico in the 1930s. The family had lived first in a rental house in Alamogordo and had a small garden in the back yard. Boles purchased the property because it was always his dream to have a real farm. When the family, consisting of Luther, Gladys, and two of their children, Edwin and Betty Jean, moved to the new farm, they gave up the indoor plumbing and electricity they had enjoyed in town. In addition, because Boles had given the car away, they drove around in a car frame that had no doors or roof. With the exception of the car which was an embarrassment, Betty Jean claimed, "We didn't mind all of that because we were so excited that we had this land and a place that we could call our own...".¹⁸

Boles owned some cows, chickens, and pigs. He planted a portion of his 159 acre tract with tomatoes, watermelons, Jap melons, eggplant, squash, chiles, cucumbers, currants, and flowers. His wife canned vegetables and people from town came to

the farm to buy his produce. He also sold some to local grocery stores.¹⁹

This particular tract of land possessed good potable water unique in much of the Tularosa Basin. Boles developed wells, irrigation ditches, and a large earthen reservoir to water his gardens (Figure 39). At about this same time, Holloman Air Force Base was having a water shortage, although they were receiving water from the city's system and were spending \$3,500,000 to provide the Base with water from Bonito Lake in Lincoln County.²¹ Boles recognized his ability to help and approached HAFB about buying water from his well. In 1947, the two parties entered a contract in which Boles "agree[d] to make available to the Government such facilities as are now located at the existing water well on his ranch for the development and transportation of said water to Holloman Air Force Base." Boles was responsible for maintaining the wells and equipment. In return, the United States government allowed Boles to use water for domestic

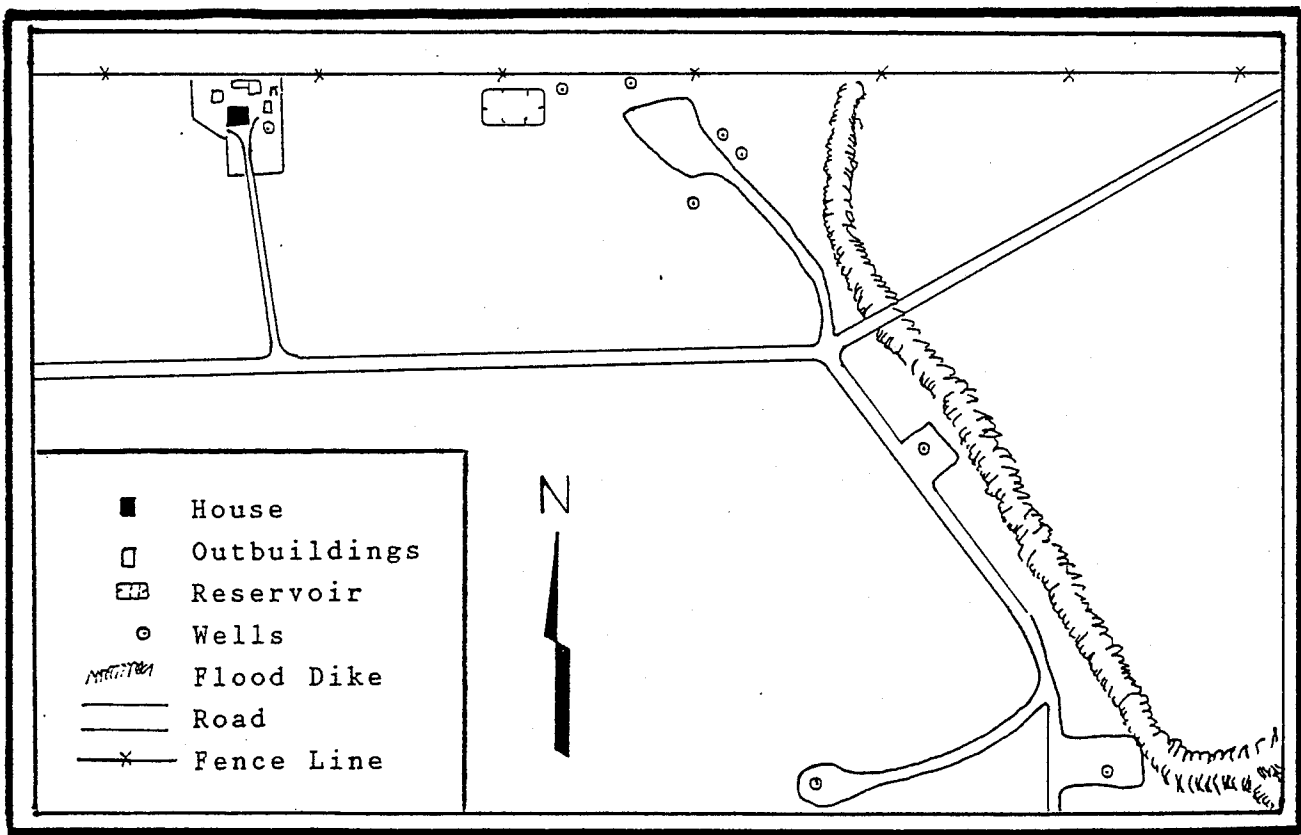


Figure 39. Diagram of Boles' Farm, 1956.
(Adapted from 1956 Map in COE Files)

purposes and to irrigate 10 acres. They also provided electricity to the well and allowed Boles free access to it for domestic use. Boles became a civil service employee for the Base and was paid a monthly fee for the water HAFB used.²² Over the next ten years, HAFB drilled 36 test wells on the land.²³ Boles also bought an additional 80 acres adjoining his tract on the west on which he determined more well locations for the government.²⁴

Early in the 1950s, other organizations began to encroach on HAFB's water resources at Boles' farm. The City of Alamogordo and the Southern Pacific Railroad looked to acquire some land in the vicinity of Boles' to add to their own water supplies. In 1956, the Air Force, believing their supply threatened, started condemnation suits against Boles and several other land owners surrounding his tract.²⁵ When the case came up in court, Boles' lawyers attempted to get compensation for the value of the land and improvements, as well as the value of the water and its potential for development. The government argued that most of the wells had been drilled by the Air Force at government expense and, therefore, Boles was not entitled to such compensation.²⁶ The suit drug on until June 30, 1959. At this time, Boles received \$40,100 for the land and an additional \$34,900 for the water.²⁷

Boles then bought property on the west side of the highway. He kept a five acre plot for farming and divided the rest into the Boles Acres Subdivision, now located south of Alamogordo. Luther Boles died in 1965.²⁸

Feature Associations. The artifacts located on the extreme northern portion of the site (Figure 40) are consistent with Walthall's and Woollen's occupation. Purple glass and hole-in-top cans suggest a date between 1880 and 1920. No further information could be derived on this component of the site because of the lack of associated features.

The features located on the southern half of the site represent Boles' occupation. The piles of concrete rubble appear to be the remains of his residence and outbuildings. It is unknown when these structures were built, but most are known to predate Boles purchase of the property in 1943. Betty Jean Johnson, Boles' daughter, provided information concerning the improvements.

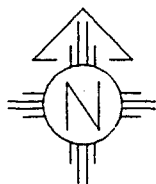
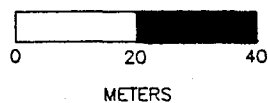
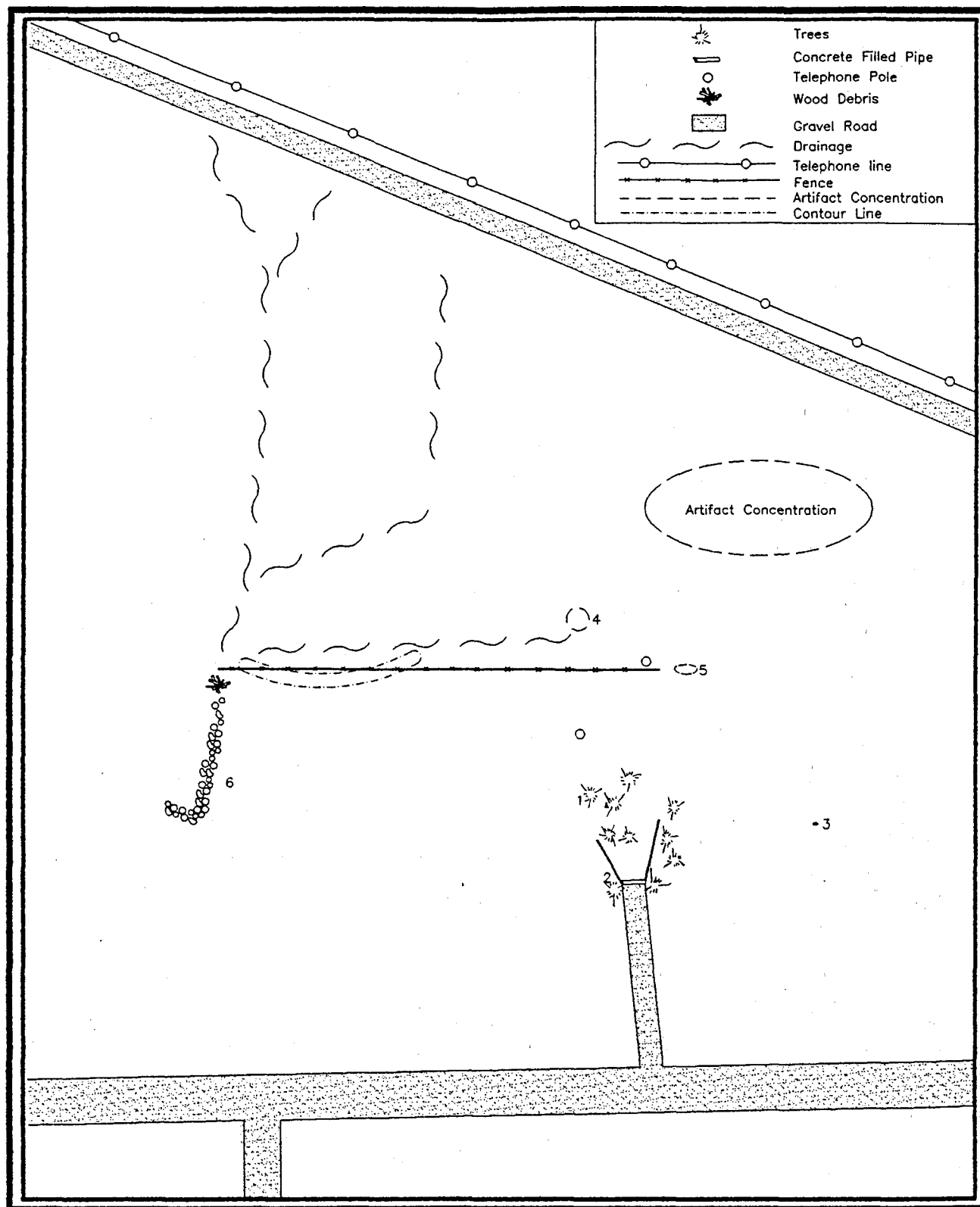


Figure 40. HAR-51 Site Plan.

When they moved to the land, a small adobe house, a well, windmill, and an adobe outbuilding were already erected. The adobe house had two rooms and a lean-to. Over time, Boles tore down the lean-to and doubled the size of the house. He added a lumber frame kitchen, dining room and a bathroom on the east side, and two bedrooms on the west (Figure 41). The 32'x 32' house was on a concrete foundation and had a corrugated tin roof. It was surrounded by poplar trees and a circular gravel driveway. After condemning the property, HAFB moved the house to the Boles Acres area and sold it.²⁹

East of the house, a small well with a windmill provided drinking water to the house. A storage tank set up on a platform was located next to the well, and the water was first pumped into this in order to get pressure to the house.³⁰ This well is called Russell Well in several COE reports, and therefore, must date to his occupation of the site between 1923 and 1939.³¹



Figure 41. Boles' residence, 1956. (COE Files)

Behind the house, almost directly on the property line, was a 22'x 24' adobe building with an 11'x 16' addition on the east side (Figure 42).³² This structure was on the land when Boles bought it. When Betty Jean married in 1954, she and her husband Ron moved back to the farm. They remodeled this building as a temporary residence until they could build their own house on the land. The government took the land before they could do so. The addition housed a Hispanic man, Jessie, who helped out on the farm. Also north of the house was a stucco workshop or garage (Figure 43), and to the east sat a large cement tank in which the family used to swim.³³

In comparing the recollections of Betty Jean and Ron Johnson and the 1956 COE photographs to the features at the site, it became apparent that, because the government had bulldozed most of the structures, the piles of concrete could not be definitely associated with the improvements.³⁴ Feature 1 constituted the

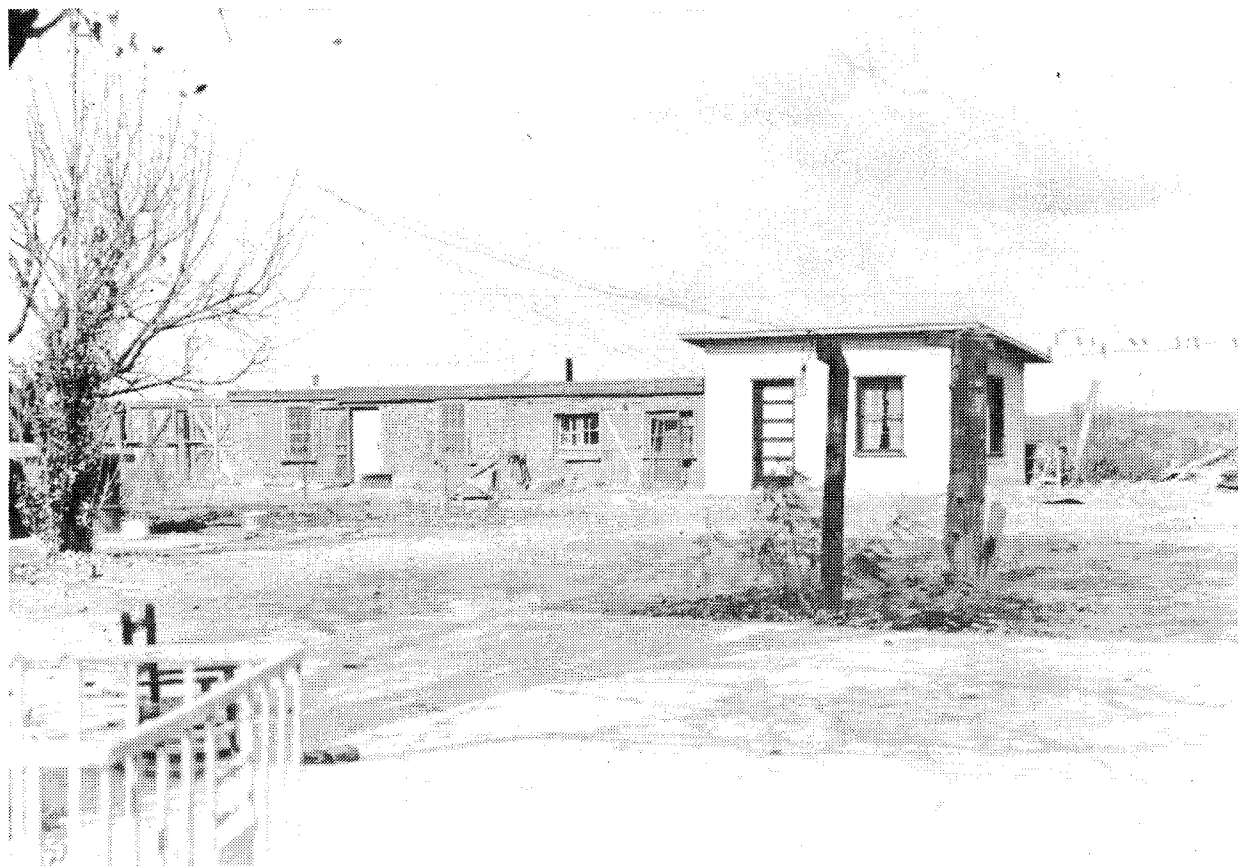


Figure 42. Adobe outbuilding at Boles Farm, 1956. (COE Files)

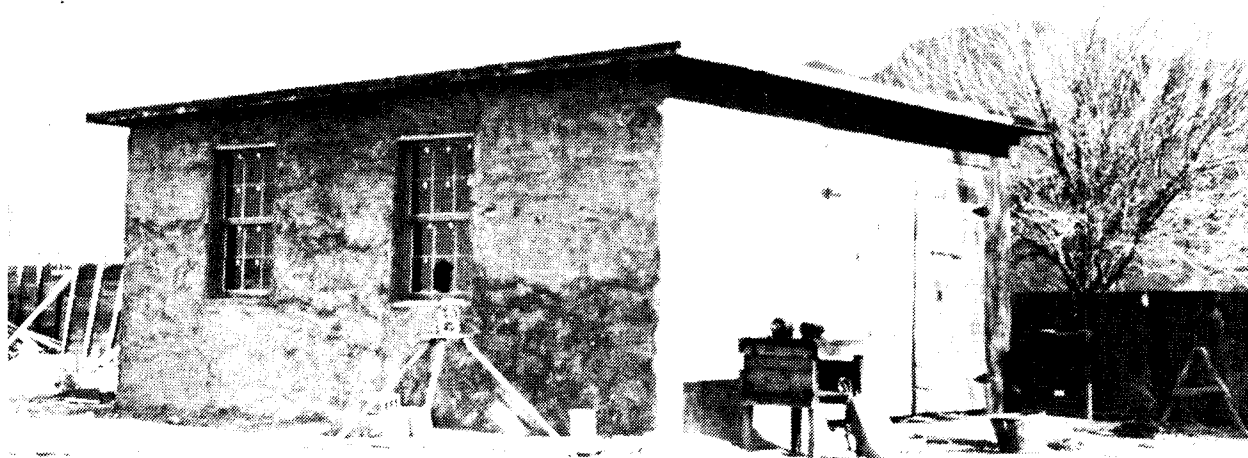


Figure 43. Outbuilding at Boles' Farm, 1956. (COE Files)

original location of the house surrounded by ornamental trees. The gravel drive is barely visible approaching the house from the south. This driveway was bordered by low concrete walls (Feature 2) radiating out from the gate which had to be opened before reaching the house.³⁵

Feature 3 may be the location of the well. It is a 3'x 3' (1x1m) depression, but there is no evidence of a windmill or storage tank. Its location relative to the house seems to be consistent with Johnson's recollections. Feature 4 is the remains of a concrete foundation. Its location in relation to the house suggests it may have been the workshop. Feature 5, another pile of concrete, seems to be the concrete tank because of an obvious corner which juts out from the rubble. Finally, Feature 6 is a cobble alignment. This area of the site appears to have been bladed or bulldozed, and it may possibly be evidence of the original driveway. According to Betty Jean, they entered

their land from the west. When the government began buying water, HAFB built a straight road into the property, obscuring the original curved road.³⁶ At this time, Boles moved his driveway to its location south of the house.

Several features were not located during site documentation. Apparently another building, a shed, sat northwest of the house, but no evidence of this structure remains. In addition, a large pump well was located in the northeast corner of Boles' tract and a pump house stood nearby. This well was the original one from which HAFB bought water. HAFB dismantled the pump and filled in the well after developing other wells.³⁷

Some evidence of Boles' occupation has not been completely destroyed. A man made irrigation ditch spans the northern property line and a woven wire fence runs along the inside of this ditch. Approximately 1/4 mile east of the house are the remains of Boles' immense flood dike and earthen storage tank (Figure 44). Artifacts within the site boundary consist mainly of miscellaneous metal scraps, fencing materials, tin cans,



Figure 44. Boles' flood dike and earthen tank, 1956. (COE Files)

window glass and airplane parts (Albert Mendez, who works at the well fields, said Boles built airplanes, but Johnson did not mention this hobby).³⁸ No diagnostics representing this later component were found.

Impacts and Recommendations. The site has experienced slight impacts from erosion through small drainages and sheet washing. HAFB also uses the area to dump recent refuse, as stated by Albert Mendez. Evidence of vehicular travel is especially noticeable in the southwest corner. All structures once standing on the land have either been moved or destroyed by HAFB.

The early component may possess some subsurface deposits, and the artifact assemblage should be extensively analyzed in the field for contributions to the early history of the site. This information could aid studies regarding subsistence patterns, consumer behavior, and market accessibility. The later component has no remaining integrity, although its association with Luther Boles and its obvious role as the "life line to Holloman Air Force Base" makes it important to the history of the Base. Analysis of the artifact assemblage and videotaped interviews with Betty Jean Johnson and her brother Luther Calvin Boles, Jr., would deplete the site's research potential. The site is potentially eligible to the National Register based on its important association with the history of HAFB (Criterion A) and its potential for archaeological research (Criterion D).

HAR-053--Groom's Residence

HAR-053 is a 46,800 square meter habitation site located on an alluvial flat in the SW1/4 of Section 19, T17S, R10E, near the base of the Sacramento Mountains. A narrow, deep drainage runs through the northern portion of the site. A multi-room cobble foundation/alignment, a concrete foundation, burnt bone concentrations, and the possible remains of a chicken house are visible within the site boundaries. Refuse represents typical domestic deposits with several livestock items such as horseshoes, saddle parts, and cattle bones.

Historical Background. When the GLO surveyed the land in 1908, they found T.D. Willingham squatting in the SW1/4 SW1/4 of

Section 19, T17S, R10E (Figure 45). Tom Willingham had built a house and had a "pasture" enclosed with a post and wire fence at that time.¹ In 1910, he listed his occupation as ranchman in the precinct of Camp City. He was a 44 year old man from Arkansas, and he lived with his wife, Callie, three sons Jesus, Joe, and William, and two daughters, Dottie and Vashiti.² He may have been the same "Mr. Wallingham" who raised goats on a claim 6 miles south of Alamogordo. The goat ranch must have been quite substantial, because in 1908, according to the Alamogordo News, Willingham moved 900 head of goats to Corona.³

After Willingham moved, Nancy Callie Groom, a 49 year old widow from Tennessee and her two sons, William and Shelah, filed a homestead entry on the SW1/4 of Section 19, T17S, R10E on April 16, 1910 and established residence on the land nine days later (See Figure 37).⁴ The family had lived on a ranch at Fruitvale, approximately 4 miles northwest of Alamogordo, when first moving to New Mexico for William's health.⁵ The Groom brothers were

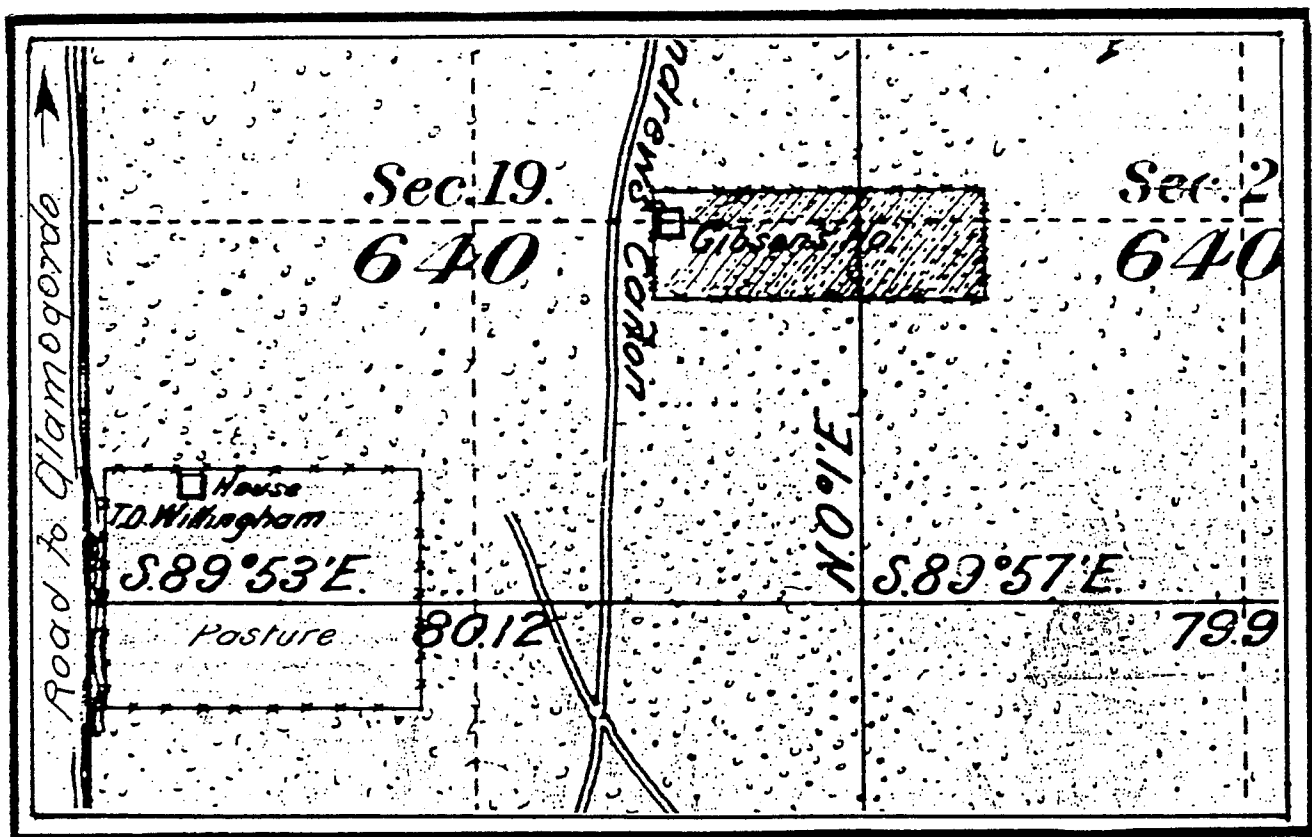


Figure 45. GLO Plat Showing Willingham's Habitation.

considered very popular and eligible bachelors at that time.⁶ At the same time Callie filed on her tract, William entered a claim approximately one mile north of his mother. He relinquished the entry to his younger brother the next year, and the GLO cancelled it in 1921.⁷

Not too long after the Groom's moved to their claim south of Alamogordo, William Groom and L.G. Lilly opened a meat market called the "Fatted Calf" on 10th Street in Alamogordo.⁸ Meanwhile, Shelah remained at home to help his mother on the farm. In 1910, they planted 10 acres of cane on the southern half of their tract, but because of a drought, they harvested no crop. The next year the same thing happened, but they were able to pasture 10 to 15 head of cattle, which belonged to William, in the field. In 1912, they planted 20 acres, but again had no crop. About the only profitable crop on the claim were the seven peach trees which in 1912 produced 1500 pounds of fruit. Mrs. Groom also had ducks, chickens, goats, and a small vegetable garden.⁹

Within the first three years of residence, Mrs. Groom had numerous improvements erected. The house, a 25'x 60' six room frame structure, was on the land when she moved there. She also had a 12'x 14' chicken house, two duck houses measuring 12'x 20' and 14'x 18', a 20'x 40' goat shed, a 7'x 10' well house, a well and windmill, a 12'x 14' outhouse, an 8'x 9' outside cellar, and a 40'x 60' dirt tank. The entire claim was fenced with four strands of barbed wire and the house was also inclosed with 400 yards of wire fencing.¹⁰

Three years after Mrs. Groom moved to her homestead, she proved up. Her neighbors, James McKillip (HAR-019) and Mrs. E.L. Reynolds (HAR-054) acted as her witnesses.¹¹ Probably not too long after she received her patent, she moved back to Tennessee. The brothers remained in Alamogordo, and by 1916, Shelah was in the butchering and grocery business with his brother.¹²

Mrs. Groom died of pneumonia in Tennessee late in 1928.¹³ A son and daughter, who had remained in Tennessee when the rest of the family moved to New Mexico, transferred their title to the homestead over to the two brothers.¹⁴ They may have continued to use the land to pasture cattle for their business, but both men rented houses in Alamogordo where they lived. They held the title until the government condemned it for expansion of HAFB's water facilities in 1956. Both men died in the 1960s.¹⁵

Feature Associations. The 26'x 50' (8x15m) rectangular cobble alignment (Feature 1) can be identified as the foundation of the six room house, although only a few small scraps of lumber remain from the frame superstructure (Figure 46). Within this feature were concentrations of nails and window glass, and other domestic type artifacts such as buttons, buckles, an eye glass lens, crockery fragments, a tea cup handle, stove parts, and kerosene lamp globe fragments.

The remaining features at the site (Figure 47) cannot be definitely associated with the improvements Mrs. Groom listed on her homestead testimony. The 10'x 12' (3x4m) concrete foundation may possibly be the remains of the chicken house as the dimensions are similar. This foundation has a trough-like extension to the east which may have been for rain water catchment and small stock watering, such as for chickens or ducks (Figure 48). The pile of fence posts with small pieces of chicken wire may be the remnants of a duck house, and a possible dirt tank is barely discernable to the north of the house.

The artifact assemblage is more representative of the Groom's residence. Surface observations located artifacts consistent with the site's history. For instance, diagnostics, such as purple glass and bottle maker's marks, suggest a date of occupation within the first two decades of the 1900s. Many peach pits were found in the vicinity of the house, evidence of Mrs. Groom's successful peach harvests, and bone concentrations may represent butchering activities. Finally, a Piso's Cure bottle fragment is confirmation of reports concerning William's illness. Piso's was a treatment for consumption, which is a symptom of tuberculosis, an illness which brought many people to the sanatoriums of the southwest.¹⁶

Impacts and Recommendations. The only apparent disturbance to this site is continual sheet wash erosion. This factor, however, indicates an excellent chance for subsurface cultural remains to be found. This site would also be a good candidate for archaeological testing to compare the historical information to the physical legacy of the Groom's occupation. Archaeology may help clear up any discrepancies about the feature locations and functions as well as contribute to a land use/artifact model, and studies about subsistence patterns, consumer behavior, and especially, gender studies. Therefore,

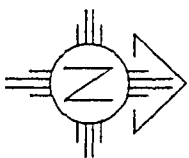
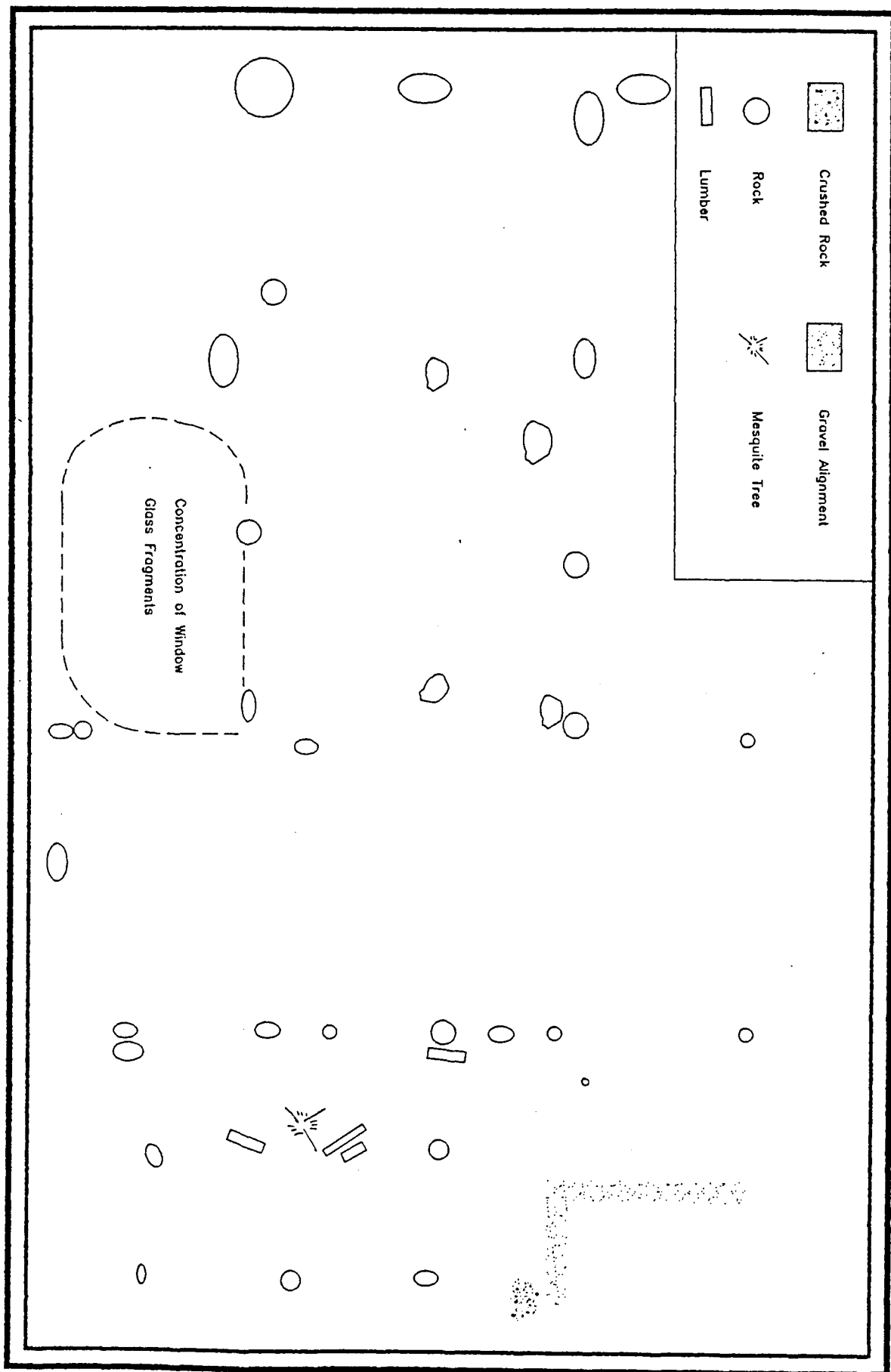


Figure 46. Plan of Groom's House.

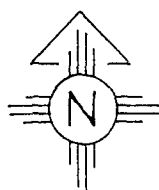
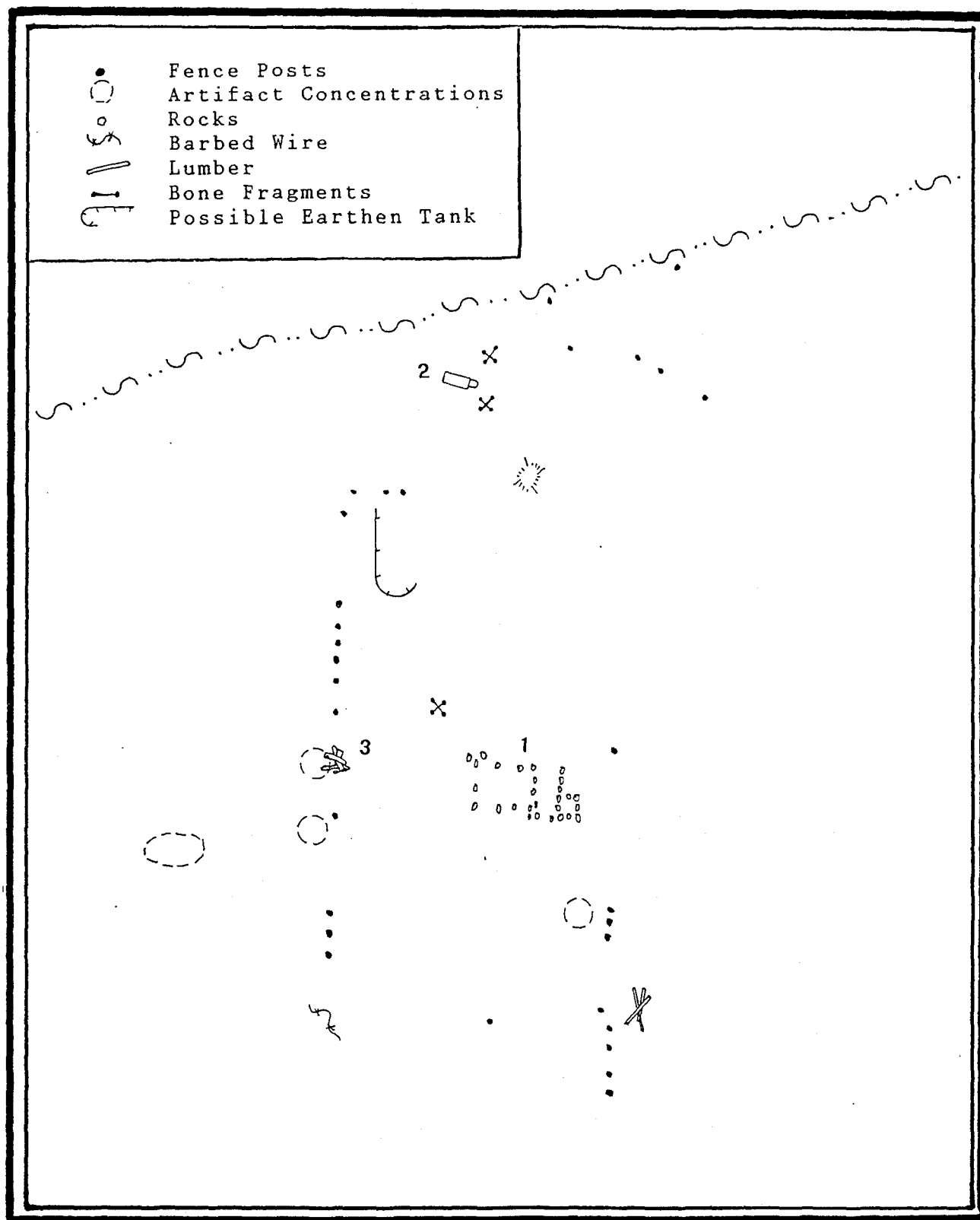


Figure 47. HAR-053 Site Plan.



Figure 48. Foundation at Groom's homestead. The trough-like extension is in the left side of the picture.

under Criterion D, this site is potentially eligible to the National Register based solely on its archaeological research possibilities.

HAR-054--The Reynolds' Dairy

HAR-054 is a 75,200 square meter habitation site located at the southern most boundary of the Boles Well Field. The site actually straddles three sections: sections 19 and 30 in T17S, R10E, and Section 25 in T17S, R9E. It is situated on an alluvial flat near the base of the Sacramento Mountains. The site consists of two loci (one of which was recorded by HSR for the Boles Well Fields Survey project) of medium density artifact scatters representative of domestic refuse, such as glass and ceramic fragments and tin cans. No features were located on HAPB property, but structural remains thought to be associated with this site were noted on private property to the south.

Historical Background. The portions of the site on HAFB fall in Nancy Groom's 1913 patent (HAR-053), and Marion Jones' 1909 patent.¹ It was assumed that because the structural remains in Section 30 were so close in proximity to the site, that the portion of the site on HAFB property was secondary refuse associated with those remains. Although the site falls in the center of T.D. Willingham's 1908 pasture (See Figure 45), Eli L. Reynolds was the first to obtain ownership of the tract of land.² He filed a homestead entry on the NW1/4 of Section 30, T17S, R10E in July 1909 (See Figure 37).³

Eli Reynolds moved to New Mexico from the Midwest in the 1880s. He resided in the Sacramento Mountains for a while where he became friends with Tom and Virginia Bennett. In 1888, Tom Bennett was murdered while inspecting his cattle, and Virginia and her three children went to Reynolds' home for protection. Later that year, Virginia and Eli married.⁴ The couple first had a ranch on a 40 acre Desert Land patent near the mouth of Alamo Canyon. They sold this property to Oliver Lee for \$500 in 1896. This was the same tract which Lee sold for \$5000 to John Eddy for the Alamogordo town site the following year.⁵ The Reynolds moved to La Luz, and then, around 1909, they moved to their homestead six miles south of Alamogordo. They operated a dairy farm on their property. In August 1909, they had a two story, 32' x 34' frame house built, a mansion for its time.⁶ Mr. Reynolds was in poor health most of the time so Mrs. Reynolds and her sons took care of the farm, which supplied Alamogordo with fresh milk.⁷

In 1911, Eli Reynolds passed away and Virginia was left to fend for herself. She planted 25 acres of cane in 1912 and had a two acre orchard. During the years 1909 to 1911, when other farmers in the area were having poor harvests, Reynolds was reaping about 60 tons of cane and milo maize annually. In 1913, her improvements, including the 7 room house, milk sheds, stables, well, windmill, and dirt tank, were valued at \$1000.⁸

On January 7, 1913, Mrs. Eli Reynolds received the patent to the dairy farm. At that time, she was 47 years old, had borne 5 children and did a "man's work" on her farm.⁹ In 1914, her health failed. Two years later she passed away and her estate sold her personal belongings to pay delinquent taxes. Her dairy farm, however, valued at \$2000, was not sold by 1921, and her estate continued to pay taxes on the property.¹⁰ After 1921, no records could be found concerning the tract of land.

Feature Associations. As mentioned above, the improvements were located in Section 30 and not on the portion of the site which HAFB owns (Figure 49). The structural remains, consisting of a pile of bricks, concrete and lumber, seem to be those of a substantial dwelling which may have been the seven room, two story house. The artifacts located on HAFB property do not give any definite indication of activities at the site, being composed mainly of secondary domestic refuse. They do, however, appear to be consistent with the dates of the Reynolds' occupation of the site. Diagnostic artifacts, such as purple glass fragments, hole-in-top cans, and bottle maker's marks, all indicate an occupation within the first two decades of the twentieth century.

The other improvements at the site may have been destroyed or scavenged over time. Their tax value consistently dropped from \$500 in 1916 to only \$48 in 1921.¹¹ It seems apparent that the residence was not re-inhabited after Mrs. Reynolds' death. A new residence now stands only a few meters away from the rubble of the original habitation.

Impacts and Recommendations. The site has been heavily affected by several sources including sheet wash erosion, a man made irrigation ditch, a fence line, and continual habitation and development of that portion of the site on private land. Because of these disturbances and the character of the site on HAFB as only secondary refuse deposits, the site is considered not eligible to the National Register.

Further research at the site is considered unnecessary unless permission could be obtained to document that portion of the site on private property. Also, with the small chance that the artifacts in Loci 2 may be associated with a residence on Marion Jones' homestead tract, further survey in the SE1/4 of Section 25, T17S, R9E may reveal additional evidence of this residence.

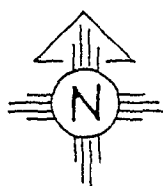
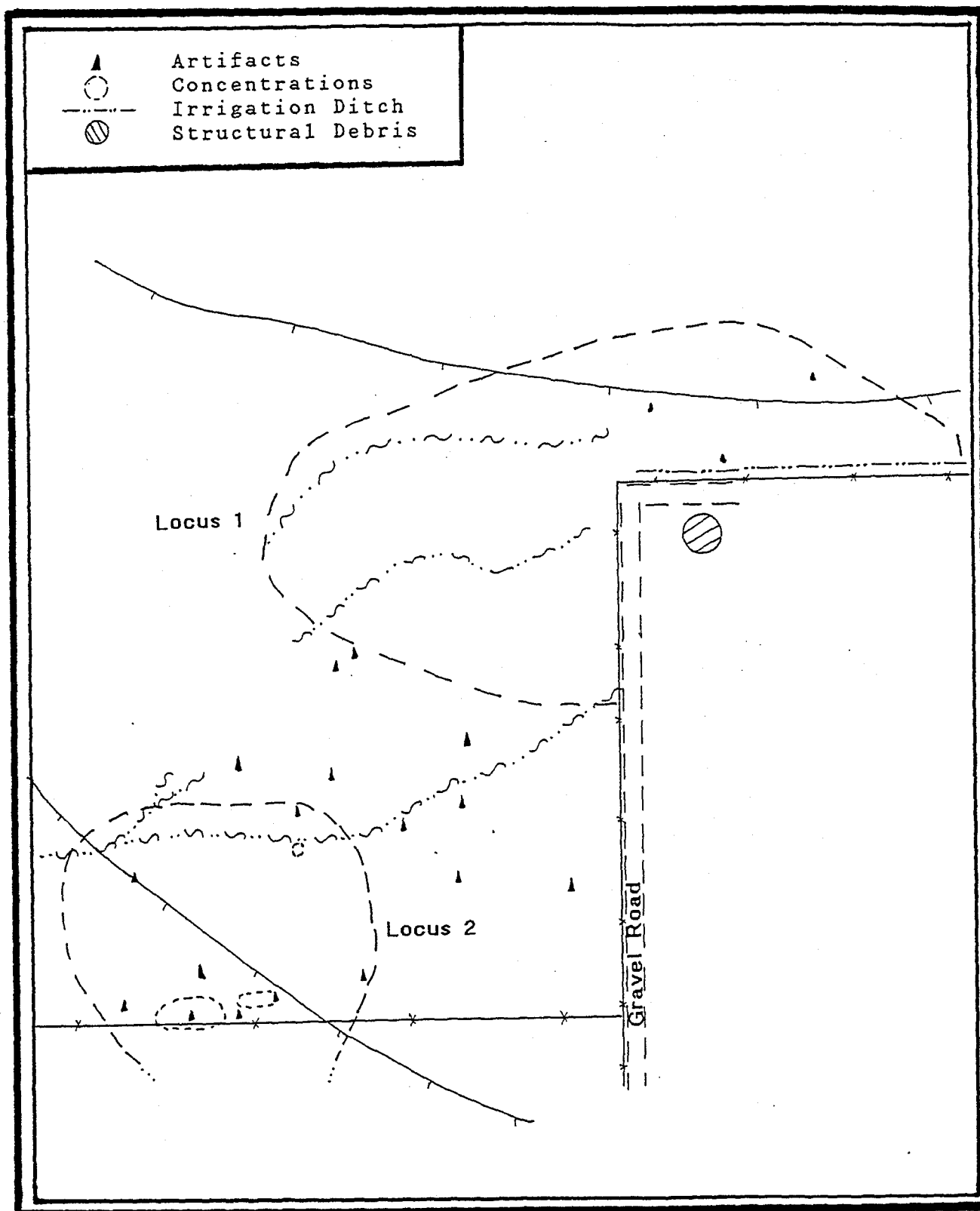


Figure 49. HAR-054 Site Plan

HAR-086--William Singleton's Homestead

HAR-086 is a 19,600 square meter habitation site located in the SE1/4 of Section 6, T18S, R10E, on a slight alluvial fan just west of the Sacramento Mountains. Features at the site consist of the remains of an adobe and frame house, garage, concrete foundation, cement tank, rock lined depression, rock alignment, and a pile of cobble stones. Artifacts thought to be associated with the site are sparse and are mixed with various recent trash deposits.

Historical Background. The earliest documented reference to this tract is in 1920 when a man named Adam Garrison filed a Homestead entry on the S1/2 SE1/4, and Lot 3 of Section 6, T18S, R10E. Garrison lost the land when the GLO cancelled his entry in 1926.¹ Four years later, William Singleton entered a claim under the Stock Raising Homestead Act for the E1/2 NW1/4, and NE1/4 of Section 7, and Lots 1, 2, and 3 and the S1/2 S1/2 of Section 6, T18S, R10E; and the W1/2 SE1/4, and SE1/4 SE1/4 of Section 31, T17S, R10E (Figure 50). Singleton, a 64 year old man, proved up and received his patent on July 9, 1936.²

During the proof period, Singleton made extensive improvements on his land. In 1930, he built a 24'x 26', four room adobe and frame house; a 12'x 16' concrete cellar, a garage, chicken house, and dug a 130 foot deep well with a windmill. He claimed to have cultivated between 5 and 20 acres of feed crops each year, with the variability of the crops and the amount of acreage dependent on the availability of flood water. He raised fruit trees and a garden of vegetables which was irrigated with a series of ditches from the well. Singleton also grazed up to 10 head of livestock.³

In March 1949, Singleton and his wife Julie moved to El Paso and leased the land in Otero County to Clyde D. Pierce (Table 4). Pierce had the option of growing any crops he chose, adding improvements as he felt necessary, and he could purchase the property for \$3200 if he acted before the one year lease expired.⁴ At the end of March, 1950, Pierce owned the Singleton homestead.⁵ Two years later, he and his wife Florence, at this time living in El Paso, deeded the 646 acres to Betty Dare Douglass, a single woman, for \$6450.⁶

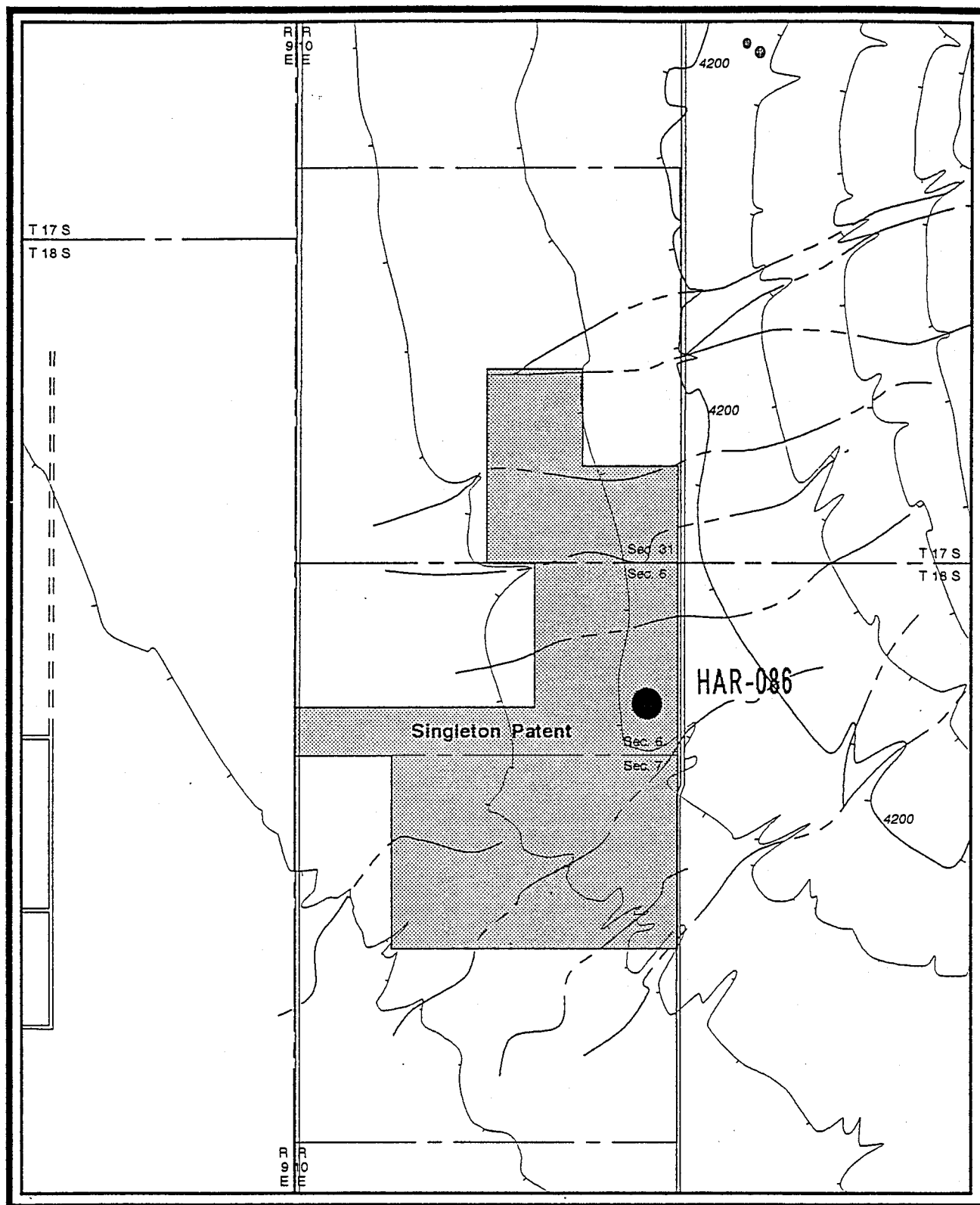


Figure 50.
Wm. Singleton Homestead Patent

★
mN
11.5 deg
Declination



Contour Interval 40 Feet

- Secondary Highway, hard surface
- = = Light Duty Road, hard or improved surface
- - - Stream: Intermittant

Table 4. Ownership of Singleton's Homestead

<u>Grantor</u>	<u>Grantee</u>	<u>Date</u>	<u>Instrument*</u>	<u>Price</u>
Wm. Singleton		11/24/30	HE	
USA	Wm. Singleton	7/9/36	HP	
Wm. Singleton	Clyde Pierce	2/12/49	Lease^	\$10/mo.
Wm. Singleton	Clyde Pierce	3/31/50	WD	\$3200
Clyde Pierce	Betty Douglass	4/17/52	WD	\$6450
Betty Douglass	USA	12/22/60	Easement	
Douglass Trust	USA	1/19/89	WD	\$692,000

*See acronym list on page xiii.

Lease^: with option to buy within one year

Douglass subdivided the southern portions of her 646 acres to three other people and she lived at the Singleton residence.⁷ In 1960, Douglass granted an easement to the federal government with the "right to operate existing water wells and to explore, drill, construct, and operate one or more additional water wells..." on her full 646 acre tract. This land was used to supply HAFB with water supplemental to that received from the city of Alamogordo and through the Bonita Pipeline.⁸ Between 1962 and 1966, HAFB drilled 11 test holes on the Douglass and other nearby properties.⁹ In the meantime, the owner was allowed to reside on the land and "enjoy without restriction all buildings, structures, garden areas, and facilities...existing on said lands..."¹⁰

At some point after granting the easement, Betty Dare Douglass passed away, leaving her estate to the Betty Dare Douglass Trust Fund which operated the Dare Memorial Rest Home Foundation, Inc. in Alamogordo. Beginning in 1972, the Foundation rented the house to Ralph and Laura Lermeyer for \$100 per month and upkeep on the property. The Lermeyers kept horses, mules, donkeys, chickens, and rabbits, and probably cultivated a small garden.¹¹ In January 1989, the Foundation deeded the land permanently to HAFB for \$692,000, of which 3/4 of the value depended on the water rights.¹²

Feature Associations. When the government decided to purchase the land, an appraiser evaluated the property and improvements, which included a house, garage, two sheds and two chicken houses.¹³ Because the land had been occupied until relatively recently, it was difficult to determine which features were associated with Singleton's homestead and which date to the later occupations. In addition, following the government's acquisition of the land, the Air Force burned the improvements as a Fire Department exercise to keep vandals out of the area.¹⁴

In 1988, the residence was described as having a foundation of native stone, adobe and stucco exterior walls, wood plank floors (with carpet), wood frame interior walls (with dry wall cover), a rafter and wood plank roof, indoor plumbing, propane heat and evaporative cooler. The house had six rooms, including a living room, kitchen, four bedrooms and a bathroom which was a later addition to the original structure which did not have indoor plumbing.¹⁵ Feature 1, the 50'x 33' (15x10m) remains of the house, consists of a cobble stone and cement foundation under the burnt remains of walls and electrical appliances (figures 51 & 52). It appears that the western half of the house, measuring 13'x 23' (4x7m), was constructed of adobe and the walls covered with stucco (Figure 53). This was probably Singleton's original residence. The central section of the house has a poured concrete foundation, and the front portion is cobble stone and cement mimicking the original foundation. The walls on the later additions were dry wall on a lumber framework. The front section of the house has a concrete floor. Based on the location of certain burned appliances, the function of several rooms, such as the laundry room and kitchen, could be determined. The laundry room appears to have been a later addition to the original house because the interior dry wall is in direct contrast to the adobe walls from which it extends.

The garage had walls of wood stud frame with wood plank siding, a wood roof, and a concrete floor.¹⁶ The interior walls were covered with dry wall, and two 9 foot tall stonework pillars flanked the door on the east side of the structure. All that remains of this structure (Feature 2) are the two pillars and the 16'x 16' (5x5m) concrete floor (Figure 54). It is located 70 meters southwest of the house, and a gravel road, which enters the property in the northeast corner, approaches the garage from the east.

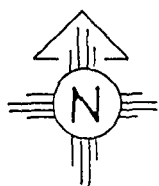
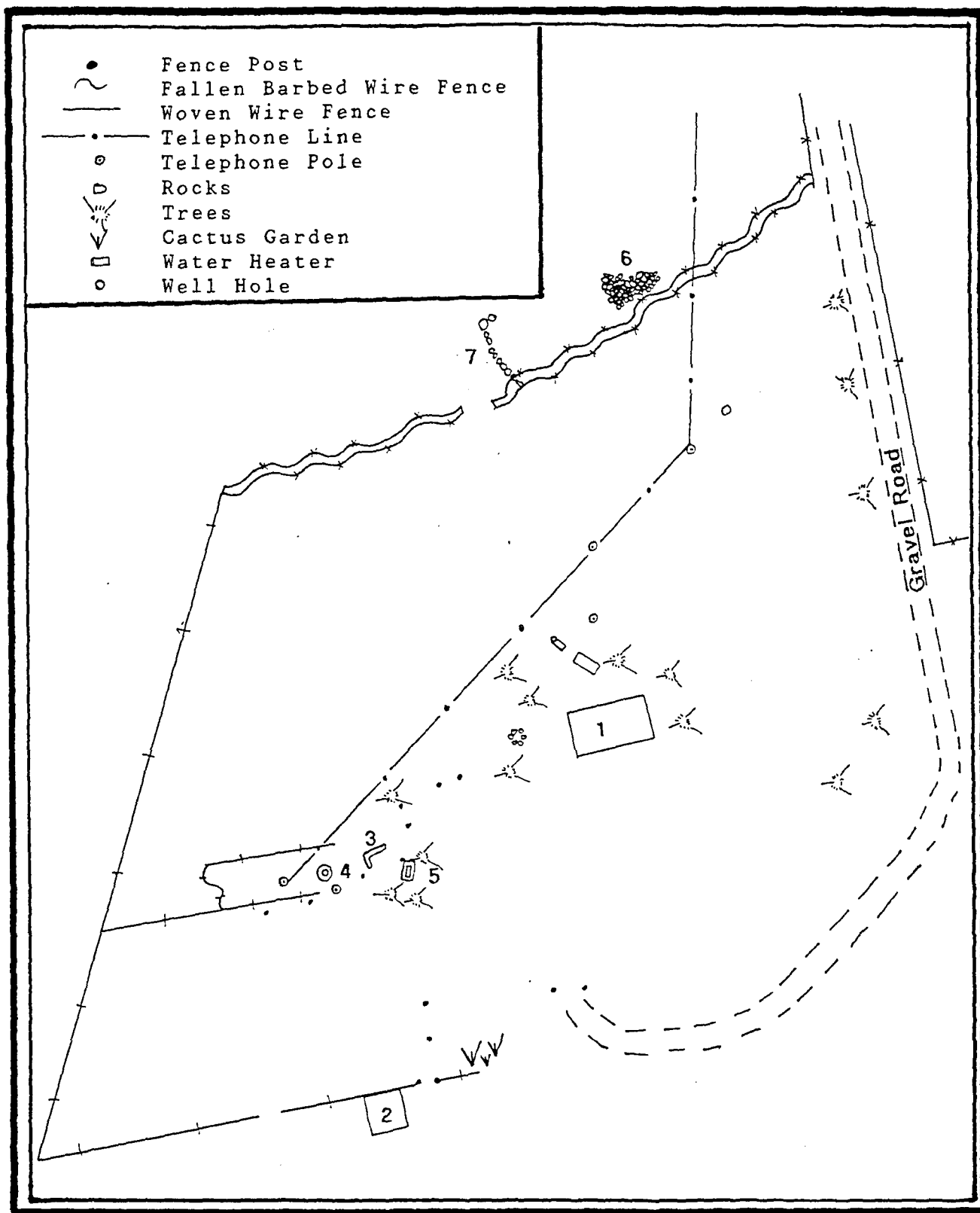


Figure 51. HAR-086 Site Plan.

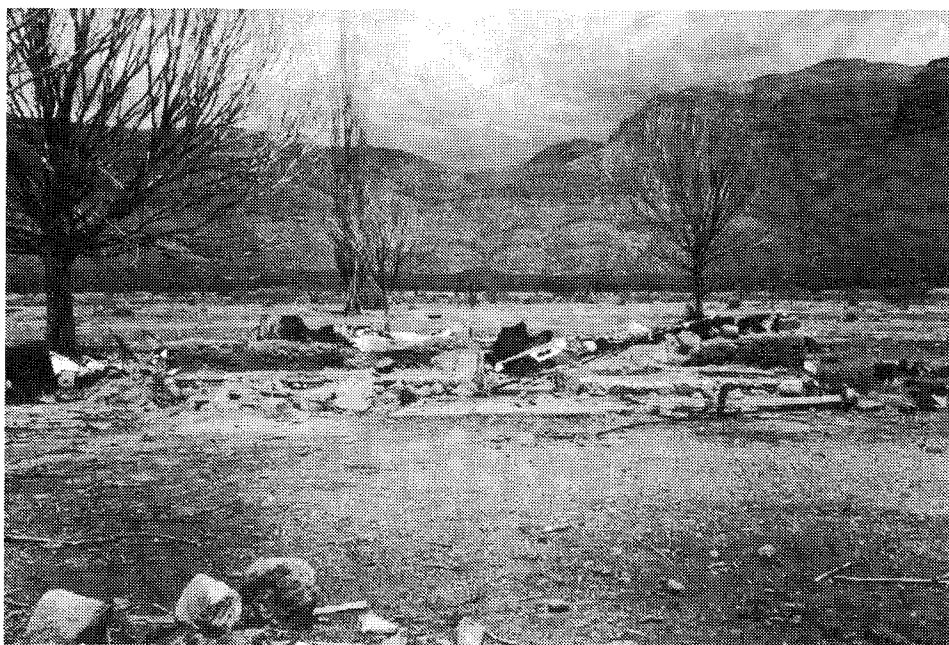
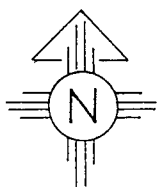
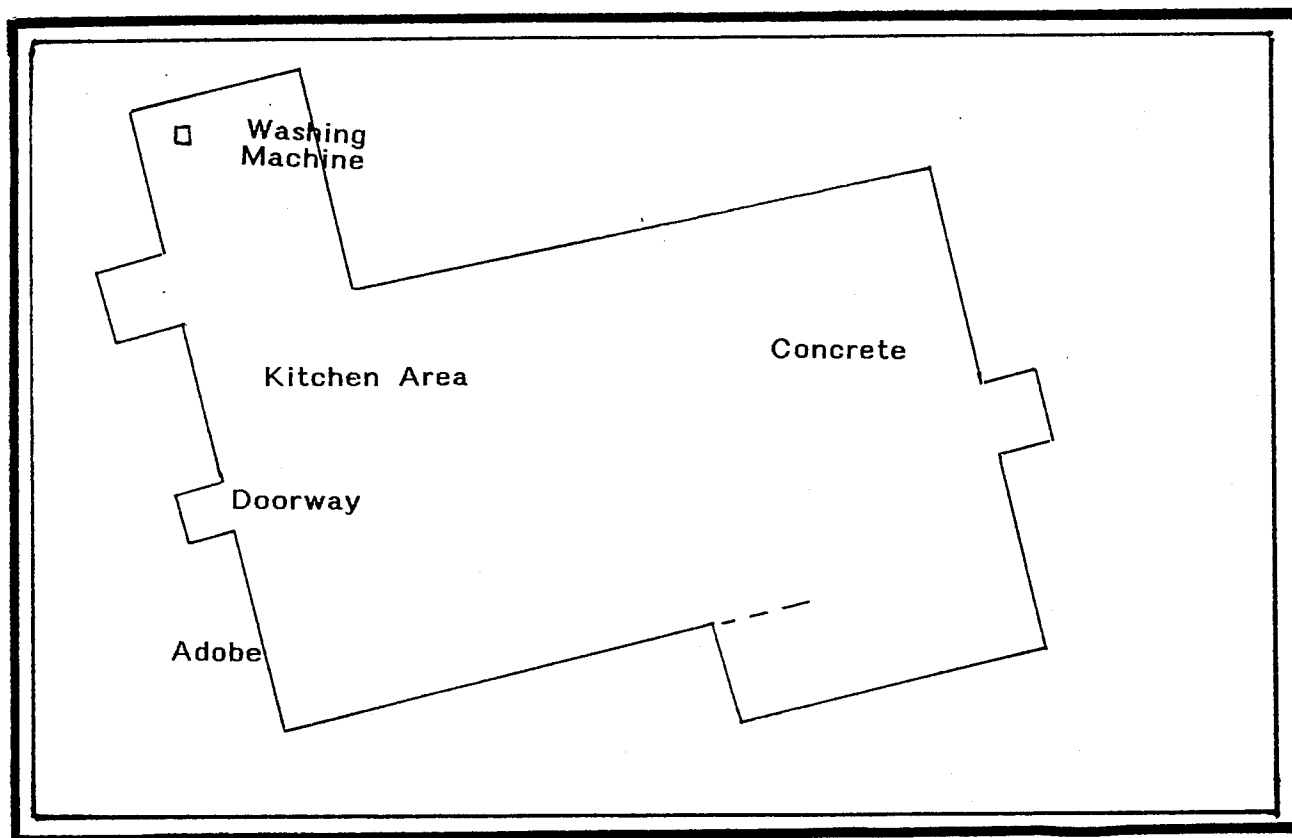


Figure 52. Ruins of house on Singleton's Homestead.



1 Meters 8

Figure 53. HAR-086 House Plan.



Figure 54. Remains of the garage in 1994.

The sheds and the chicken houses were located west of the residence. Nothing is left of these structures except a small corner of a cement foundation. The sheds were wood frame structures with plank siding and wood roofs. The chicken houses also were frame buildings with wood plank and metal siding, wood roofs, and concrete floors.¹⁷ Feature 3, an L-shaped concrete foundation is probably the remains of one of the chicken coops. West of this feature is a 82'x 26' (25x8m) rectangular chicken wire enclosure with a 3 foot (1m) diameter rock lined depression (Figure 55) within it (Feature 4). East of the foundation is a 6'x 3' (2x1m) cement tank (Feature 5) which stands 2 feet tall and has 6 inch thick cement walls.

Feature 6, located 75 meters north of the house, is a pile of cobble stones. These stones are similar to those which form a 32 foot (10m) linear rock alignment (Feature 7) west of the pile. The pile of stones may represent a structure which has been bulldozed.

The land on which these features are located has been cleared of all vegetation except for some large ornamental cottonwood or poplar trees. The residents also planted a cactus garden near the garage and terraced the land south of the gravel



Figure 55. Rock lined depression.

road. The property is fenced with barbed wire on the north and east and woven wire on the south and west sides. An electrical line runs north of the house to the chicken house area. The artifacts consist of hubcaps, a mattress, garden hose sections, gas cans, paint cans, shot gun shells, and other refuse. Much of this appears to be evidence of recent camping or loitering. A camp fire ring is located west of the house.

Impacts and Recommendations. The buildings at this site constituted a safety hazard and a haven for unwanted tenants. As a result, HAFB burned the buildings in 1990. Camping still occurs in the area and cattle have been seen grazing within the site boundaries. These recent activities, in addition to the later occupations, have totally obscured the integrity of Singleton's homestead. This site was not recorded during the original survey of the area because there was no immediately visible evidence of historic habitation. Once research revealed that the area had been occupied as early as 1930, it was recorded as a cultural resource. Because of the recent modifications and ongoing disturbance, Singleton's homestead has lost all

integrity. It is not considered eligible to the National Register.

Farms in the Interior Basin

HAR-061--The Charles Redies Homestead

HAR-061 is a 5250 square meter habitation site located on the southern bank of Carter Draw in Section 12, T16S, R8E. The bank is dissected by numerous small erosional channels and dirt two track roads. This site consists primarily of a large dispersed scatter of artifacts ranging from domestic trash and construction hardware to a buggy seat and clock gears. Concentrations of nails and window glass suggest evidence of previous structures. The site has been heavily disturbed by vehicular travel, camping, and military land development.

Historical Background. The site is located on a tract of land homesteaded by Charles Redies in August of 1912 (Figure 56). Redies proved up in April, 1917, on the S1/2 SE1/4, SE1/4 SW1/4 of Section 12; and NE1/4 NW1/4 of Section 13, T16S, R8E.¹ This tract adjoined, on the south, a 120 acre tract Redies purchased from Zachariah and Josie Musselwhite in 1912.² In 1908, the Musselwhites, from Georgia, had traded a portable sawmill for the tract to John Drake, who had traded an Arkansas farm to Samuel Bolger for the property the previous year.³ These three prior owners had alternately filed on the SW1/4 of Section 12, only to relinquish it to the next owner. When Redies bought the land from the Musselwhites, he also filed on the SW1/4, but altered the legal description to file both a 160 acre homestead (as listed above) and a 160 acre Desert Land entry covering the NE1/4 SE1/4 of Section 11, and SW1/4 SW1/4, N1/2 SW1/4 of Section 12, T16S, R8E. This latter entry was filed by Redies on August 28, 1912 and proved up on March 30, 1921.⁴ In all, Redies ended up with 440 acres in Sections 11, 12, and 13.

Redies was born in Greifenhagen, Germany in 1869. He moved to the United States in the early 1880s, landing in Galveston, Texas and then moving to New Mexico.⁵ When he moved onto his land in Section 12 (the Homestead entry) it already had a two room house, but later that year, he built another 14'x 20' two

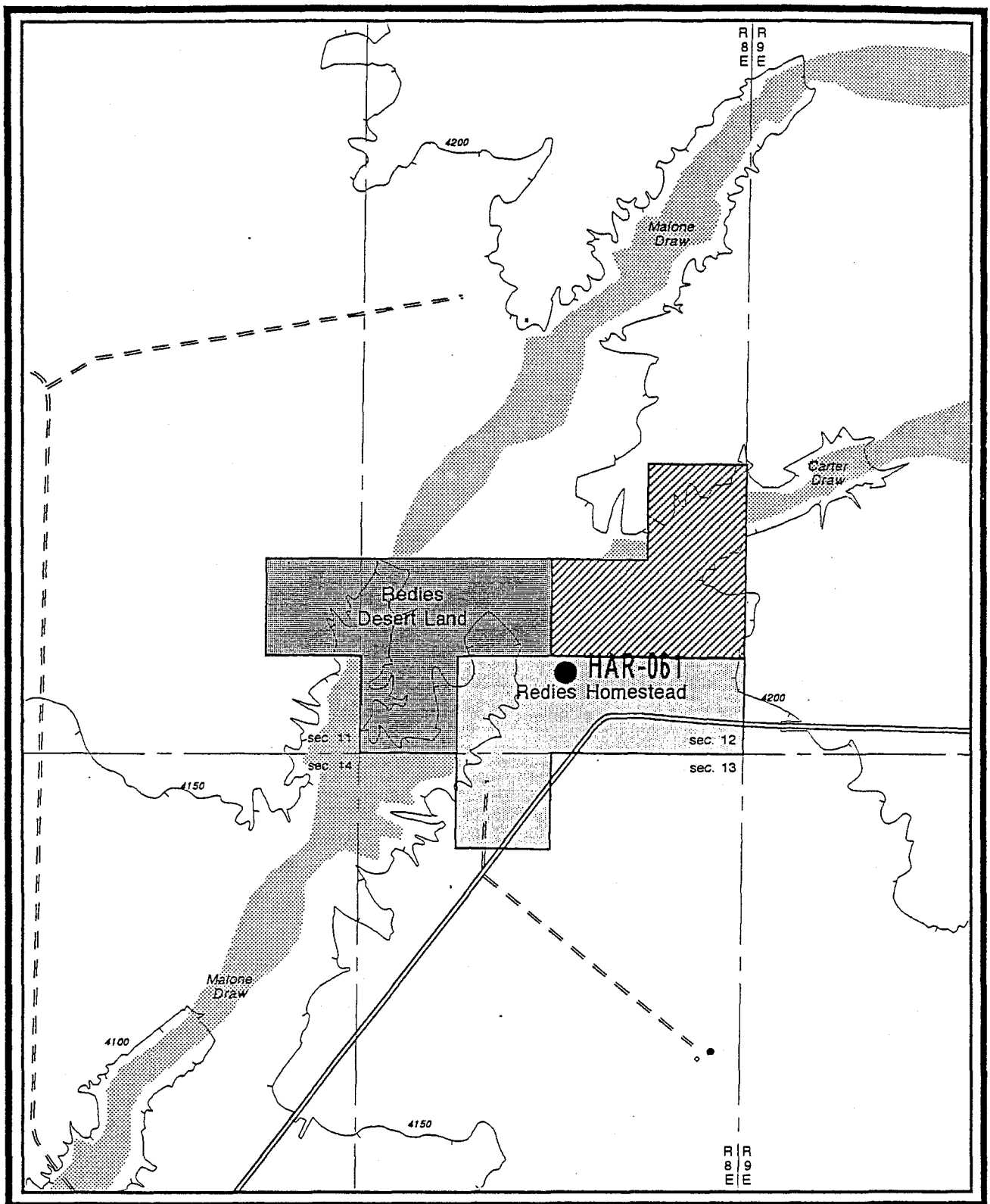


Figure 56.
Charles Redies Land Holdings



Contour Interval 50 Feet

- == Secondary Highway,
hard surface
- = = Light Duty Road,
hard or improved surface
- ◇ Buildings

room house. By the end of Redies' proof period, he had also built 18 chicken houses ranging in size from 8'x 10' to 16'x 16', a shed, and a barn. He dug a well and erected about 1 mile of fencing. Redies also had another well in the SE1/4 SW1/4 of Section 12, along with 25 acres in cultivation and 1/2 mile drainage ditch in the NE1/4 NW1/4 of Section 13.⁶ On his Desert Land tract, he had cleared and tilled 25 acres, constructed 3000 feet of irrigation ditches, and dug a 25 foot deep well.⁷

Despite all his preparations, Redies had a hard time surviving on the land. He apparently cultivated almost 65 acres, planting sorghum, corn (maize, kaffir, and milo), cane, and vegetables. His harvests differed year to year between 1912 and 1915 but were never successful. He claimed,

"I planted 40 acres to every crop that I could get that was recommended for dry farming, being milo maize, cane, feterita, and any other grains that were recommended by the agricultural college for dry farming but did not in any of the years produce enough to pay the costs of the work and seed."⁸

As a result, in 1916, he began renting out his pastures for other people's stock, and he filed for relief under the Desert Land Act, claiming that flood water was too scarce and well water too alkaline for agriculture.⁹ The GLO granted him relief in January 1917.¹⁰

Early in 1916, Redies married a woman named Hettie and adopted her two children. The farm was such a failure that he decided to go to El Paso to get work as an engineer to provide for his new family. His wife and children remained at the farm until about September 1916, and then they too moved to El Paso.¹¹ Between 1916 and 1920, Redies allowed others to run about 20 head of cattle on his property. He stated that "while they really needed some additional food, they did not get it and did manage to live." He also raised from 2 to 10 head of dairy cattle, although it is unclear whether he owned these animals. Of them he complained, "it required supplementary grain food in order to keep up the milk flow, through all of the year."¹²

After Redies moved, the land was probably not reoccupied and shortly thereafter the structures were destroyed. Susie McNatt, who became acquainted with the area in the early 1920s, did not

remember any structures in the area.¹³ The Redies' sold the property to William Rosing in 1922, possibly as payment of a mortgage he had with Rosing in 1913, in which he had an open account of up to \$2000 credit (Table 5).¹⁴ Between 1922 and 1941, the property transfers could not be found, but at some point, Doss Bradford, C.C. McNatt's son-in-law, got possession of the land and in 1941, turned all 440 acres over to McNatt.¹⁵ They used the land only for grazing (see HAR-047).

The artifacts, such as kerosene lamp fragments, ceramic and stoneware fragments, pots, washtubs, hinges, and shoe buckles, represent the remains of a permanent occupation, and diagnostic artifacts, essentially purple glass, are consistent with the dates of Redies' proof period. One of Redies' witnesses claimed that he had a road which led from the flat down into the draw.¹⁶ Evidence of this road is still visible on the west side of the site. There is no remaining evidence of the many structures Redies had on his land except for a small, round depression in Carter Draw, which may be a well. If he was living in El Paso for the last five years of his ownership, the materials could have easily been scavenged by nearby residents. The concentration of nails and window glass, however, suggest they might have been destroyed.

Table 5. Ownership of Charles Redies Homestead

<u>Grantor</u>	<u>Grantee</u>	<u>Date</u>	<u>Instrument~</u>	<u>Price</u>
Samuel Bolger	John Drake	12/9/07	WD*	\$1200
John Drake	Josie Musselwhite	7/14/08	WD	\$800
Musselwhite	Charles Redies	8/12/12	WD	\$1.00
Charles Redies	Wm. Rosing	1/16/13	Mtg.	
USA	Charles Redies	4/14/17	HP~	
USA	Charles Redies	3/30/21	DLP"	
Charles Redies	Wm. Rosing	5/31/22	WD	\$10
Wm. Rosing	Doss Bradford	?	?	?
Doss Bradford	C.C. McNatt	5/15/41	WD	\$10

~See acronym list on page xiii.

*ESE, SWSE, Section 12, T16S, R8E

^SSE, SESW, Section 12; NENW Section 13, T16S, R8E

"NESE, Section 11; SWSW, NSW, Section 12, T16S, R8E

Impacts and Recommendations. The heavy disturbance of the site may explain the lack of features. Two tracks roads cover the site and there is a vehicle turn around area in the center of the largest ridge finger. The Boy Scouts apparently camped there often and constructed animal feeders within the site. The military has built some form of dirt ramp in the middle of the site, under which may be some of the features. More recently, several of the artifacts, including the buggy seat, have been moved, indicating ongoing vandalism to the site. Periodic visits to the site should be made to check vandalism. The buggy seat is an especially sensitive artifact which should be occasionally monitored.

The site may possess some archaeological research potential. An indepth artifact analysis should be conducted to determine possible subsistence patterns, consumer behavior, and trends in market accessibility and availability. If archaeological testing could be funded, trenches through the military ramps may reveal evidence of Redies' many structural improvements. In addition, comparison of the data derived from the artifact assemblage could be compared to those farm sites at the well field properties to determine the different adaptations each settler had to make. Under Criterion D, the site is potentially eligible to the National Register based on these archaeological research possibilities.

LA 103410--Hyde's Farm

LA 103410 is a 9800 square meter site in the NW1/4 of Section 5, T17S, R9E, on a slight ridge between two drainages, Red Arroyo on the north and a small unnamed drainage to the south. The HAFB railroad tracks form the north boundary of the site. The land is privately owned but falls within a restrictive easement enforced by HAFB. Features include two metal storage tanks, a well with a Fairbanks windmill on a steel tower, a corral, two feeding troughs, and a U-shaped rock alignment. The associated artifact assemblage is small and consists mainly of domestic refuse, such as glass and ceramic fragments, tin cans, and miscellaneous metal scraps.

Historical Background. On November 5, 1908, William Hyde, a 50 year old man from Amarillo, Texas, filed a homestead entry on

the NW1/4 of Section 5, T17S, R9E (Figure 57).¹ It was situated 1/2 mile west of the old Alamogordo-Las Cruces Highway in a community called Farmer's Flats. He commuted his entry in August 1910, after residing on the land for the required 14 month period.² Hyde claimed he established residence on the land in March 1909 after building a two room 16'x 32' lumber house. Also, in that year, Hyde cultivated 4-1/4 acres of cane but left for a few months to work in Dubuque, Iowa.³ While he was gone, his wife, Carrie, often had the Farmer's Flats sewing club over for meetings.⁴

By 1912, the Hyde's lived permanently in Iowa. They left behind the two room house, an 8'x 10' chicken house, a 12'x 12' barn, and a 95 foot deep well.⁵ For many years during their absence, they held onto the land. Then, in January 1931, Carrie Hyde placed a classified advertisement offering the tract for sale.⁶ By May 1932, they had sold their homestead to William E. and Myrtle Huss (Table 6), although Hyde maintained an interest in any oil, gas, or minerals found on the land.⁷ Huss apparently used the land for cattle grazing and owned at least 90 head branded WV.⁸ There is no evidence they ever resided on the land.

Table 6. Ownership of William Hyde's Farm

<u>Grantor</u>	<u>Grantee</u>	<u>Date</u>	<u>Instrument*</u>	<u>Price</u>
William Hyde		11/5/08	HE	
USA	William Hyde	3/13/11	HP	\$200
William Hyde	Carrie Hyde	8/31/22	WD	\$1.00 [^]
Carrie Hyde	William Huss	5/27/32	WD	\$10
William Huss	E.T. Baird	10/27/41	WD	\$2000
E.T. Baird	Leon Green	11/29/43	WD	\$5000
Leon Green	USA	11/22/60	RE	

*See acronym list on page xiii.

[^]Grantors were not required to list the exact price for which they sold their land, but it was necessary to state some minimum figure. Many of them stated \$1.00.

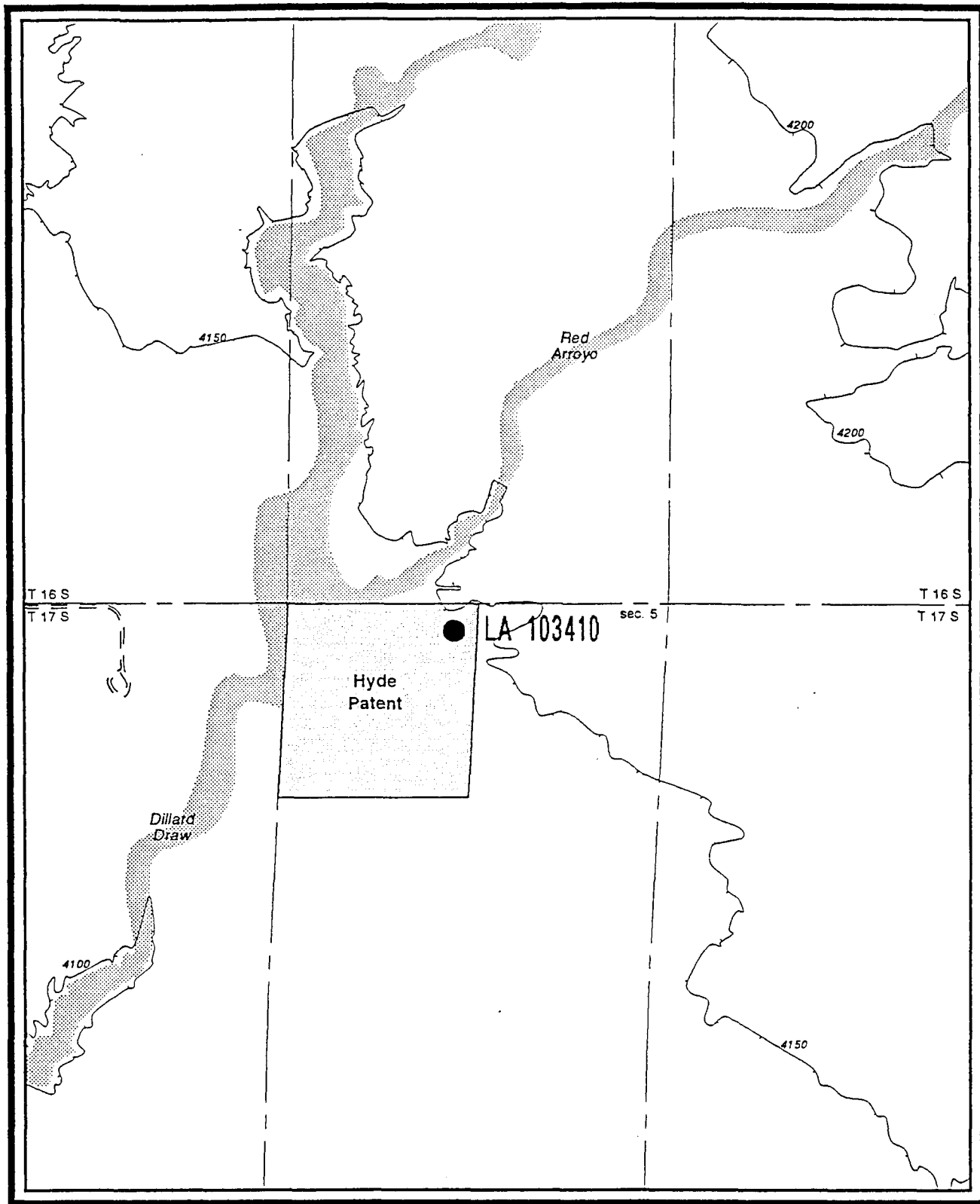
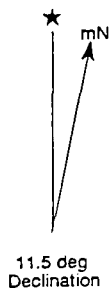


Figure 57.
William Hyde's Homestead Patent



Contour Interval 50 Feet

== Light Duty Road,
hard or improved surface

In October 1941, Huss sold the property to E.T. Baird, a pioneer settler of Otero County.⁹ The Bairds kept the land only two years, and sold it to Leon and Carrie Green of Cloudcroft in November 1943.¹⁰ Carrie Green stated that when they bought the land, they feared they would lose it quickly to HAFB which was just being established, but the boundary of the military installation ended just west of their property. The Greens used the land for winter grazing range and moved their cattle back to the mountains in the spring. When staying in the Basin, they lived in a house south of this tract.¹¹ Cattle grazing continues on the land, although on a smaller scale due to the restrictive easement.

Feature Associations. Most of the improvements on the land seem to date to the later use of the land for grazing purposes (Figure 58). Carrie Green claimed there was no house on the land when they bought it in 1943, but the well and windmill were there. The well was originally hand dug, but after it dried up, it was drilled deeper. The Greens called it North Well because it was on the northern end of their Basin property. The two feed troughs were built by Leon shortly after purchasing the property in 1943.¹²

The rock alignment and domestic refuse, on the other hand, appear to be associated with the earlier occupation. Purple glass fragments suggest a date prior to 1920, about the time the Hyde's lived on their homestead. A 1918 Department of Interior map indicates a house, but no well, in the vicinity of the site location, consistent with the Hyde's claim that his house was located in the NE1/4 NE1/4 NW1/4 of Section 5.¹³ The 7'x 7' (2x2m) rock alignment, however, is too small to be associated with the house and may represent the remains of the chicken house or a privy.

Impacts and Recommendations. This site, located on private land, is affected by continual cattle grazing and minor erosion. The later additions to the site are in fair to good condition and represent one aspect of ranching in the Tularosa Basin. These range improvements, however, do not have the antiquity or historical associations as other similar sites which would be more likely candidates for the National Register under Criterion A. The earliest occupation of the site, consisting only of a

dispersed artifact scatter, has been impacted heavily by later use of the land. Archaeological testing might determine the function of the rock alignment. Artifact analysis would contribute to studies of subsistence patterns, consumer behavior, gender patterns, and frontier adaptations for farms in the Tularosa Basin. This component is considered potentially eligible to the National Register under Criterion D.

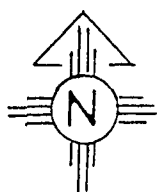
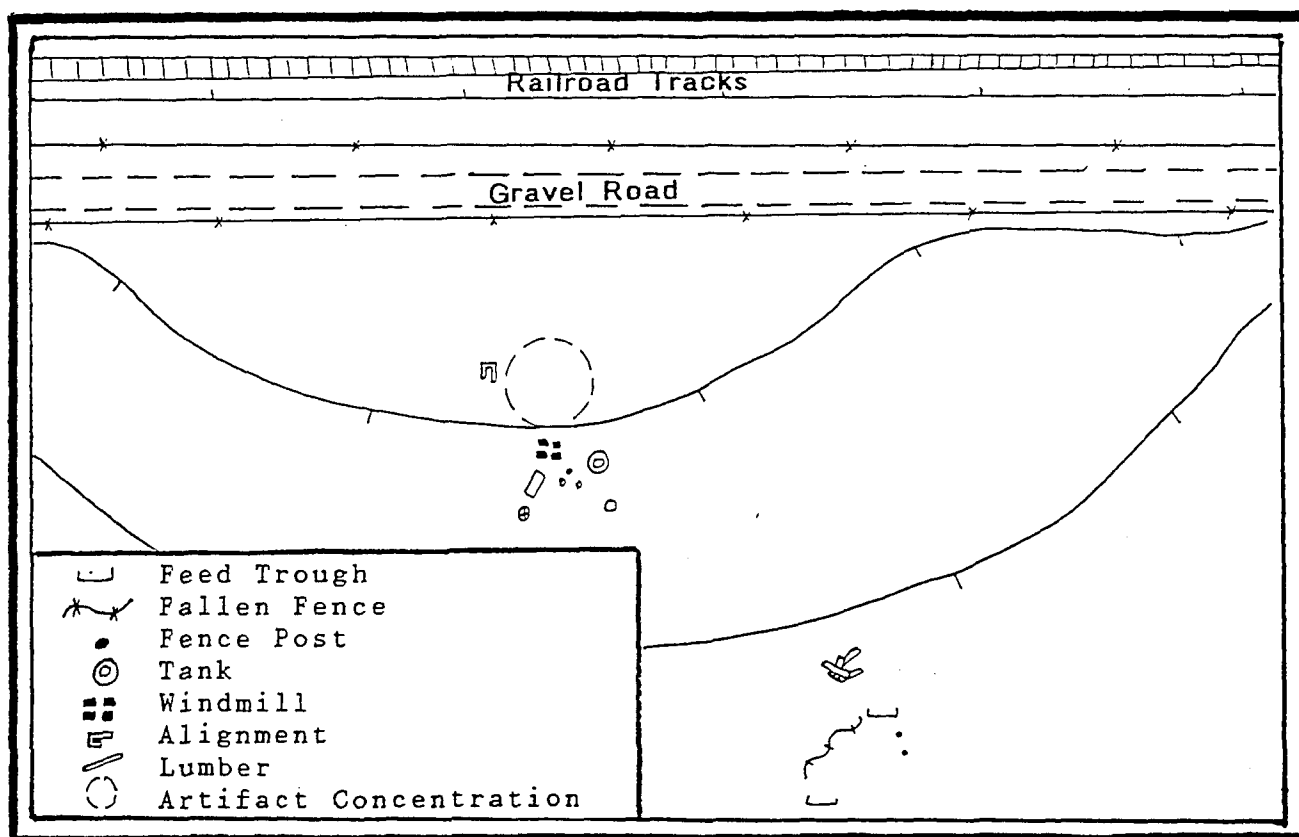


Figure 58. LA 103410 Site Plan.

MISCELLANEOUS SITES

HAR-014

HAR-014 is a 16,800 square meter site located in the NW1/4 of Section 31, T17S, R10E, on the alluvial flats west of the Sacramento Mountains. It was originally recorded in 1992 by the Office of Contract Archeology (OCA).¹ The site consists of a rubble mound, a rectangular concrete foundation, two dugout-like depressions, and numerous artifact concentrations. The artifact assemblage includes glass and ceramic fragments, tin cans, bed springs, construction hardware, and scrap metal.

Historical Background. The first homestead entry on this land occurred in January 1915, when Virginia Reynolds filed a claim on the N1/2 NW1/4 and N1/2 NE1/4 of Section 31 (Figure 59).² This claim was located only 100 meters west of the road to Alamogordo, which ran along the range line, and 2 miles south of her dairy farm (HAR-054). Reynolds passed away early in 1916, after fighting an illness for two years.³ It appears that improvements were made on the land only after she passed away. Between 1918 and 1919, the Reynolds' Estate was assessed taxes for improvements on government land, which were valued at \$200, and livestock, including four horses and four head of cattle, valued at \$300.⁴

Virginia Reynolds' sons, Clayton, Joe, and Thurber, still lived in Alamogordo at the time and were employed as drovers by different cattle operations in the Basin.⁵ They may have filed on the tract in their mother's name, on behalf of their employers. For whatever reason the entry was filed, in May 1921, the GLO cancelled it.⁶

In November 1929, John W. Gentry filed on the tract along with land in sections 20 and 29. This entry was cancelled in 1936.⁷ The land still remains in BLM ownership and HAFB has a lease on subsurface water rights.

Feature Associations. The diagnostic artifacts at the site, including purple glass fragments and solder top cans, support a date consistent with Reynolds' entry. The artifacts, however, give relatively little additional information regarding activities at the site. The nature of the assemblage and items,

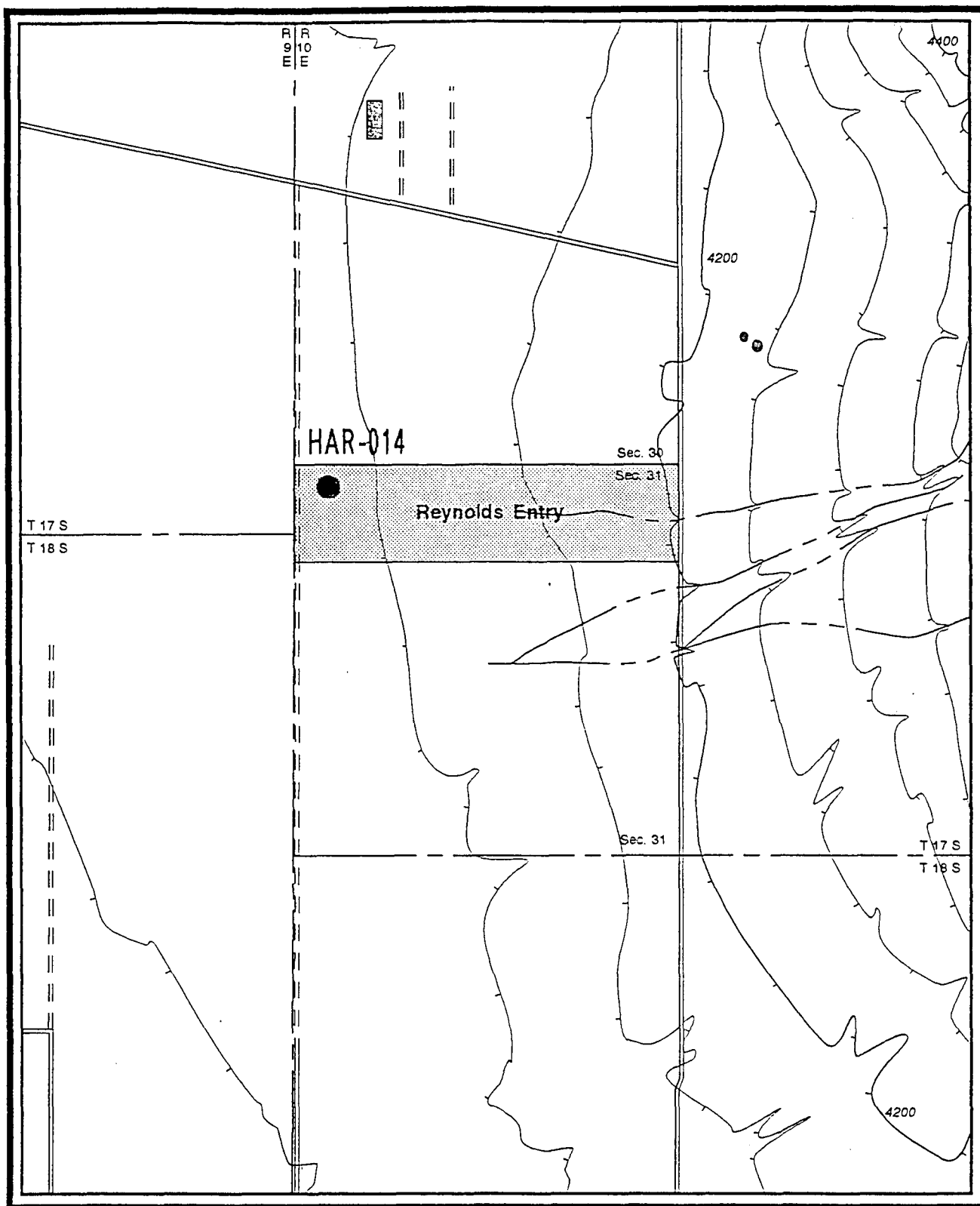


Figure 59.
Virginia Reynolds Homestead Entry

★
mN
11.5 deg
Declination



Contour Interval 40 Feet

- == Secondary Highway,
hard surface
- = = Light Duty Road,
hard or improved surface
- - - Stream: Intermittant

such as a wash tub, stove door, and decorated ceramics, suggest a permanent occupation as opposed to temporary camping activities. Furthermore, artifacts such as window glass fragments, bricks, hinges, and corrugated tin, are supporting evidence of structures.

Much of the domestic artifacts are located near the rubble mound (Feature 1), which is also associated with a wire nail concentration and some milled lumber (Figure 60). The rubble, containing bricks and concrete, may represent the remains of a house chimney. Feature 3 is located 40 meters southeast of the rubble pile. It is a 13'x 13' (4x4m) round depression with dirt berms on the east and west. Feature 4 is similar to the previous one but measures 18'x 18' (6x6m). Very few artifacts were

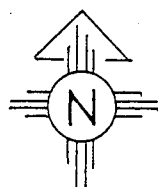
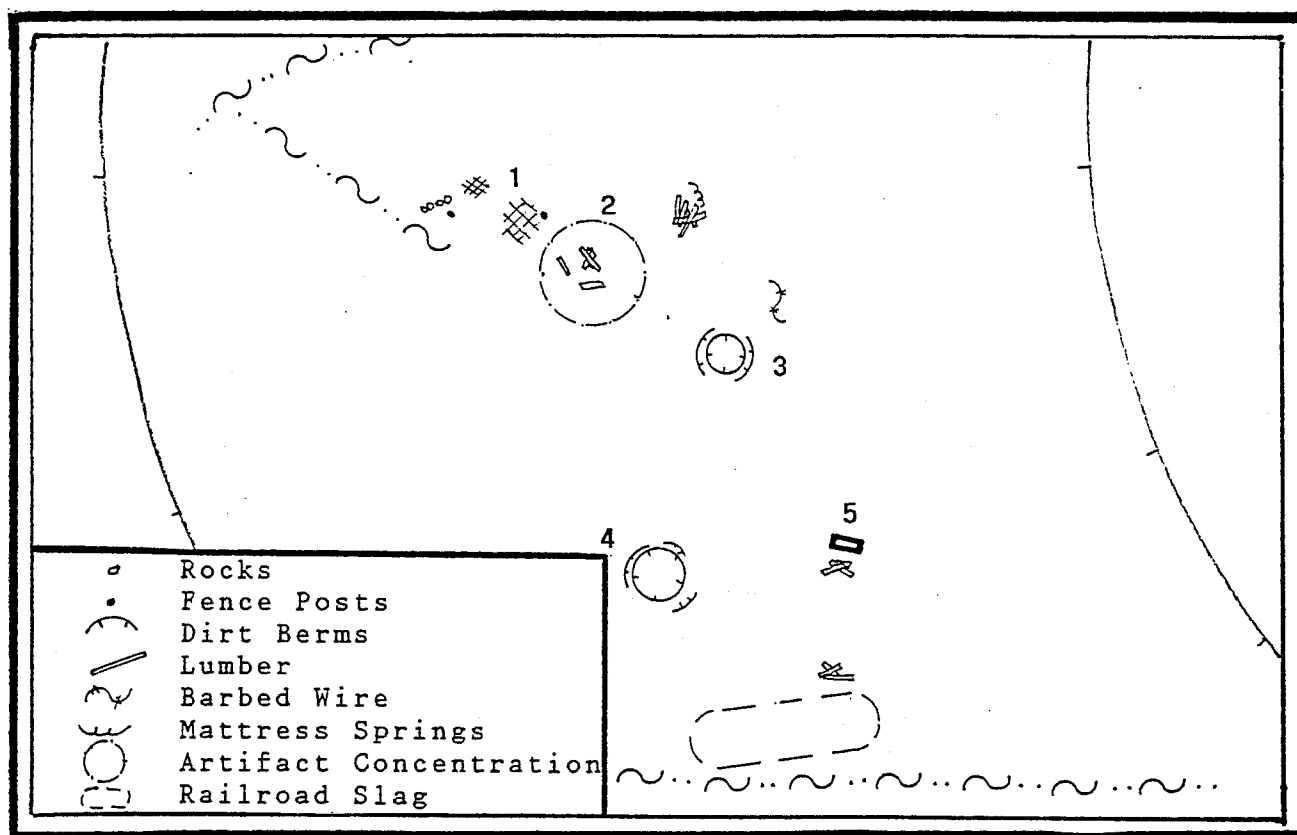


Figure 60. HAR-014 Site Plan.

located near these features. The individual who originally recorded the site postulated that the features may have been root cellars or small roofed semi-subterranean structures.⁸ Feature 5 is a 6'x 13' (2x4m) poured concrete foundation with 4 inch (12cm) thick walls. The feature stands 1.3 feet (40cm) high and looks like a tank or cistern. It has bolts embedded on the top of the walls, however, which might indicate it had a superstructure. Artifacts in this area included some sheet metal, milled lumber, and a galvanized metal bucket encased in a metal framework.

Impacts and Recommendations. The site has been heavily sheet washed and evidence of previous grazing was noted. Boot prints crisscrossing the site suggest vandalism, although this is probably associated with the prehistoric component of the site.

The historic artifacts retain research potential. If an artifact/land use model is completed, this probably could be applied to this site with potentially good results due to large amount of artifacts. The information derived from analysis of the assemblage could contribute to studies concerning subsistence patterns, consumer behavior, gender patterns, and frontier adaptations. Under Criterion D, the site is potentially eligible based on its archaeological research possibilities.

HAR-045

HAR-045 is a 10,400 square meter scatter of historic refuse in the NE1/4 of Section 12, T16S, R8E. The site is located on the eastern edge of Malone Draw on a ridge dissected by numerous small drainages. A perennial stream runs along the base of the steep slope. The refuse consists of whiteware ceramics and glass fragments and construction hardware such as nails and hinges. A small concentration of nails is the only possible evidence of previous structures. A north/south fence line bisects the site.

Historical Background. The site is situated on the subdivision line between the NW1/4 and the NE1/4 of Section 12. Part of the tract on which it is located falls within the Laura Karr entry discussed with HAR-012. The Karr, John Grant, and John Bishop entries all covered the western half of the site. In 1915, almost the entire N1/2 of Section 12 passed into State ownership and then to C.C. McNatt the next year (See Figure 11).

The only documentation of a habitation in this vicinity was found on two early maps. A 1916 topographic map showed a house and a spring in the area of the site.¹ Two years later, a Department of the Interior inspection map noted a building in the same area, approximately 1/4 mile southeast of the C.C. McNatt residence on the opposite side of Malone Draw. This map also shows a road spanning the draw between the two houses (Figure 61).² The building must have been destroyed soon after McNatt purchased the land from the State. Mrs. Susie McNatt did not recall any structures in this location when she first visited the McNatt's land in the early 1920s.³

Impacts and Recommendations. Erosion along the edge of the draw seems to be the only major source of disturbance. Evidence of past grazing was noted. The site is close to some well travelled dirt roads and may be susceptible to vandalism.

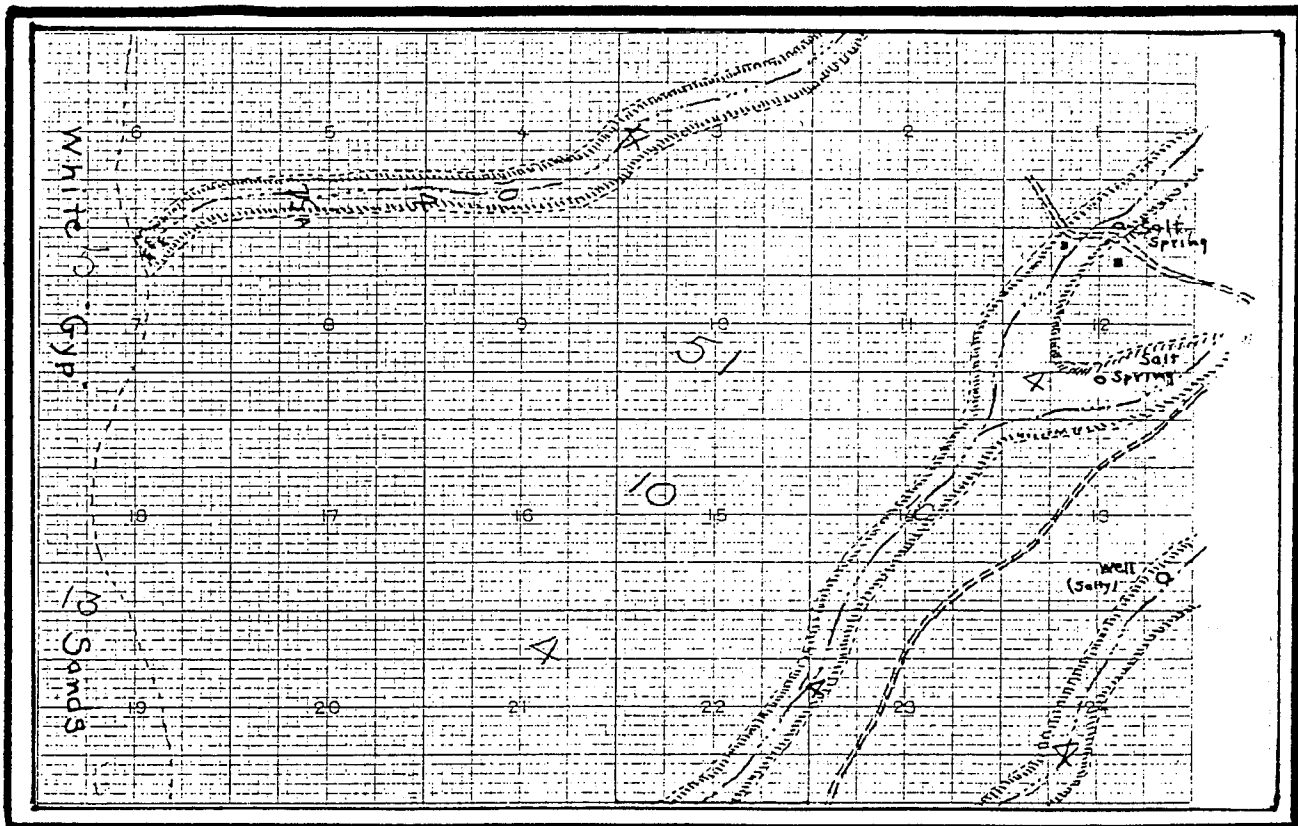


Figure 61. 1918 Department of Interior Map Showing House in Section 12.

The site does not appear to have any subsurface deposits, but analysis of the artifacts on the surface might be helpful in determining site activities as well as contributing to various studies about frontier survival. The site is potentially eligible to the National Register under Criterion D based on its archaeological research possibilities.

HAR-052--Well D

HAR-052 is a 3575 square meter water well site in the SW1/4 of Section 19, T17S, R10E. The well head has a 6'x 6' (1.8x1.8m) concrete base with a smaller, 2.5'x 2.5' (.8x.8m) square of concrete centered on the top, in which the metal well pipe is located (Figure 62). The 1 foot (36cm) diameter pipe has a wooden lid and is surrounded by a wooden framework bolted onto the concrete. Artifacts in the area consist of glass and pipe fragments, a bucket, and some miscellaneous machine parts.

The site is located within a homestead claim patented to Nancy C. Groom (HAR-053), but apparently the well is associated with the military ownership of the Boles Well Field. Although Albert Mendez, caretaker of the water well fields, did not recognize it as being one which the military drilled, its

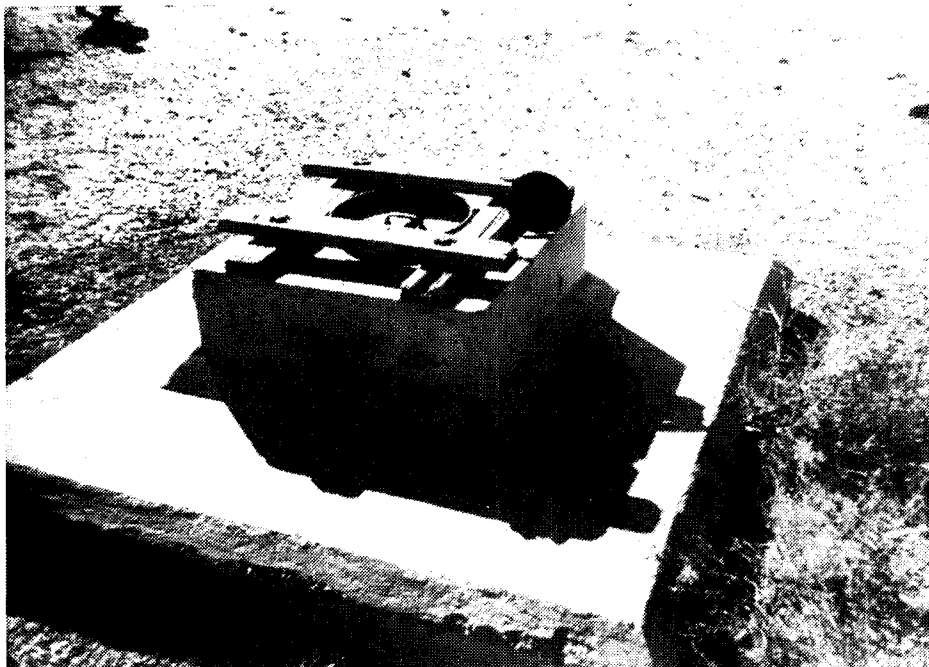


Figure 62. Well D.

location is consistent with a well marked on a 1953 Real Estate Planning Report prepared for the COE.¹ According to this report, the well, "Well D", is 245 feet deep and has a capacity of 63 gallons per minute. The well was probably drilled sometime between 1947 when the Air Force entered into a lease agreement with W.E. and Donna Lee Groom and S.M. and Earlie Groom, the owners of the tract at that time. The Grooms received \$32 per year rent on the land and the Government had the right to purchase the land for \$800 at any time during the life of the lease.²

During this lease period, the government drilled approximately 20 wells in Section 19, but only one, "Well D", in the SW1/4. This well was abandoned by 1953.³ HAFB received full title to this tract of land as a result of Civil Action #2386, for expansion of the Base water facilities in the late 1950s.

Impacts and Recommendations. Erosion within the site boundaries has been heavy and small gravel deposits surround the well head. Recent artifacts suggest occasional loitering, but there does not appear to be any vandalism to the site. This site does not have significant antiquity, integrity, and the documentation in this report has exhausted its research potential. It is not eligible to the National Register.

HAR-055--The Arthur Blair Homestead

HAR-055 is a 23,800 square meter homestead site located in the NE1/4 of Section 25, T17S, R9E on an alluvial flat near the base of the Sacramento Mountains. The only feature is an L-shaped cobble alignment, and the majority of the artifacts are dispersed in its vicinity. A fence line runs along the eastern boundary and an east/west fence line bisects the site. Artifacts include glass, crockery, whiteware ceramic fragments, tin scraps, stove parts, construction hardware, saddle parts, clothing accessories, and a 1903 Mexican penny.

Historical Background. In December 1906, Arthur Blair filed on the NE1/4 of Section 25, T17S, R9E (See Figure 37).¹ By March 1910, he had commuted his homestead, received his patent, and moved away.² The Blairs seem to have moved to Alamogordo for a short period and by 1911 were in Oklahoma.³ This is all that is

definitely known about Arthur Blair. Very likely he was related to William Blair, a farmer from Missouri, who patented the SE1/4 of Section 24, T17S, R9E, adjacent to Arthur's patent.⁴

In September 1909, before receiving his patent, Blair and his wife Anna sold their homestead for \$800 to Sallie Flynt Park, a 51 year old woman from Mississippi (Table 7).⁵ Her husband Daniel C. Park had homesteaded a tract approximately 1/2 mile north, on the NE1/4 of Section 24, T17S, R9E.⁶

Dan Parks, a 49 year old farmer from Missouri, had moved to the Camp City area around 1907.⁷ There is no evidence that the Parks resided on the Blair homestead. Probably the couple remained on Park's homestead where he had a substantial home built and a 63 foot deep well with a "fine supply of water".⁸ What they used the land to the south for is unknown, but they retained joint possession until 1918. At that time, they decided "for their best interests" to divide their land. Mrs. Park received several lots in Alamogordo and the N1/2 NE1/4 of Section 25. Mr. Park kept a few other lots in town and the S1/2 NE1/4 of Section 25. Apparently, by this time, they resided in Alamogordo where their household and personal property was located.⁹ In 1920, the Parks operated a boarding house in town.¹⁰

Table 7. Ownership of Arthur Blair Homestead

<u>Grantor</u>	<u>Grantee</u>	<u>Date</u>	<u>Instrument*</u>	<u>Price</u>
Arthur Blair		12/11/06	HE	
Arthur Blair	Sallie F. Park	9/13/09	WD	\$800
USA	Arthur Blair	3/15/10	HP	
Daniel Park	Sallie F. Park	8/17/18	Contract	
Sallie Park	Mrs. J.E. Moore	9/9/27	WD	\$1.00
Mrs. J.E. Moore	Jas. Birdwell	9/15/30	WD	\$100
Birdwells	V.V. Frye	4/28/31	WD	\$10
Sallie Park Estate	NM	12/19/38	TD	\$1.86
Fanny Frye	Geo. Shipley	8/24/53	JT	Grant
Geo. Shipley	USA	1959		

*See acronym list on page xiii.

In 1926, Mr. Park died, and his widow deeded her interest in his half of their property over to her husband's daughter, Mrs. J.E. Moore of Kansas. The property south of town was described only as "a vacant lot".¹¹ After her husband's death, Mrs. Park maintained the Carey Rooming House in Alamogordo on her own. Late in 1928, she also passed away, the result of an illness which set in after an injurious fall. Mrs. Park, "a liberal donor" to the Methodist Church in town, left a will in which she stated her desire that her estate be divided between the Children's Home in Albuquerque and the Orphan's Home of the Southern Methodist Church in Jackson, Mississippi. The estate included property in town, as well as the N1/2 NE1/4 of Section 25 south of town. Most of Mrs. Park's property was sold for cash, except for the 80 acre vacant lot. According to the Probate Judge, "every effort has been made to sell the same and no market can be found and it is apparently worth but very little, if anything...".¹² The property eventually passed to the State for tax delinquency.¹³

HAR-055 is located within the tract that Mrs. J.E. Moore received from her father's estate. She and her husband retained ownership until 1930 when they sold it to James and Helen Birdwell for \$100.¹⁴ Mr. Birdwell, a Navy veteran, owned a service station and garage in Alamogordo at that time which he desired to sell because he was "leaving [the] city".¹⁵ It is unknown whether he moved out to the land. The Birdwell's owned the land for less than a year and sold it in April 1931 to V.V. Frye.¹⁶

Frye, who had owned a furniture store in town, advertised his new business just two days after buying the land. He entered the contracting and building business and also bought, sold, and issued loans on real estate.¹⁷ Frye never built anything on his own land, however, before passing away in 1953. By this time, HAFB had condemned the land for expansion of their water facilities. The Frye heirs granted joint tenancy to George Shipley, a lawyer, and his wife Lorna.¹⁸ HAFB then obtained the land from the Shipleys in the late 1950s.¹⁹

Feature Associations. The dates of the diagnostic artifacts, including purple glass fragments, hole-in-top cans and bottle maker's marks, are consistent with Arthur Blair's homestead proof period and the Park's early ownership.

Unfortunately, it is unknown what either of these individuals did with the property or what improvements were built. No tax assessments were made on the land until the Parks owned it, and at that time, there were no improvements or stock on the land. In 1915, Sallie Park was assessed for \$18 worth of improvements on the N1/2 NE1/4 of Section 25, but none on the S1/2 NE1/4 where the site is located.²⁰

The 19'x 26' (6x8m) cobble alignment appears to be the remains of a structure because of the concentration of nails and window glass nearby (Figure 63). The large amount of domestic artifacts suggest a more permanent occupation rather than camping activities. In fact, the presence of clothing accessories (buttons, buckles, etc.), stove parts, kerosene lamp fragments, and flower pot fragments suggest substantial occupation of the site.

The north/south fence line on the eastern portion of the site seems to represent the boundary line of the property. A 1908 GLO plat for T17S, R10E, shows the road to Alamogordo passing along this boundary line, but there is no mention of a settler living almost right on the range line.²¹ T17S, R9E was not surveyed at the same time (See Figure 45).

Impacts and Recommendations. The site has been impacted by severe sheet wash erosion. Its distance from roads protects it from vandalism. The site evidently has some subsurface deposits as suggested by half buried artifacts. The presence of sensitive artifacts such as a complete ink bottle and the Mexican penny are further indications that the site has been undisturbed over the years. Archaeological testing may provide relative information regarding the activities at the site and reveal more about the structures, and artifact analysis would contribute to various studies about life on the frontier. Under Criterion D, the site is eligible to the National Register based on its potential for further research.

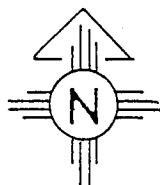
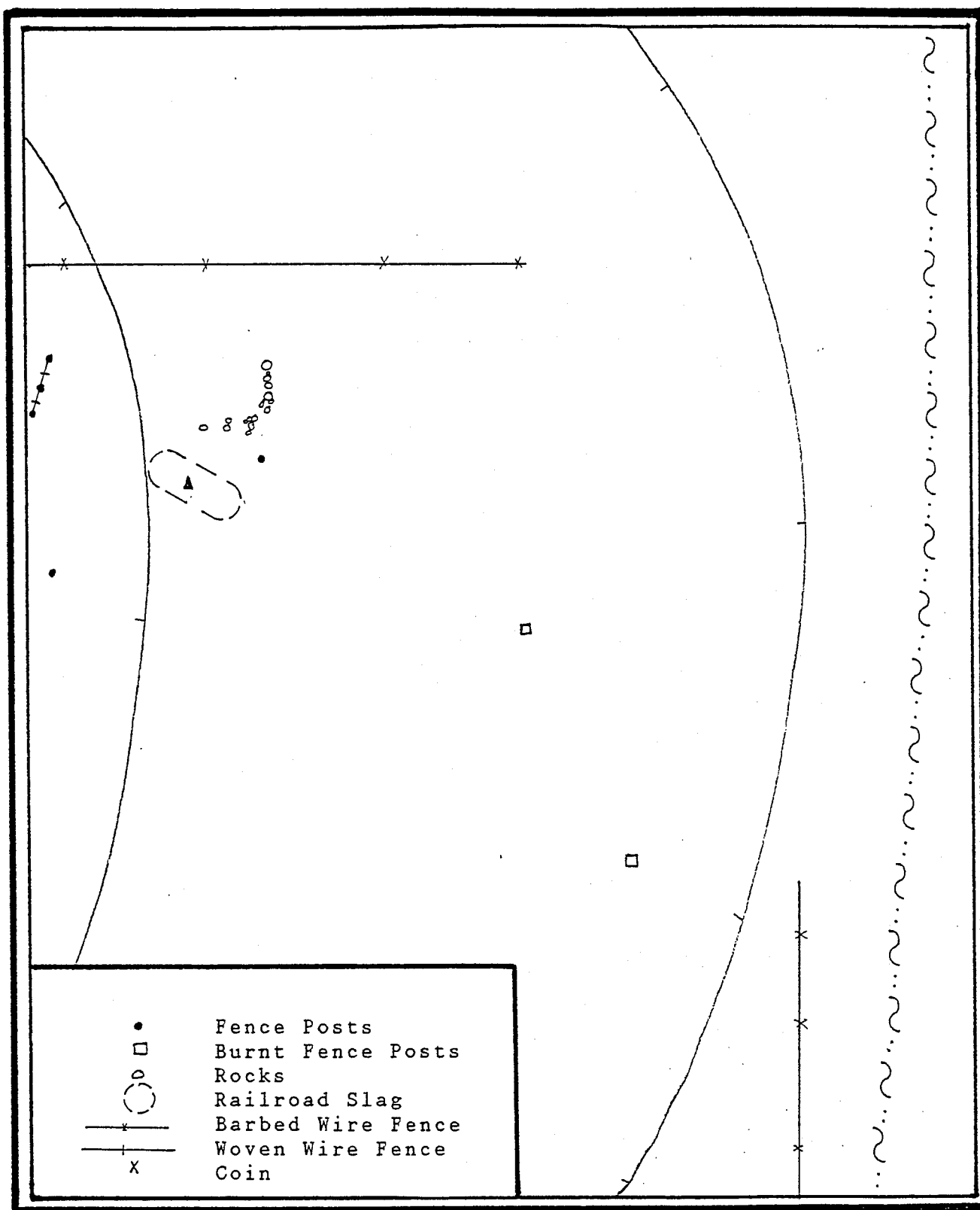


Figure 63. HAR-055 Site Plan.

HAR-063--Lightfoot Well

HAR-063 is a 14,950 square meter habitation site in the NE1/4 of Section 24, T15S, R8E. It is located on the northern edge of Sheep Camp Draw. Features at the site include two round depressions and a corral, and the high density artifact scatter contains mainly domestic type refuse.

Historical Background. As early as 1917, this tract had been covered under oil and gas permits, such as the Cerreta Tularosa No. 9 and Tularosa No. 13 placer mining claims.¹ Throughout the next two decades, several other mining permits were given for oil and gas prospecting on this land, but in 1942, an inspector for the military stated there was no evidence of any development on these claims.²

At some point, an individual named Lightfoot, from Tularosa, improved the tract. He dug a well and fenced off an irregular piece of property including most of the NE1/4 of Section 24, T15S, R8E, and some land in Section 19, T15S, R9E (Figure 64).³ Willis Danley, whose family was also ranching in the Tularosa Basin, said Lightfoot never lived on the tract.⁴ By February 1934, Lightfoot had abandoned the well, and Leonard Mason entered a Stock Raising Homestead claim on all of Section 24, T15S, R8E. This claim was withdrawn the following year.⁵

By 1941, Lightfoot Well was considered one of Sam Hanna's watering places for his grazing allotment, but the well was not in use at that time.⁶ Ten years later, the well was a part of the Danley community allotment but still not in use.⁷ By 1958, the tract was described as "ruins" on a HAPB map.⁸

Feature Associations. Feature 1 appears to be the remains of the well (Figure 65). It is a round depression approximately 4 feet in diameter. Lightfoot Well was hand excavated approximately 8 feet deep and 4 feet in diameter. In 1941, the Grazing Service stated that the well was caved in and dry. A cement storage tank at the well was also of no use.⁹ Ten years later, the COE had little to say about the well. They mentioned a trough with reinforced concrete walls and bottom which had been "demolished".¹⁰ A pile of concrete rubble with some miscellaneous metal scraps located on the east side of the depression is thought to be the remains of this trough or tank.

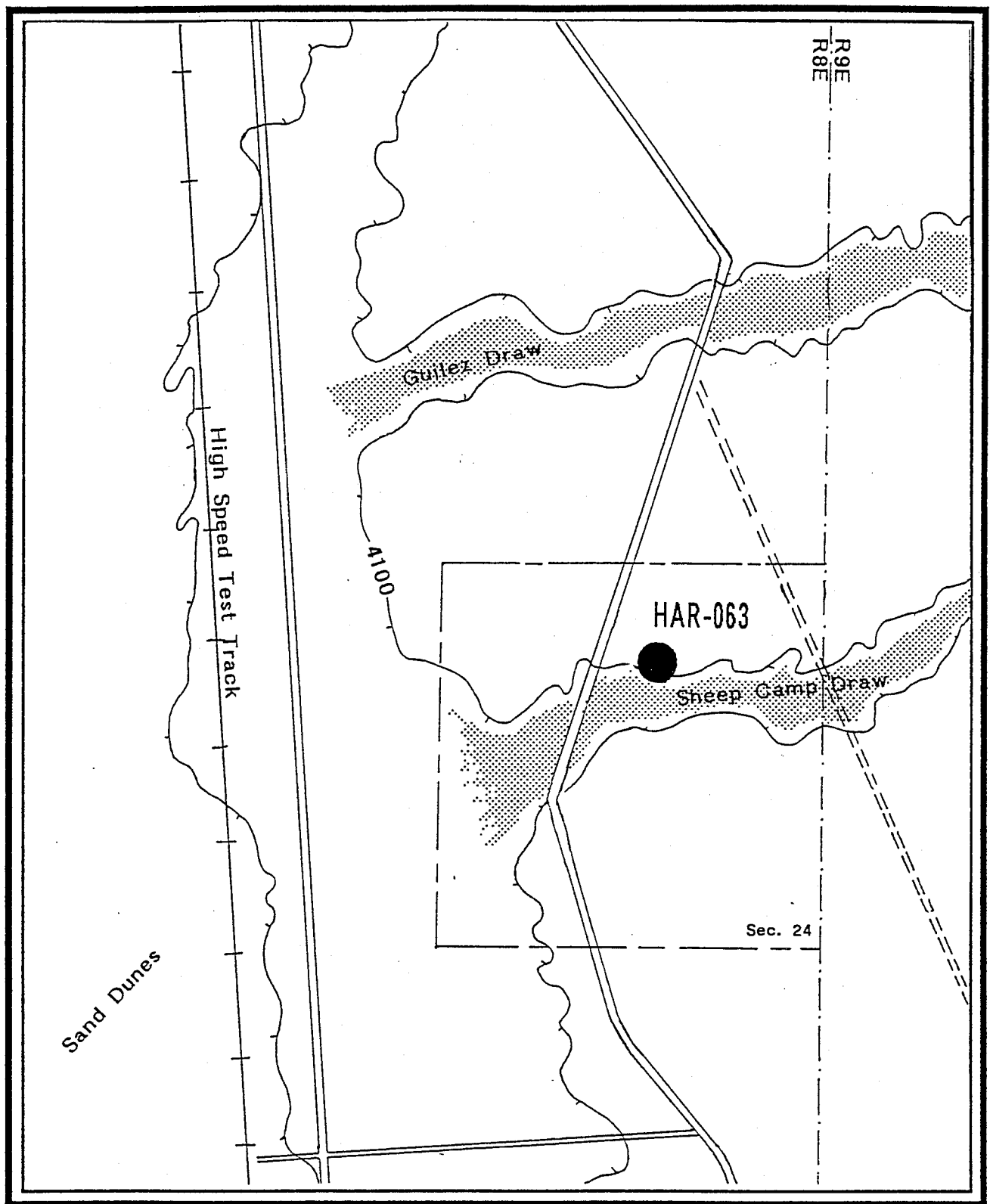
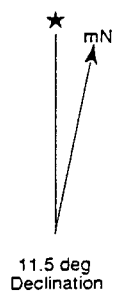


Figure 64.
HAR-063



Contour Interval 50 Feet

- == Secondary Highway, hard surface
- = = Light Duty Road, hard or improved surface
- ~ Stream, lake, intermittent

Feature 2 is a 13'x 6' (4x2m) dugout with a 3'x 1' (1x.5m) entrance on the south (Figure 66). It is located 50 meters southwest of the well. This dugout is thought to have been a residence. Roof timbers and a sheet of corrugated tin are in situ on the north edge of the dugout and a stove pipe is situated on the south edge. The majority of the domestic artifacts, consisting of glass, ceramic, and earthenware fragments, tobacco tins, solder top cans, wash basins, and ice tongs, are located directly west of this feature. A Cracker Jack Mystery Club coin with a hole drilled through the center was discovered near Feature 2. According to the Cracker Jack company, Borden, these coins were issued as prizes in the early 1940s.¹¹

The remaining feature is a post and barbed wire corral located in the draw approximately 60 meters southwest of Feature 2. The fence line runs in a northeasterly direction up the slope to the flat. The diagnostic artifacts, such as purple glass,

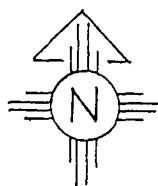
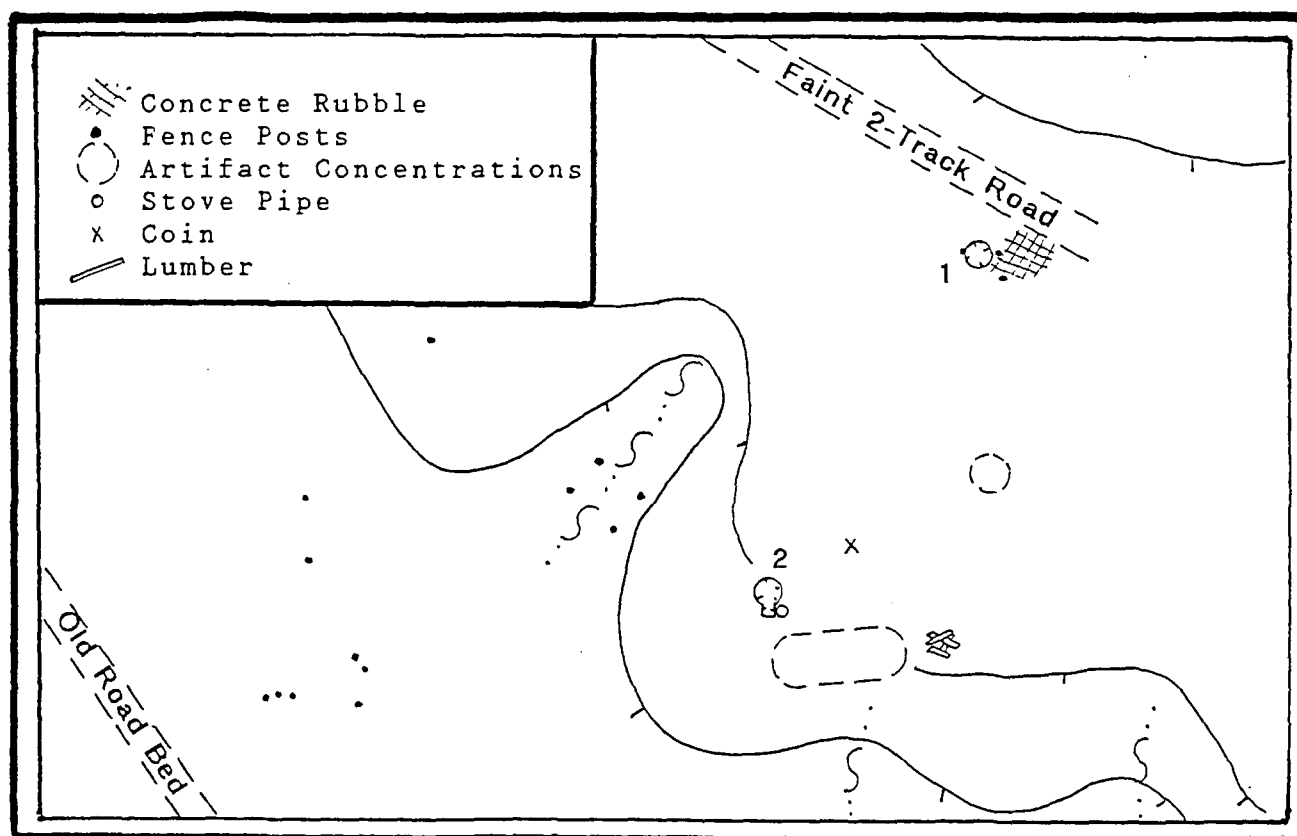


Figure 65. HAR-063 Site Plan.



Figure 66. Dugout with roof timbers.

bottle maker's marks, and the coin, support a date from 1900 through the 1940s. Other artifacts such as car and electric lamp parts appear to be intrusive, and it is unknown with whom they may be associated.

Impacts and Recommendations. The features are in good condition, and minor erosion and recent loitering appear to be the only disturbance factors. The site's low visibility and distance from the road give it some protection from vandalism, but recent vehicle tracks circle the well.

The occurrence of dugouts on the flats are rare, giving the site a high potential for archaeological research possibilities. Limited testing of the features may support the functions given above or add further information to the little that is known about the site. Artifact analysis would contribute to the studies suggested for the previous sites. This site is potentially eligible to the National Register, under Criterion D, based on these research possibilities.

HAR-065

HAR-065 covers 25,200 square meters in the SE1/4 of Section 10, T15S, R8E in the Allen Draw flood plain, west of the High Speed Test Track (Figure 67). The site consists of two dugouts excavated into the white sand dunes and three round depressions excavated on the flat. Artifacts include glass and ceramic fragments, wash tubs, tea kettles, tin scraps, various buckets and cans, and construction hardware.

Historical Background. This land was never filed on by homesteaders, and it remained in the Public Domain until the 1940s when it became a part of HAFB. Several references to the land, which borders on the White Sands Lakes, were discovered. The first occurred in November 1910, when the Otero County Advertiser announced that W.H. Gardner had recently had a ranch house built on the banks of the Lake.¹ No further information on this individual was found.

Subsequent records also refer to the Lakes. In the late 1930s, Pete and Luis Aguilar, two brothers who had been ranching in the Basin since 1914, used the land around White Sands Lakes for a cattle and horse grazing range. White Sands Lakes was a natural water source producing a good quality and quantity of water for the stock.² According to the Aguilars, the lake held a total volume of 45,000 square feet of water. It had been called Bottomless Lake at one point, but in 1923 it dried up. The Aguilars stated that it was refilled in 1938 but did not mention how this occurred.³

The brothers had a Taylor Grazing permit to use 3000 acres of federal land surrounding the water source, including sections 1, 10, 11, 12, 14 and 15 in T15S, R8E. This southern allotment was used for grazing only between October and March. They had an additional 3000 acre allotment approximately 12 miles northeast of the lake.⁴

According to the Aguilars' range inspection forms, the ranchers had the lakes fenced off into a pasture for the stock.⁵ A nephew of the Aguilars, Clovis B. Aguilar, remembered swimming in the lake when he was younger.⁶

No further information could be found concerning the dugouts located approximately 100 meters north of the Lake. Although Clovis Aguilar stated that the brothers camped on the range when

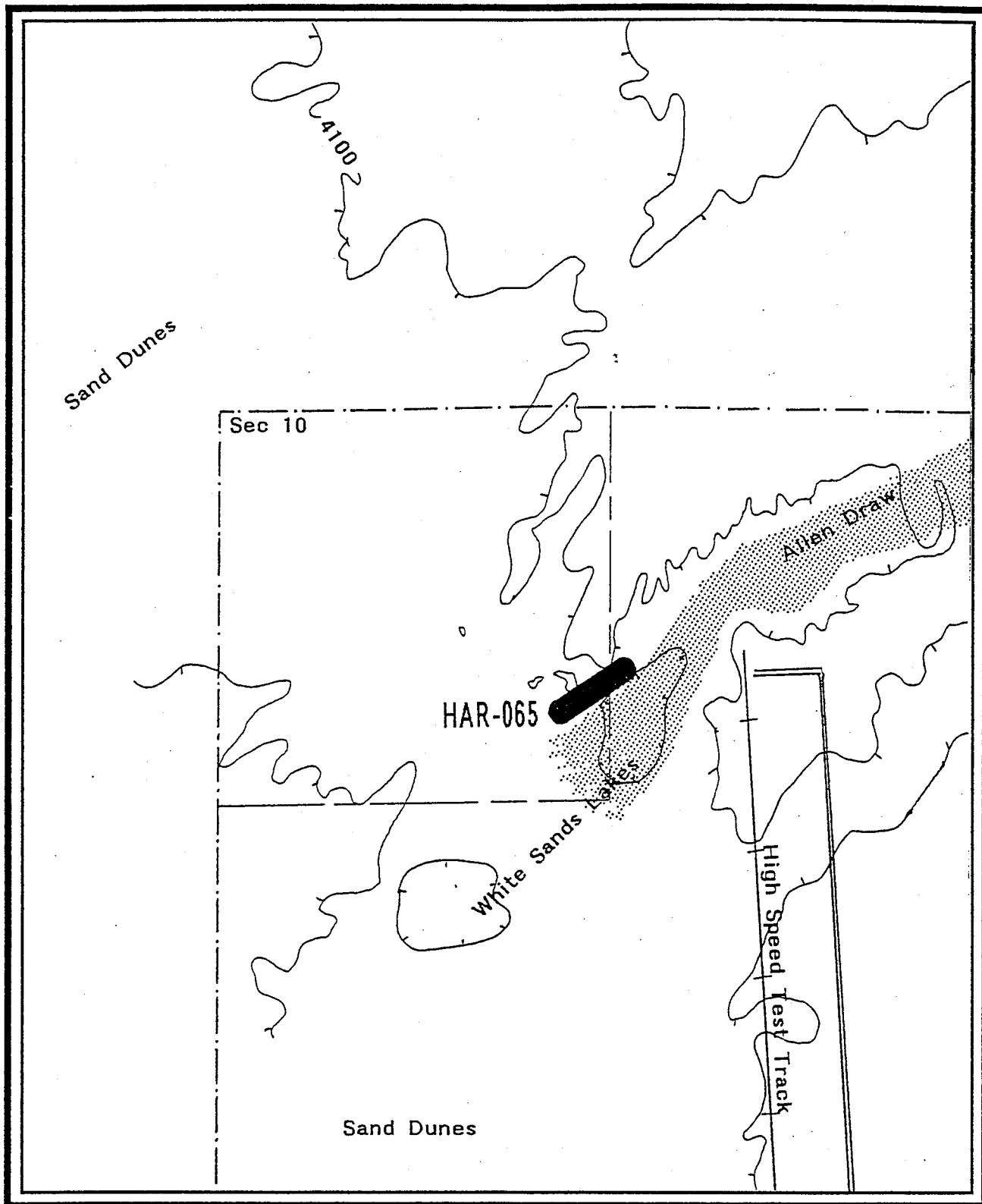


Figure 67
HAR-065

★
mN
11.5 deg
Declination

0 FEET 6000
Contour Interval 50 Feet

== Secondary Highway,
hard surface
== Light Duty Road,
hard or improved surface
--- Stream, lake: Intermittent

working with the stock, he could not be more specific as to the location than "west of Tularosa".⁷

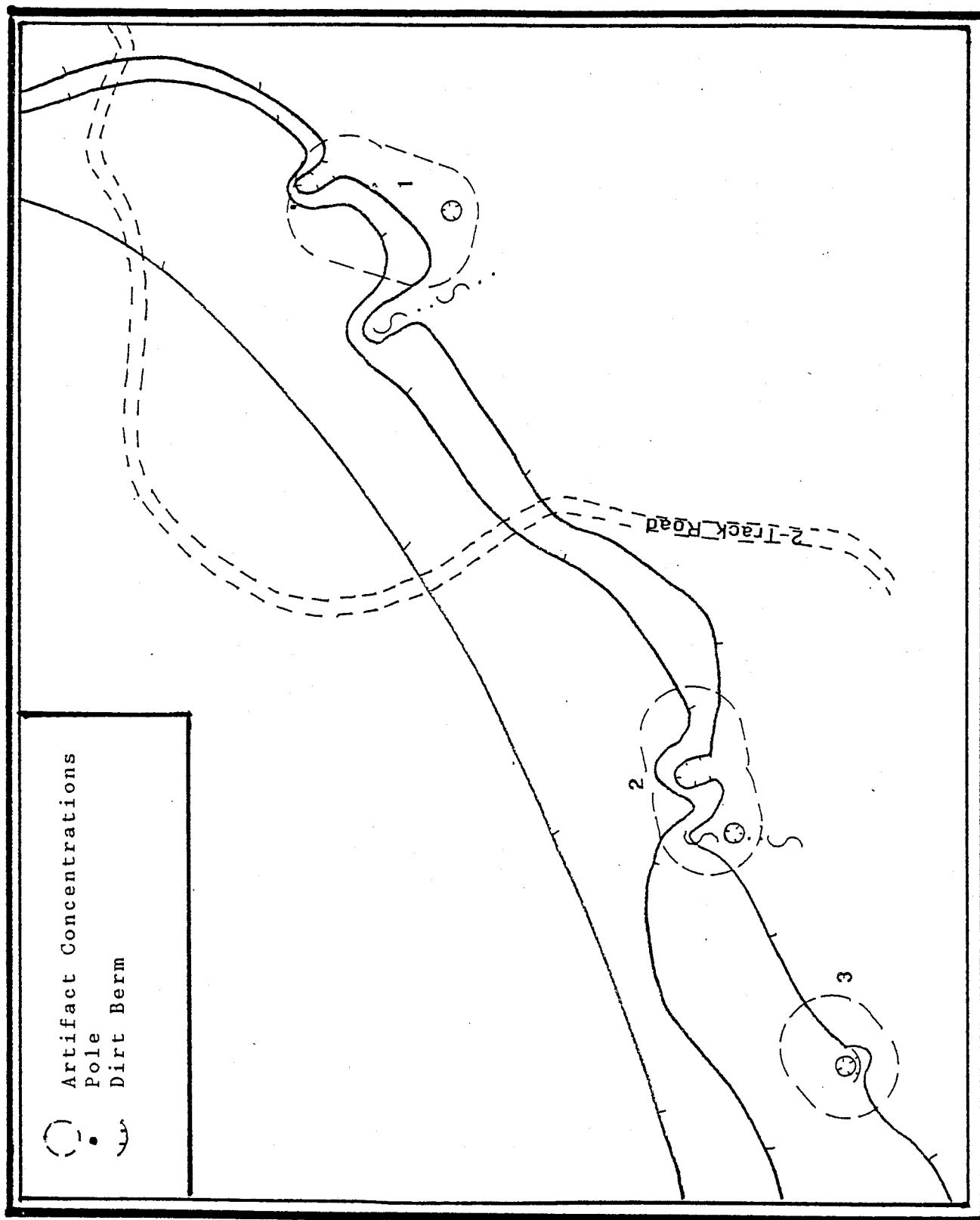
Feature Associations. The function of the dugouts, which are 240 meters apart, could not be determined (Figure 68). Both are about 32'x 16' (10x5m) in size and each has a 6'x 6' (2x2m) depression located approximately 20 meters southwest of the features. The other 6'x 6' (2x2m) depression is located 100 meters southwest of Feature 2. Very little construction materials exist at the features to suggest any of them may have had roofs. These features may have been dugout houses and the smaller depressions may represent privies.

The artifact assemblage, which is scattered mainly around the two dugout features, suggests a fairly permanent occupation. Items such as tea kettles, wash tubs, lard buckets, enamel pots, and Mason jar fragments, are evidence of domestic activities, and a hand plow, a rake, harness parts, and barbed and chicken wire, suggest both farming and livestock operations. The only diagnostic artifacts, purple glass fragments, support a date around the turn of the century which may coincide with Gardner's possible occupation. Most of the artifacts appear to be much more recent, however.

The remains of an old gate located at the eastern edge of the site are the only evidence of the fence which the Aguilers had erected. The gate consists of two posts and some rusted barbed wire. One of the posts has a hinge nailed to it. A new fence line runs just east of this gate.

Impacts and Recommendations. Disturbance to the site includes erosion on the edges of the features and surface collecting. The HAPB Archaeologist recently returned the plow which had been taken from the site.⁸ The site's proximity to the High Speed Test Track make it susceptible to further vandalism.

Because little is known about the site, archaeological research may divulge some information. The site is potentially eligible to the National Register under Criterion D, based on its archaeological research potential.



0 Meters 80

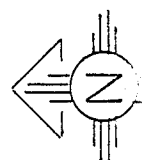


Figure 68 Map of Site Map

NON-SITE RESEARCH AREAS

Area 4--Albert Barrett's Homestead

When Area 4 was surveyed in November, 1993, no evidence of a Euro-American historic occupation was found, with the exception of one fragment of purple glass. A General Land Office survey map dated 1882 had indicated the S. Jones ranch in the vicinity.¹ Upon closer examination, it is believed that the ranch may have been located between 200 and 300 meters south, in the center of the confluence of Malone and Carter draws, and outside the survey boundaries. Despite the fact that an archaeological site was not found, research was conducted on the tract of land on which the site might have been located. Unfortunately, no further information could be found concerning the occupation of S. Jones, which was around the time Anglos first began arriving in the Tularosa Basin. These newcomers often brought large herds of cattle and horses and settled wherever they could find an adequate water source. Jones may have been one of these cattlemen, but he did not file an entry on the land and can be classed as a squatter.

Twenty five years later, in April 1907, Albert N. Barrett filed a homestead entry on a 160 acre tract encompassing the SE1/4 SE1/4 of Section 11, the NW1/4 NW1/4 of Section 13, and the N1/2 NE1/4 of Section 14, in T16S, R8E (Figure 69).² Barrett had forced Frank W. Gurney, Jr. to relinquish this tract by filing a contest claim against him.³ A little over a year later, Barrett realized he had made a mistake when filing his own entry. Barrett believed he had filed on the SE1/4 NE1/4 of Section 14 which contained mainly bottom land in Carter Draw, and he had fenced the land he thought he entered. When another settler, Kenneth Ellerton, brought a surveyor out to mark off his desired tract, Barrett found he had mistakenly chosen the NW1/4 NE1/4 instead of the SE1/4 NE1/4 of Section 14, the latter of which had been included within his fence. He quickly sent a letter with a sworn statement explaining his predicament, professing his ignorance of surveying to the General Land Office and asking for his entry to be changed to enclose the SE1/4 NE1/4 and to discard the NW1/4 NE1/4 of

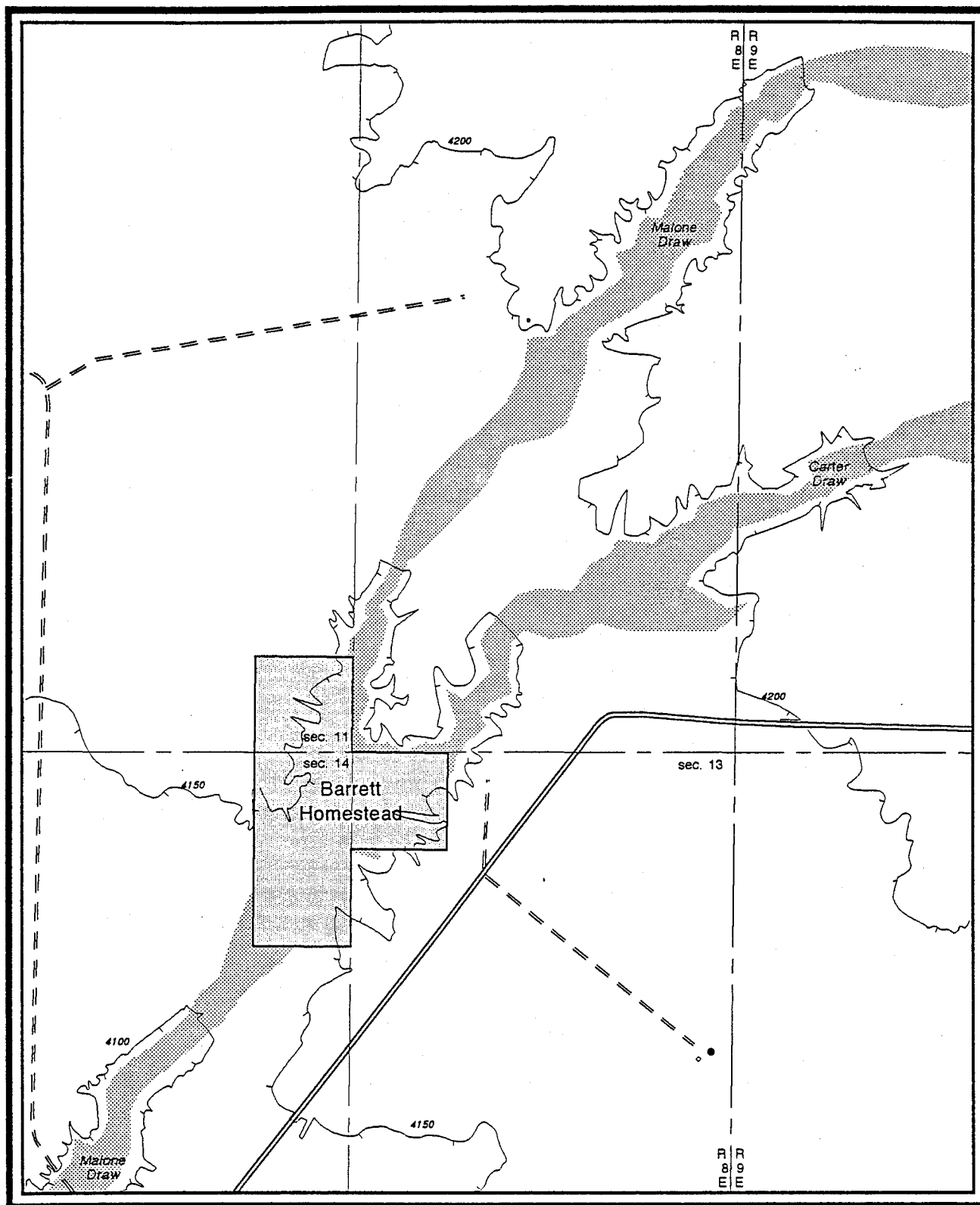
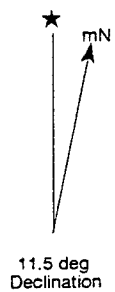


Figure 69
Albert Barrett's Homestead Patent



Contour Interval 50 Feet

- == Secondary Highway, hard surface
- - - Light Duty Road, hard or improved surface
- ◇ Buildings

Section 14. Barrett complained that the latter 40 acres "lies on a Gypsum Mesa and is worthless."⁴

Apparently the GLO believed Barrett's pleas of innocence and ignorance and allowed him to relinquish the worthless tract and file on the valuable 40 acre tract under the Additional Homestead Act. In August 1908, Barrett commuted his entire 160 acre homestead and paid \$1.25 per acre for his patent.⁵ Approximately 65% of Barrett's final patent included valuable agricultural land in the bottom of both Malone and Carter draws.

In 1908, Barrett was a 64 year old doctor from Missouri.⁶ When he moved to the Tularosa Basin, he bought a one room, 14' x 16' house from a squatter.⁷ The map by Ellerton's surveyor showed his house situated in the SE1/4 NW1/4 NW1/4 of Section 13, T16S, R8E. Barrett added a well and 80 cultivated acres of hay on his property and surrounded his hay field with a four strand barbed wire fence. One witness indicated that Barrett pastured stock in the field, probably after harvesting.⁹ Oddly, tax assessments on Barrett's land between 1909 and 1911 indicated improvements valued at only \$75 and \$30 worth of horses and/or mules only in 1911.¹⁰ Barrett's personal possessions, on the other hand, indicated his cultured character, which seems misplaced on the frontier. Just one week after filing his commutation proof, he mortgaged a 75 volume library, a piano and all his household furniture for \$180.¹¹ By 1912, his land was estimated to be worth \$240, but his improvements had dropped to only \$15 in value.¹²

In October 1912, Barrett, a doctor in the Sacramento Mountains town of Weed, sold his land for \$4000 to Frank P. Hitchcock (Table 8).¹³ The new owner may have added some improvements to the land because the value of the land jumped to \$480 and improvements to \$75.¹⁴ Nevertheless, Hitchcock and his wife Lucretia of Jackson County, Missouri, sold the land almost exactly a year later to C.D. Kelty and Harry Potts of Pattawatomie County, Kansas.¹⁵ The value of the improvements again increased to \$100.¹⁶ In 1918, Kelty and Potts, living in Idaho at this time, sold the land to D.C. Woods.¹⁷

Woods was the son of William Henry and Sarah Elizabeth King Woods, early pioneers of Otero County. He was born in Weed, New Mexico in 1886 but moved to Alamogordo when Charles

Table 8. Ownership of Albert Barrett's Homestead.

Grantor	Grantee	Date	Instrument*	Price
Albert Barrett		4/23/07	HE	
Albert Barrett	J.L. Lawson	8/26/08	CM	\$180
USA	Albert Barrett	8/28/08	HP	\$150
USA	Albert Barrett	12/14/08	HP	\$50
Albert Barrett	Frank Hitchcock	10/18/12	WD	\$4000
Frank Hitchcock	Kelty & Potts	10/23/13	WD	\$1.00 [^]
Harry Potts	C.D. Kelty	2/14/17	Grant	
C.D. Kelty	D.C. Woods	2/7/18	WD	\$1.00 [^]
D.C. Woods	Ellen Woods	5/8/70	WD	Grant
Ellen Woods	David C. Woods	10/13/73	WD	Grant
David C. Woods	Joan Pilcher	2/24/81	QD	
David C. Woods	Jean Davis	2/24/81	QD	
Jean Davis	USA	5/6/88	WD	\$50,000
Joan Pilcher	USA	9/7/88	WD	\$50,000

*See acronym list on page xiii.

[^]Grantors were not required to list the exact price for which they sold their land, but it was necessary to list some minimum figure. Many simply stated \$1.00.

Eddy enticed his father to help develop the new headquarters for the El Paso and Northeastern Railway at Alamogordo.¹⁸ Besides being a stockman, D.C. Woods also served the railroad as a machinist in his later years.¹⁹ The Woods family owned the property from 1918 through 1988. They deeded it to the United States for use of Holloman Air Force Base in September 1988 as a result of Civil Action #394.²⁰ Woods' stepdaughter, Wanda Jean Davis, believed he had never lived on the land.²¹ Although Woods owned approximately 50 head of cattle and approximately 3000 head of sheep, there is no written evidence that his stock ever grazed on the land either.²²

Recommendations. Additional maps have been discovered which better identify the location of the homestead. Further survey should be conducted on the south side of Carter Draw to

attempt to find this site. It is not felt that further archival research will be needed if the site is found.

Area 11--J.L. Burn's Residence

Area 11, located approximately seven miles south of Alamogordo, was chosen for survey based on a 1909 GLO plat which indicated J.L. Burns' house in the area.¹ With the exception of several pieces of purple glass, it appeared as though later occupations of the area have totally obliterated this early residence.

The first mention of J.L. Burns indicated that he was the Reverend of the M.E. (?) Church, and he located a homestead near Dog Canyon in the vicinity of Camp City. He had moved to Otero County from Bokoshe, Indian Territory, in early 1907.² Burns apparently did not file his homestead with the Land Office because no record of it was found. A chattel mortgage to the R.H. Pierce Company suggests that Burns had at least two horses, and he and his sons did construction work for a Joe Morgan who also homesteaded in the Camp City area.³

Reverend Burns was having trouble making a living in Otero County. According to the GLO surveyor, "a good deal of broken land [is located in this township], but not much crops grown, owing to the drouth."⁴ In the middle of 1909, Burns moved his family to Mesilla only to return to their "ranch" near Shamrock the following October.⁵ It is unknown how long Burns remained in the area after this time.

After Burns moved off the land, there is no evidence of use until William Singleton filed a Stock Raising Homestead entry on the tract in 1930.⁶ Singleton's house (HAR-086) was located north of where Burns' house was situated. Singleton ran up to 10 head of livestock and had up to 20 acres cultivated at some point during his proof period.⁷ It is possible the tract of land encompassed in Area 11 served only as grazing land.

In 1950, Singleton sold the land to Clyde Pierce, who sold it to Betty Dare Douglass in 1952.⁸ Douglass, who probably lived in the Singleton house, granted an undivided 1/3 interest each to Fred and Elsie Hansen, and John J. Poe in 1959.⁹ The land was further subdivided at some point between

1961 and 1963 and the western 825 feet of the NW1/4 NE1/4 of Section 7, T18S, R10E, was sold to Marvin Green. According to appraisal reports, Green used his land (Tract 56) as an automobile collection yard. He had a mobile home, a garage, 2 sheds, a hay shed, and horse pens on the 15 acres he owned. He also had a well drilled in 1965. Much of the tract had been cleared of all vegetation and a county road provided him with access to his house.¹⁰

The remainder of the land was sold by John Poe of Texas, to E.T. and Dolores Moya in August 1963.¹¹ Moya had a frame and stucco house and a lumber barn on the property (Tract 57) in 1988. He also had a 265 foot deep well. According to the COE files, Moya was confused as to when he and his family had vacated the property. He told one person they had moved to California in 1970 but their son resided on the land while completing high school. He also mentioned they used the house as a vacation home "off & on". Yet Moya had told another individual they had not lived in the home since 1967 or 1968.¹² In 1988, the federal government purchased the land in these two tracts in conjunction with the Douglass (Water) Well Field.¹³

Recommendations. HAFB burned these structures in a 1990 Fire Department exercise because they presented a safety hazard.¹⁴ The burnt remains of two lumber structures enclosed by woven wire fences, a collapsed septic tank or well, and some recent garbage are all that is left at Moya's residence. Mobile home foundations and evidence of landscaping remain at Green's tract. These remains are recent and have no significance. The area has been completely surveyed and substantial evidence of the early occupation was not found. No further work is recommended.

Area 19--Bert Harris House

This tract was chosen for survey because a 1908 GLO Plat indicated "Bert Harris Ho[use]" in this vicinity. The house was located just east of the Alamogordo to San Andres Canyon wagon road and a secondary road ran just below his house as well (Figure 70).¹ Some historic artifacts, such as a tobacco

tin, tin cans, and sheets of corrugated tin, were found during the survey but no evidence of a permanent or temporary occupation was noted.

Henry B. Harris filed a Desert Land entry on the NE1/4 of Section 31, T17S, R10E on February 23, 1907 (Figure 71).² About all that is known about Harris is that he ran for sheriff on the Socialist ticket in 1908, and he had property in High Rolls on which he operated a shingle mill.³

Harris did not prove up his entry, allowing another Harris, Walter R., also from High Rolls, to file an entry on the S1/2 NE1/4 and S1/2 NW1/4 of Section 31, T17S, R10E on February 1911 (Figure 72). Walter proved up this homestead in 1913.⁴ He informed the GLO that he had squatted on the unsurveyed land as early as August 1907 and had put in a 100 foot well. According to Harris' testimony, he established a residence and built a 16' x 18' frame house on this land in

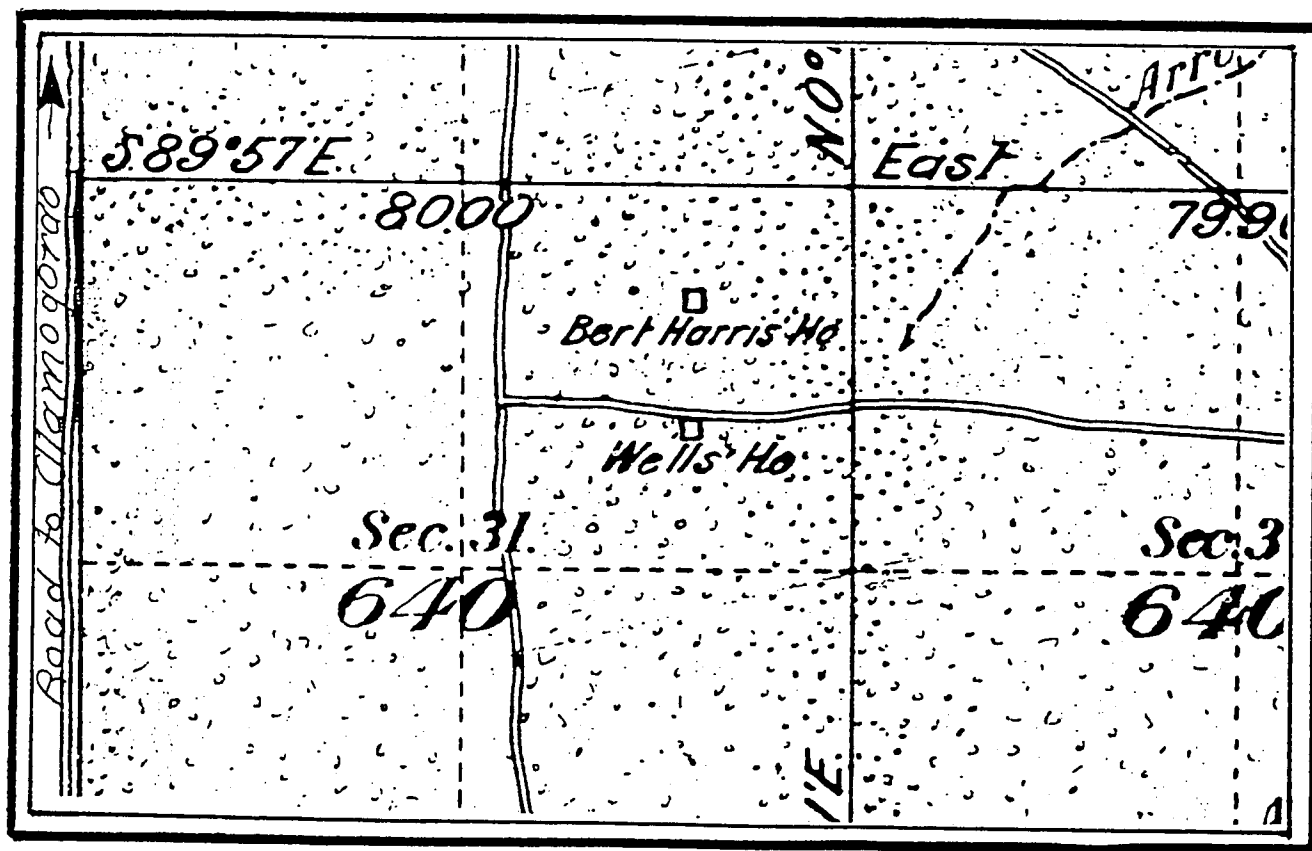


Figure 70. GLO Plat Showing Harris' House.

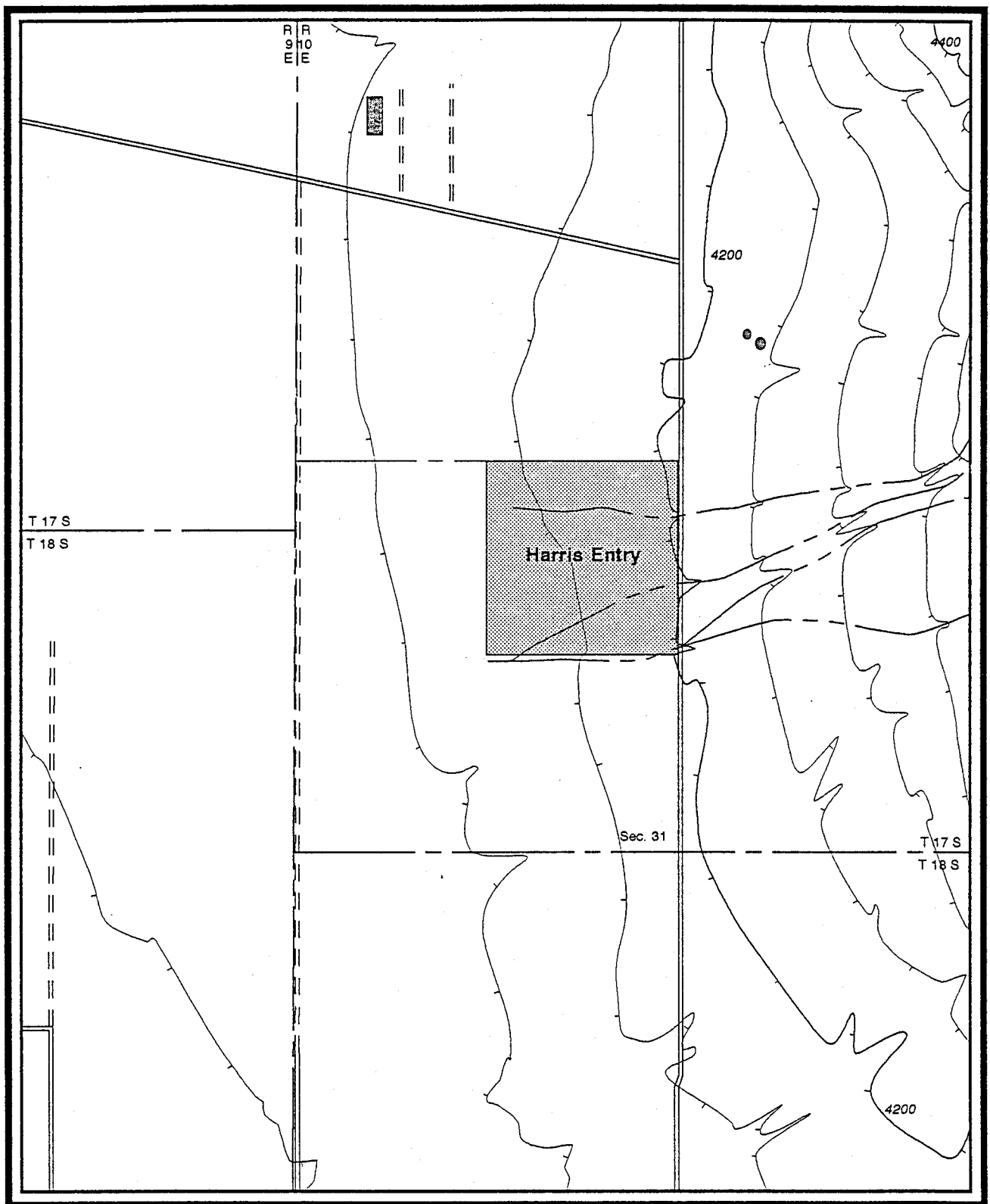


Figure 71.
Bert Harris Land Entry



Contour Interval 40 Feet

- == Secondary Highway, hard surface
- = = Light Duty Road, hard or improved surface
- ~ Stream: Intermittant

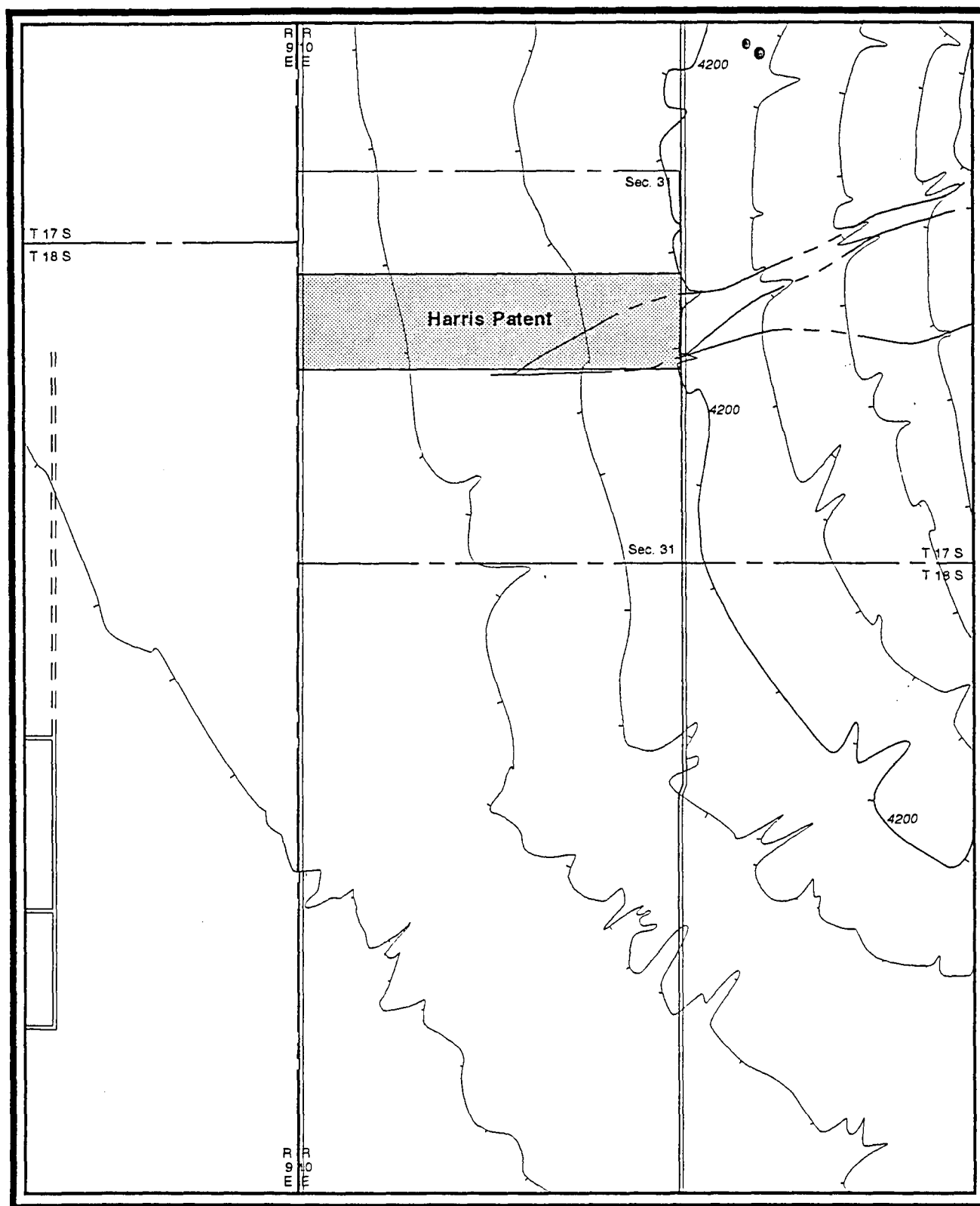
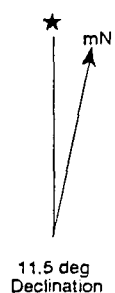


Figure 72.
Walter Harris Homestead Patent



Contour Interval 40 Feet

- Secondary Highway, hard surface
- - - Light Duty Road, hard or improved surface
- - - Stream: Intermittant



January 1908. He planted 17 acres of cane and corn in 1908 and a little less every year afterwards.⁵

This information does not correlate with the 1908 GLO survey plat. This map also shows "Well's Ho[use]" in the area Harris proved up on. However, William Wells, a farmer, patented a tract in the SW1/4 of Section 31, approximately 1/4 mile southwest of where the survey has the house plotted.⁶ The best assumption, therefore, is that the survey may have been slightly inaccurate and the Harris and Wells houses may have actually been farther south than shown on the map. The lack of evidence of any kind of residence in the survey area, which covered most of the N1/2 NE1/4, support this assumption.

Furthermore, Virginia Reynolds filed on the N1/2 NE1/4 and N1/2 NW1/4 pf Section 31, T17S, R10E, in January 1915. Reynolds owned property a half mile north on which she ran a dairy (see HAR-014 & HAR-054). Her entry was cancelled in 1921, five years after her death.⁷

In 1929, yet another individual, John W. Gentry, filed on the land. He filed a Stock Raising Homestead entry on the same property as Reynolds, as well as the S1/2 NW1/4, NW1/4 NW1/4 of Section 29, and the SW1/4 SW1/4 of Section 20 T17S, R10E.⁸ The Gentry family came to New Mexico from Texas in 1902 and ranched in the Pinon area in the Sacramento Mountains.⁹ It is possible Gentry filed on this land in the Basin in order to get winter grazing land for his stock. There is no evidence he ever lived on the land and his entry was cancelled in 1936. The land remains in BLM ownership but is administered by HAFB.

Recommendations. It seems that the GLO survey plat was inaccurate and the Harris House referred to was actually located farther south. This land is privately owned. No further work is recommended.

Area 21

An 1882 General Land Office plat indicated the presence of a ranch near the confluence of Dillard Draw and an unnamed drainage in Section 13, T17S, R8E.¹ No survey was conducted to locate the remains of this ranch because its location is

now completely obliterated and covered by HAFB's Cantonment area. The surveyor's notes attribute ownership of the ranch to a S.F. Sumner.² This individual did not file an entry on his tract and was considered a squatter on the Public Domain.

The first documented entry on the land occurred in 1917 when Henry D. Franklin filed a Stock Raising Homestead entry on the NW1/4 of Section 18, T17S, R9E; and the NE1/4 of Section 13, and the SE1/4 of Section 12, both in T17S, R8E (Figure 73).³ According to Franklin's family biography, he came to Alamogordo from Tennessee in 1913 and desired to get into the cattle business. He bought a homestead relinquishment with a house, tank, and windmill, five miles northwest of the town to get started.⁴ The tract was just two miles north of the Las Cruces-Alamogordo highway, bordering on the south side of Dillard Draw. The entry was suspended in November 1917 and the case closed two months later.

Franklin filed another entry on a portion of the same tract, "but soon the open range he expected to use was bought up and fenced, thus changing his plans."⁵ By January 1920, the second entry was suspended and cancelled. A Department of Interior examiner did not indicate any improvements on the land claimed by Franklin on a map completed in early 1918.⁶ However, Minnie McNatt, who had a homestead in sections 21 and 28, said the Franklins lived nearby.⁷ In September of the following year, Robert Lester Nichols filed on the S1/2, NW1/4, W1/2 NE1/4 of Section 13; and the S1/2 SW1/4 of Section 12, T17S, R8E. The GLO cancelled Nichols entry in December 1926.⁸

The fact that so many entries were filed on this tract indicates the presence of a good water source at that time, a necessity for survival in the arid Tularosa Basin. These entries covered valuable land in Dillard Draw, which has since been diverted to the east of HAFB. Because none of these men proved up their entries, the State of New Mexico chose the land as an "in lieu" selection in 1932. The first surface lease went to A.A. McNatt, who held the lease until he sold the ranch to his son C.A. "Sam" McNatt in 1940. Sam had the lease until 1942 when Civil Action #453 led to the immediate suspension of all state and federal grazing leases in the area withdrawn for the Alamogordo Bombing and Gunnery Range (See

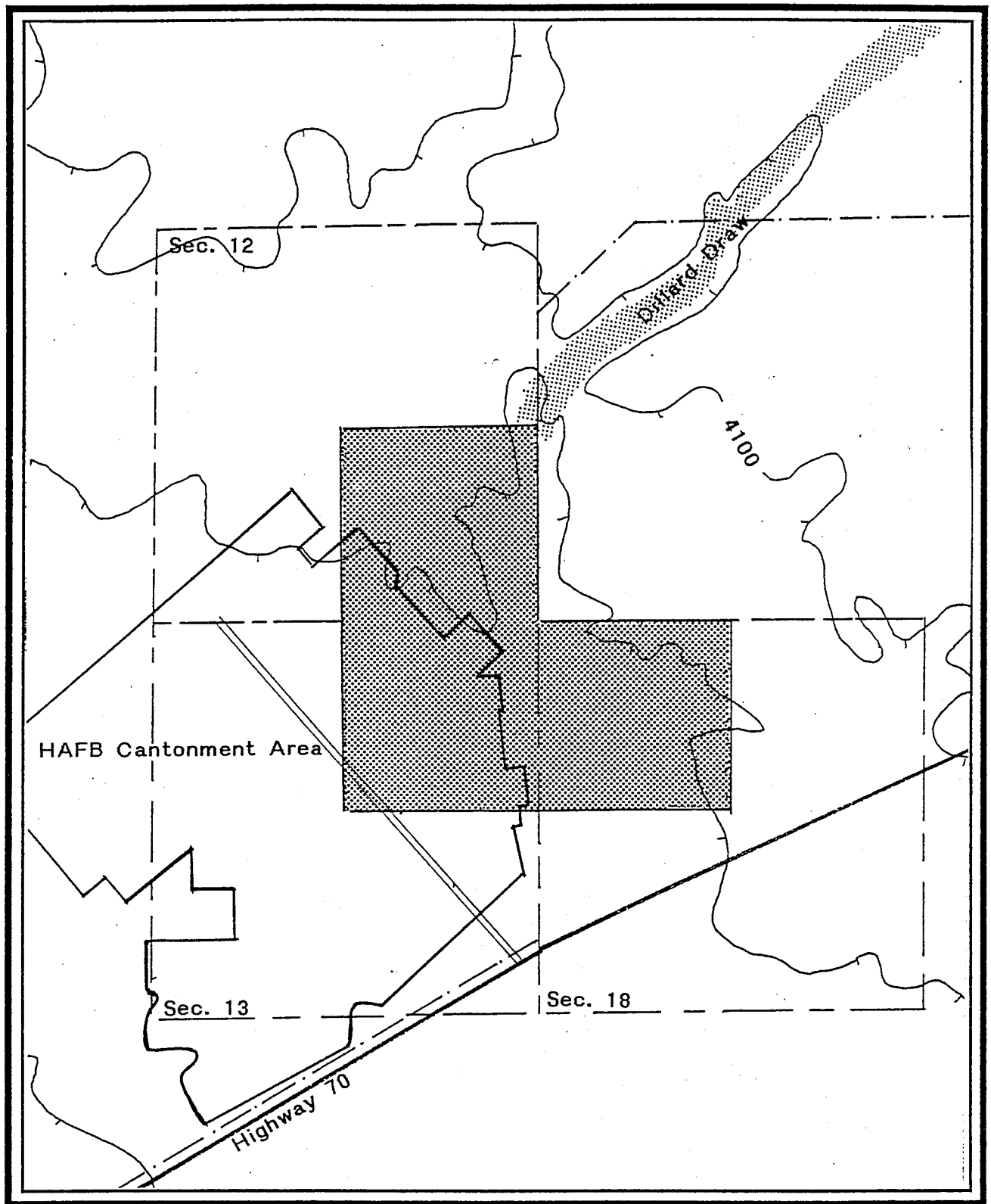


Figure 73.
Henry Franklin Land Entry

★
mN
11.5 deg
Declination

0 FEET 6000
Contour Interval 50 Feet

== Secondary Highway,
hard surface
= Light Duty Road,
hard or improved surface
--- Stream, lake: intermittent

HAR-064 & LA 103411 for more information on the McNatt Ranch.)⁹

Recommendations. This area is currently covered by HAFB's Cantonment. Any evidence of improvements have long been obliterated. No further work is recommended.

Walthall Schoolhouse

Approximately 1/4 mile south of the well fields headquarters building is a trash dump spreading out over several thousand meters. An informant stated that a school house once stood in that location but has since been torn down.¹ No definite evidence of this schoolhouse was located on survey, primarily because of the difficulty distinguishing the origins of refuse.

In January 1909, the County School Superintendent expressed his concern about the lack of school rooms in Otero County.² Apparently, the town was growing so quickly that the county could not find enough space for all the school age children. In May of that same year, the Camp City community created more space when a new school was built on the Walthall homestead, approximately 4 miles from the community and 6 miles south of Alamogordo. According to historical records, the schoolhouse was located in the very southwest corner of the NW1/4 of Section 19, T17S, R10E (See Figure 37). The deed in which the one acre tract was transferred to the County could not be located. By the time William Walthall, who homesteaded the land in 1910 (HAR-051), sold the tract to the Woollens, this one acre had been reserved for the school.³

According to the Otero County Advertiser of May 22, 1909,

"W.L. Walthall and his neighbors deserve great credit for the building of a new modernly constructed school house in that neighborhood....It is learned that 20 to 25 pupils will be enrolled for the next term of school. Such people as those of the Walthall community are the kind who build up a country."⁴

One week later, the school directors, including Walthall and S.D. Camp, the namesake of Camp City, chose Miss Zada Martin as the new teacher.⁵ In late June, the final touches were being added while talk centered around the possibility of Alamogordo School District #1 being divided.⁶ By the time of the 1910 census taking, Walthall School was a part of the Camp City District #15.

The Walthall School was like most rural schools. It provided not only an education for the young; it also served as the community social center. The year 1910 proved to be a highlight with school programs, socials, and box suppers bringing the community together.⁷

It is unknown how long the school remained in operation. A pamphlet of the School Districts assembled in 1913 makes no mention of the school, but the following year, Miss Dillard Blankenship was chosen to teach a term there.⁸ She may have been the last teacher because, shortly thereafter, most of the homesteaders left the area. In 1919, the members of the Board of Education decided to bus the two children still living in the old Camp City District into Alamogordo. This gave them "the advantage of high school work", which the Valmont school, where they had been attending, could not provide. A.T. Edge received the bus contract that year, and in 1921, Carrie Woollen, who had purchased the Walthall homestead in 1914, got the job.⁹

It seems as though the Walthall community undertook the school project on their own and the Board of Education had no hand in it. In the early decades of the 20th century, the Board usually let contracts for building schools to the lowest bidder, then sold discontinued school buildings to the highest bidder. They rented unused schools for living quarters as well.¹⁰ The fact that the Board did none of these things with the Walthall school suggests that it was a separate entity from the county Board. In fact, when the federal government condemned the land in 1956, there were questions as to who owned it. The Assistant U.S. District Attorney handling the case believed that because the school was not being used, the one acre tract "probably had reverted to the grantor of such tract, namely, the unknown heirs of Corrinne C. Willon [sic]".¹¹ However, when the government

settled the condemnation suits, they paid the Superintendent of Public Instruction \$50 for the acre.¹²

Betty Jean Johnson claimed that when the Boles family moved out to their farm in the early 1940s, only the walls of the school remained standing.¹³ By that time, all the land south of the Boles' farm had been abandoned, and Camp City, which had been renamed Shamrock and then Valmont, had also been abandoned. When Albert Mendez, who has worked at the well fields since 1981, first saw the building the walls stood only two to three feet high and pieces of old desks lay scattered in the area. He stated that the school house was constructed of gypsum bricks so it did not withstand weathering very well. Mendez was appointed to destroy the building in a clean up mission not too long after he started working there.¹⁴

Impacts and Recommendations

Although some purple and aqua glass fragments were found, very little that could be tied to the school house was discovered, and therefore, no site was recorded. The area has been heavily impacted by continual military development and refuse dumping. Archaeologically, there is no research potential associated with the school house. Historically, further research could be done in the form of interviews to find out more about its presence. One recommended source is Don Taylor of the Taylor Ranch, who has been long active in the area. An attempt to contact Mr. Taylor was made, but due to recent surgery, he was not up to an interview, although he stated he would be interested at a later date. Further attempts to contact him should be made.

Graves

A field crew for HSR discovered a small fenced enclosure while surveying an area approximately 200 meters southwest of the well field headquarters. The enclosure consists of a woven wire and post fence, and nothing is within it. Very little information could be found regarding what appears to be a grave site. Betty Jean Johnson did not remember its presence on the land while the Boles resided there between

1942-1957, suggesting it was erected since the military acquired the land.¹ Albert Mendez had been told by a long time employee at the well fields that it was the grave site of a set of twins.² No further information could be found to verify this statement.

Impacts and Recommendations

The enclosure was recorded as an isolated occurrence by the HSR crew. It is far enough from the road that it likely will not be disturbed by vandalism. There may be potential to find out more about the graves from Don Taylor. Further research should be conducted in that direction.

DISCUSSION

A wealth of information to answer the research questions was encountered during the project. However, due to the limited sample and restrictive boundaries of the project area (i.e. HAFB), the patterns discussed below are only immediately applicable to Holloman, which owns the smallest amount of acreage of all federal agencies in the Tularosa Basin. With similar projects being conducted by WSMR and Fort Bliss, these three studies could be synthesized, and the patterns for the Tularosa Basin, as a whole, would become clearer and more useful on a general basis.

Many of the research questions proved to overlap. As a result, they have been discussed below separately at the risk of repetition. Not only does this method provide the most adequate answers to the research questions, it will allow researchers interested in a particular topic to readily access the pertinent information. Several site names are used in the following discussion. Table 9 provides a list of those names and their corresponding site numbers. This will aid when referring to the site descriptions given previously.

Settlement Patterns

For the purpose of this report, settlement patterns primarily defined the location strategies individuals used when determining where to reside. Two types of settlement patterns were researched. First, the location of the particular tracts of land on which settlers filed were noted in terms of environmental factors. Secondly, the location of the archaeological site, or residence in most cases, within each tract was studied in relation to environmental, economic, and social aspects.

Jonathan Periam summed up the perfect location strategy in his late 19th century farm manual. He stated,

"When settling in a new country there are many things that require careful thought. The intending settler should know something about soils, texture and

Table 9. Site Names and Numbers

<u>Site Name</u>	<u>Site Number</u>	<u>Site Type</u>
Blair's	HAR-055	Misc.
Boles'	HAR-051	Farm
Bradford's	HAR-034	Ranch
Jewell Danley	HAR-008	Ranch
Osie Danley	HAR-042	Ranch
(also Grant's Homestead)		
Groom's	HAR-053	Farm
Hyde's	LA 103410	Farm
McKillip	HAR-019	Farm
C.C. McNatt HQ	HAR-047	Ranch
McNatt "old home place"	HAR-012	Ranch
Redies'	HAR-061	Farm
Reynolds'	HAR-054	Dairy/Farm
Singleton's	HAR-086	Farm
West Well	HAR-049	Ranch Act.

composition; drainage, water supply, above and below ground; summer and winter climate, and the general adaptability of the land to present and future crops to be raised."¹

After vain attempts to determine definitive settlement patterns for HAFB along Periam's line of reasoning, it has to be admitted that water sources in the arid Tularosa Basin constituted the only major factor in terms of site location strategies. Martha Doty Freeman, in a study of historic habitation on McGregor Guided Missile Range, which is located south of HAFB within the eastern portion of the Basin and on the western slopes of the Sacramento Mountains, also indicated water as the main element of settlement patterns. She believed that lack of water was the primary reason for the small number of sites in such a large area.² This is true for HAFB, as is its corollary, which provides that the limited number of sites is basically the result of the traditional use of the land for ranching, the only economic activity in which people could engage in the arid Basin.

In other words, the environmental conditions, namely lack of water, dictated the economic activities viable in a particular area, as well as how many people could survive in that area and how they were distributed within it.

With this in mind, it is easy to see that the choice property units in the study area exhibited specific patterns in correlation with the natural environment, or more specifically, water (figures 74 & 75). All take in some type of water source, be it a deep cut arroyo with a perennial stream, a spring, or a shallow drainage which originates in the mountains and gradually sinks into the permeable soils of the alluvial flats. In the interior Basin, settlers chose long narrow tracts to take in as much of the water source as possible while at the same time remaining congruent with original survey subdivisions. Examples are Grant's and Redies' land entries which gave them full use of .8 and 1.8 miles of arroyos respectively, and McNatt's state purchase which provided him with .8 miles of Malone Draw. Other examples include the Hydes and Dillard's who chose tracts along Red Arroyo, and Bradford's 40 acre scrip land which included not only 1/4 mile along Lost River, but also a spring which created surface ponds covering almost 1 acre.

At the well field properties, each 160 acre tract had one appreciable drainage coursing through it which could have provided running water during the rainy season and spring thaw. More important in this area, however, was the relative ease of bringing subsurface waters to the surface through the use of wells and windmills. As early as 1907, the land south of Alamogordo had been determined to have shallow subsurface waters which probably influenced settlers in terms of which lands they selected for use.³ The water quality may have differed in some areas, however, which may have accounted for early abandonment of several of the sites.

In addition to a proximity to water is an inclusion of arable lands within a tract, and technically the latter can not exist without the former. Even ranchers were required to conduct some farming to supplement the diet of stock during winter months and most raised gardens for their own consumption as well. Therefore, ranchers and farmers alike required an adequate amount of arable land or land capable of irrigation on which to produce a profitable crop. The tracts in the interior Basin included portions of draws in which the residents cultivated feed crops

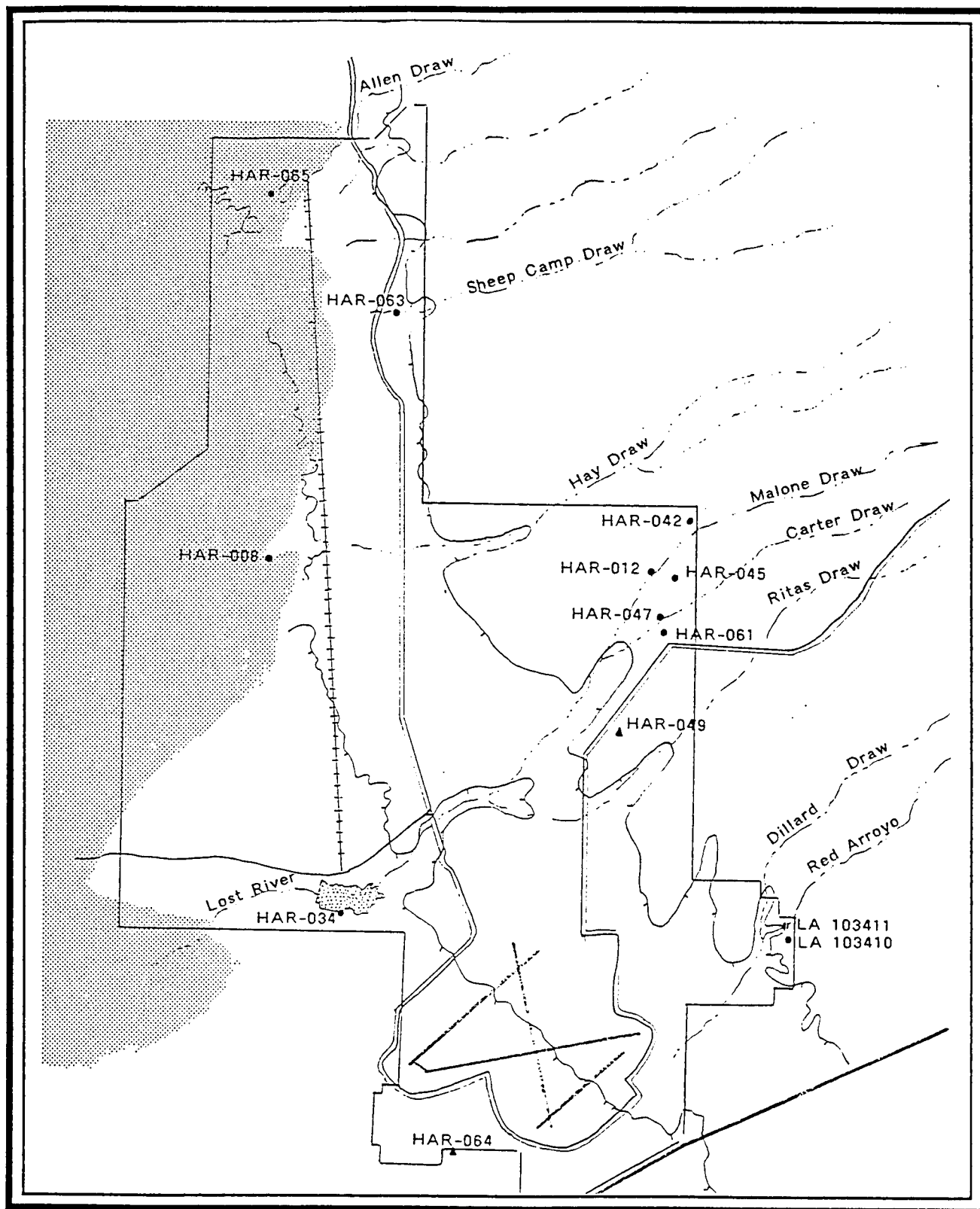
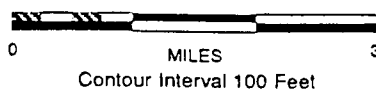
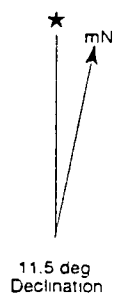
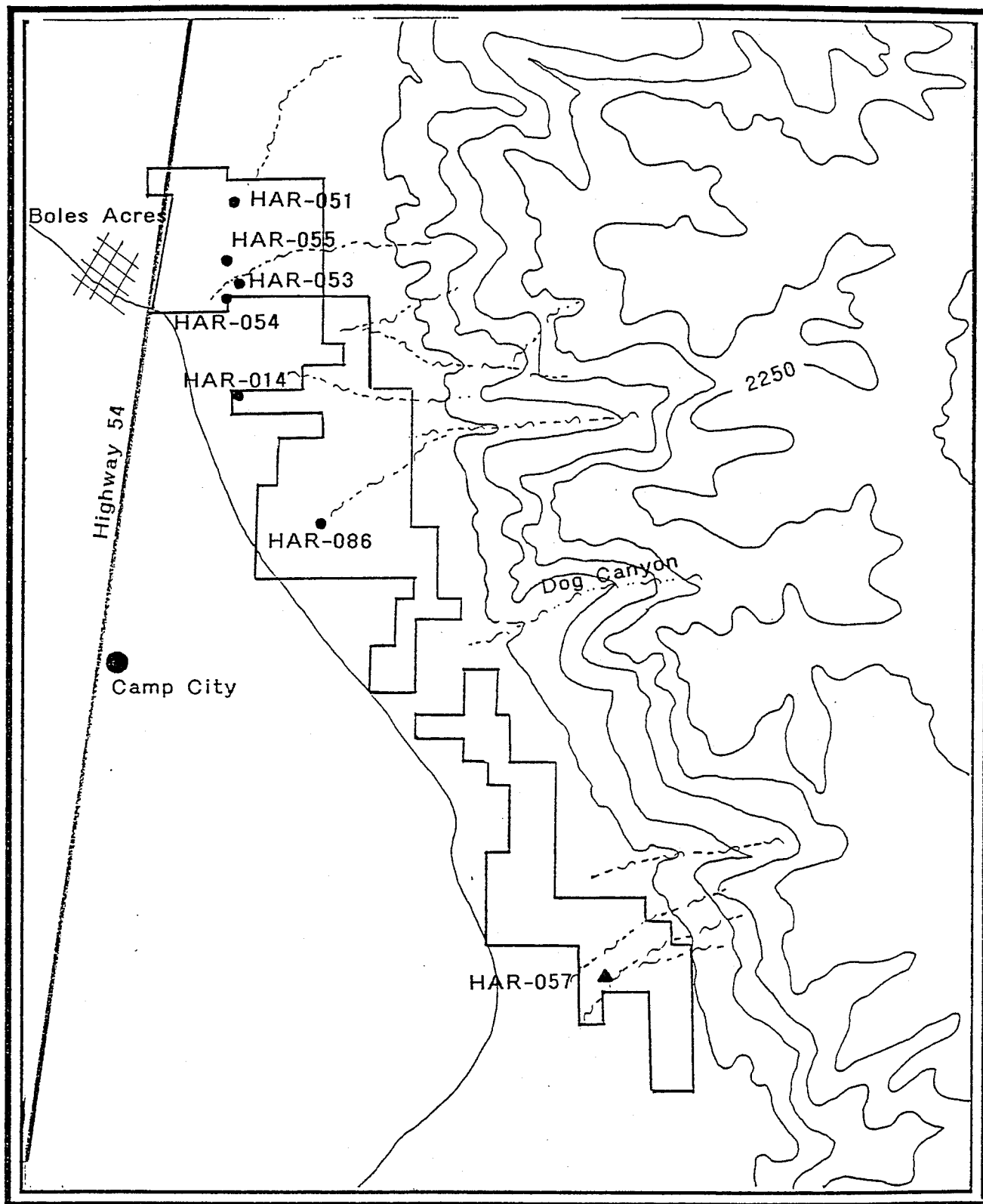


Figure 74.
Settlement Patterns in the Interior Basin



- Secondary Highway, hard surface
- - - Light Duty Road, hard or improved surface
- ~ Stream, lake: Intermittent



★
mN
11.5 deg
Declination

Figure 75.
Settlement Patterns at Well Field Properties

0 MILES 3
Contour Interval 200 Feet

- Primary Highway, hard surface
- == Secondary Highway, hard surface
- = = Light Duty Road, hard or improved surface
- - - Stream: Intermittant

and gardens with the aid of flood waters. The well field tracts were productive under normal climatic conditions with the use of either irrigation or dry land farming techniques.

One obvious conclusion arises from the above described patterns. The locations of property units seem to correlate highly with environmental needs (i.e. water) regardless of the economic activities practiced by the owners. On the other hand, the location of the residences within those tracts corresponds closely with important factors relating to economical, as well as social, needs. It appears that settlers chose, for their residences, those parts of their large property units which they could put to the most beneficial use while still maintaining both a sense of privacy and access to the community.

First, economical factors for homesite location strategies include those discussed for property units as a whole. The best source of water and arable lands on a tract dictated where a settler might put his house and, by extension, where improvements related to his occupation might be located. Ranching settlers drilled or hand excavated wells in the drainages of the interior Basin. Ranch headquarters appear to have been compact arrangements with both livestock related structures and domestic dwellings located within close proximity to those developed water sources.

At the well fields, site locations within the 160 acre tracts border on small runoff drainages. This determination, however, is somewhat circumstantial because there is no evidence that the locations of these drainages today are the same as those 80 years ago. By a projection of the drainages on the 1908 GLO plat, it can be guessed that they may have been located in roughly the same area as those which are near the sites today. Once again, however, the ease with which subsurface waters could be harnessed and used for surface irrigation was probably one of the deciding factors for house locations at the well fields.

Exposure and protection from the elements have been factors postulated for settlement patterns in several studies. These do not appear to apply at the well fields where no natural barriers existed to ward off high winds or inclement weather. The ranches in the interior Basin exhibit differing patterns with a majority located in areas which would provide some form of protection. Almost all livestock facilities at the Basin sites were located in the draws which also provided the best grazing lands,

suggesting that protecting the stock may have been of high importance.

Six of the Basin habitation sites are located on the northern sides of draws, with a warm southern exposure. The Osie Danley house and Jewell Danley residence were located in the draw, which probably protected them from high winds and cold drafts. C.C. McNatt's original house was also in the draw, but he moved it, because of flood waters, to a location on an upland flat, a high exposure site. When he built a second house, however, it was built on a gentle slope shielded by a low hillock on the north, the direction from which the coldest winds would arrive. Habitations at other sites, such as the dugouts at HAR-063 and -065, are built underground and into the south facing slopes of the sand dunes, respectively. Both locations would provide adequate protection from the weather.

Suggesting that protection from the elements was not of utmost important, Periam stated, "He who can get the upland for the home and the low lying land for crops is fortunate."⁴ However, four sites on the southern edges of the draws had structures built on the uplands and probably experienced over exposure to cold north winds. Perhaps prophetically, none of these sites appear to have had long term habitations.

While economic and environmental factors seem to be of most importance to ranch sites in the interior Basin, access to social elements may have been the most relevant factor for those farm sites at the well fields. The location of many of the sites are within close proximity to the Camp City/Shamrock/Valmont community which was located approximately 11 miles south of Alamogordo and approximately 4 miles south of the study area. By 1907, Camp City was considered a "thriving and prosperous little town" with all necessary amenities: a school, grocery store, and a post office.⁵ Its location as a railroad stop also made it convenient for freighters and travellers. The farm settlers identified themselves with Camp City, and many of their names showed up in the news items column for the community. Once the Walthall school house was built, a new social center, even closer than Camp City, provided the settlers in that part of the study area with entertainment, education, and a tighter sense of community.

In addition to proximity to the community, the location of roads and settlers homes do seem to have a symbiotic

relationship. According to Periam's farm manual, residences should never be more than 1/4 mile from a main road for easy access.⁶ In 1908, many of the settlers congregated along either the main road to Alamogordo or the wagon road connecting Alamogordo with San Andres Canyon. Several secondary roads also provided access for these settlers. Farmer's Flats, where the Hydes and Dillard's lived, had an easy transportation route as well, because the Alamogordo-Las Cruces highway bisected the community.

Although farming settlers had access to community ties, they were careful to provide a realm of privacy for themselves as well. The distance between the houses was small enough to bridge when necessary, and the neighbors helped each other by posing as witnesses to each others' homestead proofs. On the other hand, settlers in four cornering tracts did not build their houses in the adjacent corners to be near each other or to create community pastures or cultivated fields as they did in other parts of the West.⁷

As a contrast, the ranches had more distance between them. This was due to varied factors. Ranchers did not depend as much on towns, communities, or neighbors because they were relatively self-sufficient and produced for their own needs. Also, because of the marginal characteristics of the land (i.e. low carrying capacity) and the nature of ranchers' activities, especially the need for abundant space for livestock grazing, the generally accepted practice dictated a distance of about 15 miles between ranch headquarters. A southeastern New Mexico rancher echoed a sentiment which applied throughout the Western range lands when she said "No near neighbors--and none wanted--was the rule in the settlement of these parts, not just a coincidence."⁷ On average, ranch headquarters in the study area appear to have approximately six miles separating their major water sources. The small family orientation of their operations did not require as much individual range as large corporate ranches in other parts of the Basin. For example, Oliver Lee's 300,000 acre range, south of the study area, made it virtually impossible for anyone to settle within 15 miles of his headquarters.⁹

Land Acquisition & Ownership Patterns

Throughout history, land has held special meaning for people settling in America. Americans have always perceived it as a symbol of status, hard work, and initiative. Gradually, the desire for land led to a shortage in the eastern states, and as a result, the frontier became the destination of many Easterners who could not become property owners in their home states. The federal government tried to keep up with the growing desire of Americans to spread out into undeveloped territory and to acquire possession of land in their own name. They passed numerous laws to get the land to the people, only to replace the legislation when it became obsolete or the nature of the land on the ever westward moving frontier changed. The culmination of these various laws was the Homestead Act of 1862, touted as the most democratic measure of them all because it offered land virtually free to serious minded settlers. All laws had flaws, however, and as time passed people figured out how to use them to their own advantage. Essentially, land acquisition methods fluctuated with the economic periods of development in the Basin.

In the 1880s and 1890s, land competition in the Tularosa Basin was low, due mainly to the lack of close markets and easy transportation. Squatting on the Public Domain was widespread. Squatters' habitations were ephemeral because they made only rudimentary improvements. Although they had the option of preempting their claims once the land was surveyed, few did so.

Reasons why these settlers did not file on their claims can only be speculated. The nearest Land Office was Las Cruces, 70 miles to the southwest. Travelling this distance may have been a hardship for early pioneers. Still other people had visions of continuing their westward journeys. This latter excuse, "...the greenest pastures are always just ahead," is probably the closest to the truth for most settlers. Throughout the west, the perpetual movers travelled from one location to another, making only the improvements necessary to survive until the next move.

A final reason for not filing may have been fear of retaliation by the cattle ranchers, who were profiting from beef contracts with Fort Stanton. Once establishing a right to a water source simply by improving it, these ranchers imposed no further legal claim to the land. These were the days of the true open range, no fences and no mercy to homesteaders. The land

belonged to the cattle and new comers were not accepted. As one early southern New Mexico settler stated, the threat of intruders "...resulted in land boundary squabbles, range wars, and a few killings."¹⁰ One needs to look no further than the Good-Lee incident or the Albert Fountain murder to see that ranchers in the Tularosa Basin during this period wanted things their way or no way.

Despite the hostile attitudes of the Basin ranchers, squatting on the Public Domain is thought to have occurred more often than is documented. The fact that many people in the study area testified that there were already houses on their claims when they established residence suggests more squatters than depicted on GLO survey plats. The sporadic surveys in the area probably do not display the accurate extent of these habitations because the surveyors often recorded only those they could see from the subdivision lines they were marking.

In 1896, the federal government ordered Fort Stanton to be abandoned because of its relative uselessness after the Mescalero settled down to peaceful life on their reservation. As a result, beef contracts were no longer available and ranchers lost a ready market. About the same time, the El Paso and Northeastern Railroad was gearing up for construction into southern New Mexico. In the Southwest, railroads were always synonymous with development and the Tularosa Basin was no exception. In addition to the founding of Alamogordo and other small communities along the route, the railroad company encouraged settlers to flock to the available lands in the Basin.

At the turn of the century, the existing laws were thought to be the best adapted for the remaining arid lands of the frontier. A discussion of the most important land laws in the settlement of the Southwest, and more specifically the Tularosa Basin, was given in the background history. These include the Homestead Act, the Desert Land Act, and the Stock Raising Homestead Act. The Enlarged Homestead Act of 1909 was not used in the study area.

Although historian Paul Gates feels that the ultimate results of the Homestead Act have been overglorified, it constituted the major component of land acquisition in the study area (Table 10).¹¹ Unlike homesteads on McGregor Range which ranged in size from 40 to 1280 acres, the homesteads on what is now HAPB rarely exceeded 160 acres.¹² Fifteen entries were filed

Table 10. Methods of Land Acquisition

<u>Methods</u>	<u>Entries</u>	<u>Patents</u>	<u>% of Entries Patented</u>	<u>% of all Research Areas</u>
Homestead Act	15	9	60%	35%
Desert Land Act	8	1	13%	*
Stock Rasing Homestead Act	8	1	13%	4%
Other		2	100%	8%
Squatters	3			12%
Improvements on Federal Land	3			12% [^]

*No archaeological site recorded on this patent. It was a part of Redies (HAR-061) total land holdings.

[^]The remaining research areas included failed land entries (n=4, 15%) and sites located within other land patents (n=2, 8%).

under this act, and nine (60%) were finally proved up and patented. Of these, 55% (n=5) were commuted into cash payments. Commutations have been highly correlated with fraud in the West, especially in regards to timber and range lands, but little evidence suggests that those discussed above were not legitimate entries. The commutation clause was enacted specifically for cases in which settlers needed an easy way out of their entries due to circumstances beyond their control. Most commutations occurred between 1908 and 1911, when a severe drought hit the Basin.

Because many settlers, primarily ranchers who moved to the Basin after 1913, had previously used their homestead privilege, they had to find other methods of acquiring land from the federal government. The Stock Raising Homestead Act of 1916 would have

allowed them each 640 acres, but the lands they desired were not classified as "stock raising" quality until almost 1920. Therefore, many of these settlers used the Desert Land Act of 1877, although this act applied mainly to irrigation farming.

The Desert Land Act was a failure in the study area, as it was in much of the West. Eight desert land claims were filed, but only one was patented. This one was Charles Redies 160 acre claim which adjoined his homestead on the west. By law, settlers could obtain 160 acres under the Homestead Act and an additional 160 under the 1877 law as long as they did not acquire more than 320 acres total. Although Redies received both patents, he was forced to request relief under the latter act because his efforts at agriculture failed miserably. John Grant attempted to file under both laws also but relinquished his desert lands to his brother. The Karrs, Dillard, and Bert Harris used the Desert Land Act alone, but failed to make final proof.

All desert land entries require some speculation about the claimants' motives. The law expressly forbade filing on water ways until they had been inspected and proclaimed true desert lands in character. It also demanded that tracts be filed in compact, preferably square (i.e. one 1/4 section), tracts. Yet the five claims entered in the Tularosa Basin interior were spread out along the draws so as to acquire as much of the waterway as possible, thus breaking the major conditions of the law. While the Tularosa Basin is unquestionably arid, the draws provided adequate water in the form of floods which allowed later settlers to produce steady crops to feed livestock. In addition, the entries filed by persons known to have already used their homestead privilege in the vicinity are immediately suspect because these claimants were self-professed ranchers and had no reason to irrigate as the law required. Of the seven claims which failed, five were located by ranchers in the interior Basin, where irrigation was least likely to succeed, as Redies discovered.

Where the Desert Land Act hoped to aid farmers, the 1916 Stock Raising Homestead was aimed at those people participating in ranching. As the Secretary of the Interior stated in 1913,

"For the lands of the West differ as men do, in character and condition and degree of usefulness.... So there has slowly evolved in the public mind the

conception of a new policy--that land should be used for that purpose to which it is best fitted, and it should be disposed of by the Government with respect to that use."¹³

Because the Tularosa Basin was not classified for this act until almost 1920, its usefulness was short lived. At any rate, this law had about as much success in the area as the Desert Land Act. Of the eight claims filed, only one was patented (HAR-086), in 1936. The interesting fact about this entry is that little evidence suggests that the patentee, William Singleton, was involved in ranching. His testimony points mostly to irrigated farming with only a few head of livestock mentioned. Of the seven failed entries, six were located in the interior Basin where ranching was more feasible than farming, and the other was filed by the Fairchild family, well known local ranchers. Consequently, there appears to be little evidence of fraud in connection with this law. On the other hand, with the exception of Jewell Danley's claim, which was cancelled when the bombing range was created, it is unknown why the rest of the entries were not proved up.

In addition to acquiring land through these popular laws, settlers applied other methods. Fred Bradford used Soldier's Additional Homestead scrip involving the rights of a Civil War veteran from the Wisconsin Volunteer Cavalry. C.C. McNatt chose to purchase land from the state government. Through this method, the individual desiring to purchase the land applied to the State Land Office to put the tract on the auction block. The minimum price was \$3.00 per acre and the land went to the highest bidder. Rarely were State lands purchased for more than the minimum price because many people believed that the land was not even worth that amount.

For the most part, the more marginal lands in the interior Basin were acquired slightly later than those at the well fields. However, by 1920, almost all of the land within the study area which would be taken was in private hands. Only a few scattered attempts at acquiring land after 1920 were made and only one individual succeeded (HAR-086). Even as late as 1936, settlers were trying to acquire federal lands in the Basin, but ultimately failed.

Except in the case of HAR-086, the size and configuration of the tracts remained stable throughout their use periods, changing only when the owners bought additional adjoining land. Few individuals, however, attempted to add more property to their original tract. C.C. McNatt did add 440 acres adjoining his ranch, but he was the only person to buy more land for his personal use. Luther Boles bought an additional 80 acres, but his motive revolved around producing more water wells under his contract with HAPB. Redies operated in the opposite direction. He purchased 120 acres and then filed both a Homestead and Desert Land entry to acquire an additional 320 acres. Other homesteaders, such as the Grants, Karrs, Grooms, and Blairs, tried the family method in which relatives filed on adjacent tracts which, once patented, would provide communal use for the entire family. Rarely did these attempts succeed.

After 1920, new comers had to rely on private purchases to acquire land, which was a difficult feat because of the low turn over rate. On average, the tracts had four separate owners within approximately 40 years, and the patentee generally kept the land longer than any subsequent owner. Patentees held onto their land anywhere from 4 to 22 years. As a result, sales within the study area increased after 1930 by 24%. Second owners of these same tracts retained them from 1 year to 26 years. The established ranchers, such as Fred Bradford, James McNatt, and C.C. McNatt seemed to hold their lands the longest. Although Bradford had been hurt financially in the early 1920s, he did not sell until 1930, eleven years after he obtained the property. The majority of all land sales (62%) actually occurred after 1940. These transactions took place on the well field lands which were not taken by HAPB until the late 1950s.

Unfortunately, because the owners were not required to state the exact purchase price on their deed records, it can not be determined whether sales trends reflected depressed market prices. It does appear, from the deeds which indicated purchase price, that improved lands gradually increased in value, but more so after 1940 than prior to that time. This reflects the economic recovery felt throughout the nation as a result of World War II.

Land Development And Use

The use to which settlers put their land determined their role in several patterns with which this study was concerned. The character of land and the natural resources available in these areas dictated settlement patterns and the most profitable use of the land, either farming or ranching. No sites in the area seem to be associated with mining or the construction of the railroad. Land use, in turn, affected the methods of land acquisition, land tenure, and the nature of historic sites. These differences also seem to polarize sites as to location: those in the interior Basin were primarily devoted to ranching and those at the well fields on the alluvial flats to farming. To best illustrate these differences, the two prevalent land uses have been outlined below and are then compared in the following section.

Farm Sites

The majority of the farm sites were discovered on the alluvial flats of the well fields. Two exceptions were Charles Redies farm on the bank of Carter Draw and the Hydes' farm on Red Arroyo, both west of Alamogordo. The alluvial flats of the Sacramento Mountains probably offered the best opportunity for farming in the Basin. Runoff from rains or snowfall in the mountains replenished underground aquifers and narrow and shallow surface drainages used for irrigation. Although water was not overly plentiful, this runoff provided more water than the flats further west and thus, a better chance for productive farming.

The majority of farmers were middle aged newcomers to the Basin who came from Midwestern states, such as Ohio, Iowa, Tennessee, Indiana, Arkansas, and Missouri, in the first decade of the twentieth century when Alamogordo was experiencing rapid growth. Most of the land directly adjacent to the town had already been acquired, so they moved to areas partially developed into small communities such as Camp City near the well fields and Farmer's Flats in the interior Basin. Even the relocation of the railroad headquarters to Carrizozo in 1905, which caused an economic setback for the Alamogordo area, did not deter incoming settlers. All the homestead farmers in the study area arrived after this occurred. Evidently these settlers were lured to the Basin with reports of abundant farm land and water.

The farmers bought improvements from squatters, filed on 160 acre tracts through the Homestead Act, and attempted to meet the cultivation requirements of the law. For the most part, farms in the study area seemed to have been single family subsistence farmsteads. The homesteaders generally planted no more than 20 acres to cane, corn, and vegetables, and they raised fruit trees. Often they allowed the few head of stock they owned to pasture in the fields after harvest. The only evidence of commercialism was found on the Reynolds' dairy around 1910 and Boles' farm in the 1940s. It is possible that if agriculture had been more successful, the early farmers would have sold their produce to the townspeople much as Boles did 30 years later.

Agriculture on the frontier in general was undertaken by persons with little experience in cultivating techniques or in the environment to which they relocated. The same is true in the study area. Farming was conducted by new comers who were unfamiliar with the Basin environment. Unfortunately, their inexperience in an arid climate led to their early downfall. Between 1908 and 1910, when most of these homesteaders were just getting started on their farms, a drought hit much of the Southwest and devastated farmers throughout the territory. The homestead farmers complained of the drought being the reason they could raise no crops. Five out of the seven homesteaders who established farms in the study area reported very poor crop returns between 1909 and 1912. Even those farmers who turned to others more knowledgeable about the area or the Agricultural College could not turn their deficits around. In essence, this economically insecure enterprise created an unstable population. One bad event was all it took for most farmers to give up and move on, a trend which occurred throughout the West during periods of financial setback.

Although they stayed long enough to prove up, soon after receiving their patents the farmers either returned to their home states, like Callie Groom, James McKillip, and the Hydes, or they moved into town, like William Walthall and Arthur Blair, where they probably had more secure jobs. Although these early homesteaders abandoned their land, many did not sell for several years or even at all. The Hydes sold their tract 22 years after they returned to Iowa. The heirs of Groom and McKillip retained ownership until the 1950s when the government condemned the land.

The initial abandonment of these lands was permanent. When the farmers did sell, evidently the new owners did not reoccupy the tracts, and therefore, it is unclear for what purpose the subsequent owners purchased them. The Parks, for example, bought Arthur Blair's homestead, but not only did they have another homestead a 1/2 mile north, they also ran a boarding house in town. One exception to this short term use was Walthall's patent which covered a vast part of the Boles Well Field. The subsequent owners, the Woollens, Russells, Hendersons, Davis, and Boles, resided on the land. The abundant amount of water would have made farming relatively profitable as Boles discovered when he bought the tract in the 1940s. It would seem that the underground reservoir on Boles' tract would have extended past his property boundaries and, therefore, provided enough water to other farmers. For whatever reason, however, the farms south of Boles' never prospered. When the Boles moved to their farm, Betty Jean Johnson remarked that no one lived south of them, further evidence that many tracts were abandoned relatively early and never reoccupied.

In 1947, the military entered into a contract with Boles to buy water. Eight years later, they filed condemnation suits on the land. Even the owners of the unoccupied tracts attempted to get compensation for the profitability of water they never developed. The United States Attorney successfully argued that these people, who never put the water to beneficial use, like Boles, should not be compensated or able to profit from the Government's development of the water under lease agreements. Condemnation proceedings were completed by 1960. Most owners were paid a fixed per acre rate for their land, and Boles received an additional amount as compensation for the water he developed prior to his contract with HAFB.¹⁴

According to Mari Sandoz, daughter of a Great Plains homesteader, "the three immediate needs of the new settler were shelter, food and water".¹⁵ Indeed, in the study area, all farmers tended to have three necessary improvements as also required by the Homestead Act: a house, a well, and cultivated acreage. Usually fencing surrounded a cultivated field to keep cattle and other stock from ruining crops. Many settlers also spent money to enclose their entire claim with a barbed wire fence. Five of the farmers claimed to have already had a house on the land when they established residence. House sizes ranged

from 14'x 16' to 25' x 60', had from one to seven rooms, and there were also two 2 story homes. The homes already built when the settlers moved in tended to be larger, on average 150 square feet larger, than those homesteaders built on their own. This may reflect the fact that homesteaders were attempting to survive on what little income they could raise during the drought. The squatters, on the other hand, built their homes during more productive agricultural seasons, allowing them to profit more from their produce, and therefore, afford larger homes. On the other hand, it may indicate family size. Unfortunately, too little is known about the families of squatters to verify this suggestion.

Secondary improvements located at 63% of the farm sites were sheds or barns and chicken houses. Windmills and earthen tanks were mentioned less often. Although a windmill was close to a necessity, only 50% of the farmers said they had one, and 75% of the windmills were associated with earthen tanks. Only two farmers had cellars, expelling the belief, at least for the study area, that homesteaders built dugouts as first homes and then turned them into root cellars when a frame structure could be afforded. More specialized improvements were related to the income of the residents. For example, the Reynold's dairy had milking sheds. Groom claimed a goat shed, probably an improvement made by Willingham, a goat raiser, from whom she bought the property. Other improvements included a well house, duck houses, and ditches. Only one settler, Callie Groom, mentioned having an outhouse. Either most settlers did not have one or felt it much too obvious to mention. Many accounts of homesteading fail to mention the presence of outhouses, and a few stated that there were none, a terrible discovery for many women who joined their husbands on the frontier.¹⁶ Mrs. Groom's listing may categorize such improvements as a feminine touch, more lady like than using the great outdoors.

Generally, it is believed, by the time of final proof, the original homesteaders had made as many improvements as they planned to make. Tax assessment records show that very few increases in value were made after the patent was issued and while the land was still within the homesteader's name. This dispels the notion that most homesteaders waited until they received their patent to make most of their improvements. The traditional idea was that most settlers would need to mortgage

their property in order to afford improvements, and this could not be done until the patent was issued.

Although homestead farmers claimed to have numerous improvements at the time of receiving their patent, the farm sites' few remaining features do not correspond with the homestead proofs. Although this could be attributed to exaggerated testimonies, it is more probably due to the early abandonment and lack of reuse of the sites which would make them vulnerable to scavenging by nearby residents. The lack of construction materials such as milled lumber is thought to be evidence that the materials had been recycled into improvements on someone else's land. At the two farm sites in the interior Basin, features are non-existent, having been destroyed by later periods of use.

The features which do remain at several of the sites at the well fields consist of those materials which could not easily be removed, such as concrete slabs, or a windmill tower base. Three of the sites have rock alignments or concentrations thought to represent structural foundations. The alignment at HAR-053 has been identified as the remains of Mrs. Groom's six room farm house. Rock materials may have been left behind because of the relative ease with which cobbles could be acquired from one's own property, reducing the need to cart them from another location.

One similarity in all farm sites is the abundance of artifacts representing domestic refuse. It has been postulated that because of the short term occupation of these sites, proper deposition of trash did not become a pressing concern. Many settlers threw all trash into the farmyard and allowed the pigs and chickens to eat the edibles, leaving the non-perishable items strewn about. All farm sites had purple and aqua glass fragments, decorated ceramic fragments, and tin cans. Most had crockery fragments and pots and pans. Half of the sites had the following artifacts: kerosene lamp fragments, window glass shards, lard buckets, railroad spikes, clothing accessories, and livestock items such as horseshoes and wagon parts.

Ranch Sites

By the time many of the farming settlers were abandoning their farms, the second ranching phase was getting started. Ranches tended to be located in the interior Basin where the lack of adequate water sources prevented irrigation farming and thus,

the presence of homesteaders. By 1918, these lands had been classified as chiefly valuable for grazing, but even before that time, most homesteading farmers had the common sense to know that their lifestyle could never survive the rigors that the environment would impose on them. The lands were left open for grazing, and ranchers gladly used it. They generally chose sites with good and ample supplies of grass and water and landforms which would provide protection for stock in inclement weather. The interior Basin offered all these necessities on a limited basis.

Most of the ranchers who moved to the Basin after 1915 came from the Sacramento Mountains where their families had settled prior to 1900. They moved to Alamogordo to send their children to school. This may have been part of the motive, although mountain schools were abundant and continually upgrading to provide adequate educations. Part of the motive may have been an unstated desire to get out from under the restrictions the Forest Service had imposed on the number of livestock that could graze in the mountains. The Alamo National Forest had been established over much of the Sacramentos in 1907, and cutbacks began the following year. Many settlers complained about the management techniques of the Forest Service and moved down to the flats where government control had not yet been asserted. The Basin still offered open range with relatively little competition.

At this time, the ranchers on the lands now encompassed by HAFB were on good terms. They were related by blood and marriage. C.C. and Arthur McNatt were brothers and their cousin James operated just north of them. Fred Bradford's limited operation in the southwest corner of what is now HAFB completed the family picture. Bradford was married to the McNatts' sister, and Bradford's brother was married to C.C. McNatt's oldest daughter. By 1930, they had ranched in the area for up to 15 years and had established unquestionable range rights, unchallenged and unwanted by outsiders. These four families effectively monopolized the open range in the area for almost two decades.

The ranchers used various methods of land acquisition. John Grant, who sold his ranch to James McNatt in 1913, used the Homestead Act to acquire 160 acres. C.A. McNatt also used this method. However, many of the ranchers who came later had previously used their homestead privilege in the mountains, and

too little land had been alienated from the Public Domain to allow for private purchase in the area. Although some early ranchers tried to use the Desert Land Act, these attempts always failed. C.C. McNatt and Fred Bradford chose not to burden themselves with the requirements of the Desert Land Act. McNatt purchased 240 acres from the State after establishing a privilege or right to the land, perhaps by improving it. Bradford used Soldier's scrip he bought from a company in Iowa to acquire 40 acres and a water source near the white sand dunes.

Prior to the late 1920s, the cattle business consisted mainly of range operations, meaning open range conditions in which cattle fended for themselves. Ranchers owned feed crop lands and some water sources strategically placed throughout their range. They relied on range rights, or a "right to a portion of a stream and all the range land back from that stream to the divide which marked the boundary between one stream valley and the next."¹⁷ In the arid Basin, this definition extended to include unowned but improved water sources, such as wells and tanks, and the surrounding range they served. Cattle of other stock owners intruded on this range and the understanding was that one rancher would put these trespassers in their rightful range and others reciprocated the favor.

Because of this system of implied rights, ranch headquarters were separated by expanses of grazing land with isolated windmills or corrals in unlikely places. The ranches in the study area were small in comparison to those in the Basin prior to 1900 or the corporate operations to the south. Consequently, their range improvements were not at such far distances to require over night camps or line shacks. In fact, ranch activity sites consisting only of the range improvement, such as a well or corral, are in direct contrast to the habitations found at wells on McGregor Range. For example, Oliver Lee's extensive operation encompassed a 300,000 acre range with line camps consisting of a house and/or dugout in addition to the well at certain distances from his headquarters.¹⁸

During World War I, undoubtedly many of the Basin ranchers prospered because of an increased need for beef supplies. After the war, with the onset of a nationwide depression and a drought in the Southwest, suffering was inevitable but ranchers seemed to take it in stride. Bradford sent his cattle to better pastures in Mexico but lost them because of the Revolution there. McNatt

leased his property to his son-in-law, but the drought had such terrible effects on the cattle, he pulled out.

By the early 1930s, the ranchers were again beginning to prosper, but changes were occurring which caused slight alterations of their lifestyle. James McNatt sold out to Osie Danley, and Bradford sold his land to Mal Walters. Although these men were in no way related to the McNatts, they were from pioneer ranch families in the mountains. Still, the family monopoly and understanding had ended. The ranchers converted from a "range cattle" operation to a "ranch cattle" business in which livestock were enclosed in fenced pastures and water sources were fenced to keep out trespass cattle.¹⁹ Ranchers bought out nearby residents to acquire land on which other cattle could not legally intrude. The McNatts added more property to their original holdings and moved their home to a more reasonable location. With increased competition, leading to overgrazing, ranchers raised feed crops to supplement the stock's diet through the winter months.

The Taylor Grazing Act brought more changes to the Basin and more conflict. The new Grazing Service gave each rancher control over an area he claimed to have used for the 5 years prior to 1934. These allotments were fenced to impede trespass cattle. Other ranchers' ranges extended into what is now HAFB, including the Aguilar brothers and Sam Hanna on the north near Tularosa Peak. Jewell Danley also filed a Homestead entry and she and her father became partners with Osie Danley. Arguments over who had a prior use privilege to certain lands led to disagreements over fence locations. C.C. McNatt, who had never had problems with his neighbors prior to this time, seemed to be either the main antagonist or the main target. Conflicts were settled, usually in favor of McNatt, by the District Grazier when the two parties could not solve their own problems.

The Grazing Service also slashed the number of livestock to prevent overgrazing, which was a serious concern during the drought conditions of the mid-1930s. In fact, the drought seemed to have a more profound effect on the ranchers than the Depression did. Although in 1932, C.C. McNatt reported that the flats were the wettest he'd seen them in 40 years, two years later drought conditions were thought to be the worst ever.²⁰ The drought made the ranchers acceptable to the new restrictions of the Grazing Service, which were similar to those the Forest

Service had enacted in the mountains. But even sudden cutbacks weren't enough to prevent the damage of the drought. Federal funds were advanced to purchase some of the weakened cattle, and many were destroyed to prevent further hardship.²¹

By the end of the decade, livestock numbers had stabilized and the range conditions gradually improved. The market for beef, which had been depressed since the end of World War I, was beginning to recover in response to the new war. It appears that an increase in mortgages occurred in the late 1930s, probably an attempt by the ranchers to bring themselves out of the depression and drought and get geared up for the new war effort. The fact that ranchers rarely succumbed to the frequent changes in their lifestyle shows the tenacity of the people who undertook livestock operations. Unlike farmers, ranchers tended to ride out the hard times, and commonly reacted to local conditions before allowing national trends to affect them. Despite the ups and downs of their chosen occupations, these family ranch operations endured and prospered. The succession of farms from father to son, as in the cases of C.C. and Doug McNatt, and A.A. and C.A. McNatt, depicts the relative security of the ranching economy.

Unfortunately, by the 1940s, an event occurred which the ranchers could not sustain. In 1942, when the federal government requested the land for use of the Alamogordo Bombing and Gunnery Range, all ranch families were forced off their land with little time or money to acquire new ranches elsewhere. C.A. McNatt was the only one whose headquarters was not taken over, although much of his range was acquired by the military. The other ranchers moved to town, acquired other businesses, and attempted to start over. Some moved out of the state. Osie Danley was permitted to return to his ranch for a short time between 1949 and 1952, but the others were not allowed to even visit until the 1970s, by which time their improvements had been destroyed. The condemnation proceedings drag on until final deeds were signed in 1988.

The ranch headquarter sites shared some consistencies. All three had necessary improvements, such as a house, windmill and well, corrals, and some form of water storage. These are thought to be the minimum requisites for livestock operations. However, upon closer analysis, the three headquarter sites seem to represent three phases of development of a typical ranch. The

Jewell Danley homestead was only in existence for about eight years before the military takeover. Features at this relatively "young" ranch include only the necessary improvements of a house, windmill and well, an earthen reservoir, and a corral. The Osie Danley headquarters represents the second stage of development. It had been occupied by the Danleys for only eight years but had been used previously by James McNatt and John Grant, both of whom probably added improvements as they saw necessary. The features at this site suggest a slightly higher degree of self-sufficiency than Jewell's place. Structures included a larger house with a porch, a privy, chicken house, cellar, windmill and well, storage tanks, an earthen reservoir, and a corral with an attached milking pen.

The McNatt Ranch portrays the final phase and a perception of continuity. The same family occupied this ranch for its 22 year existence and as such, they were able to best judge their needs in the environment with which they had experience. Their improvements represented almost total self sufficiency and intensive long term use. McNatt's headquarters included two houses with porches and associated privies, a workshop, feed shop, saddle house, granary, two wells and a windmill, storage tanks including a cement cistern, and extensive corrals divided to provide space for specialized needs.

Despite their developmental stages, the ranch sites had some structural consistencies which are recognizable mainly from archival sources which describe the features at the ranches. Structures at these sites were primarily box constructed lumber buildings with corrugated tin roofs and block foundations. Houses varied in size from 12'x 20' to 28'x 28' and the size seems to correlate with the amount of time the ranch was occupied.²² Porches were also common additions to houses. Privies were known to be associated with two of the ranch headquarters, but these were the most elusive features and most were not found during site documentation. Livestock features, such as corrals and tanks, were located away from the houses, and at two of the headquarters, the houses were still further surrounded by enclosures, presumably to keep stock away from the house. The differences in corrals at the various sites may represent differences in the way the ranchers controlled their stock. McNatt utilized a fenced pasture method which may explain the extensive corral system at his headquarters. Both Danley

families practiced open herding. Their headquarters have only small corrals probably used to control the milch cows or pigs, but definitely not large herds of cattle.

Other similarities exist between McNatt's and Osie Danley's home. They both had milk pens and saddle houses and some kind of structure for storage. The difference in these structures, a granary at McNatt's and a cellar at Danleys, may relate to the amount of supplemental feeding the two ranchers did. McNatt always fed his cattle in the winter months and had about 40 acres planted in corn and hay. Thus the granary was a necessity for his purposes. Danley, on the other hand, confessed that he fed his stock only on occasion and the majority of the crops were grown at Jewell's place in Hay Draw. The cellar was probably used only to store food for the family.

Another distinguishing characteristic of the ranch sites is an overall scarcity of artifacts other than construction materials. Although all sites have evidence of domestic use, such as glass and ceramic fragments, the percentage of artifacts in relation to site size is very low. Several reasons can be postulated for this. The low presence of trash probably relates to the long term, high intensity occupations of these sites. The reasoning behind this is simply a matter of aesthetics. The longer the occupation, the more trash. Consequently, the trash dump may be an eye sore, smell unpleasant, and may attract unwanted wildlife. Therefore, the families carted it away, or they buried it at the site. In addition, the ranchers had children who could be hurt by glass or metal items laying around the ranch. Susie McNatt explained that they buried their trash in one of the drainages near the main house. The other ranchers probably had similar deposition practices.

The second explanation for the relative dearth of artifacts concerns the conditions under which the families left their homes. All had the understanding that they would be able to return after the war. Thus they probably carefully packed up all their belongings for safe keeping until they could return. Large, non portable items, such as farm equipment, were left behind, but as Mrs. McNatt relates, these items were scavenged and sold for scrap metal. Over the years, bottle hunters have probably removed other potentially valuable archaeological materials.

Differences in Site Locations

The distinguishing factors between those sites located at the well fields and those in the Basin is land use. As discussed in the previous section, land use dictated patterns of land acquisition, settlement patterns, and the nature of the archaeological sites. Table 11 summarizes the major differences between the two areas. Most sites support these distinctions, but there are a few exceptions. These have been noted within the text below.

Table 11. Differences between sites in relation to location.

<u>Interior Basin</u>	<u>Well Fields</u>
Ranching Activities	Agricultural Activities
Otero County Pioneers	Midwestern New Comers
Various Methods Land Acq.	Homestead Act
Later Dates of Use	Earlier Dates of Use
Long term Occupations	Short term Occupations
Continuous Use	No Continuity
Property Units Spread Out	Compact Property Units
Associated Sites	Single Site
Sparse Artifact Assemblage	Dense Artifact Assemblage
Discernable Features	Unidentifiable Features
Self Sufficiency	Community Ties
Successful	Failures

The interior Basin sites were ranches developed by pioneers of Otero County who had ranched in the Sacramento Mountains before moving to the Basin. These individuals acquired spread out property units along large draws by various land acquisition methods, and also utilized associated activity sites on federal property. The sites tended to date later in time than the farms sites; many of the ranchers did not move to the Basin until around 1920 (exception: HAR-042, Grant's Homestead, 1907). Once these sites were sold to new owners, they were reoccupied continuously until 1942 when the military came in. Turn over

rates were low, and one site was continuously occupied by the same family for nearly 27 years. Ranch sites had numerous lumber structures, still identifiable from surface remains, but a relatively small associated artifact assemblage (exception: HAR-034, Fred Bradford's ranch site on Lost River).

The farm sites were located on the well field properties, alluvial flats adjacent to the Sacramento Mountains (exceptions: HAR-061, Charles Redies Farm on Carter Draw; LA 103410, William Hyde's Homestead on Red Arroyo, both in the interior Basin). These farms went through two stages of use: the first by squatters and the second by Midwestern new comers who legally acquired the land through the Homestead Act early in the 20th century. Once the legal owners abandoned the land shortly after patenting, the sites were not reoccupied by subsequent owners. The average time span for habitation by homesteaders was four years (exception: HAR-051, Luther Boles Farm, continuously occupied between 1910-1957). Farm sites are singular in that one person is associated with only one site. The features are difficult to identify based on the scarcity of construction materials. They do, however, have large characteristic artifact assemblages which produced numerous diagnostic items.

Effects of the Military on Area Residents

When the Alamogordo Bombing and Gunnery Range was established in 1942, there were only four families living on the land now encompassed by HAFB. Three of these families: Doug and Susie McNatt, Claude and Jewell Danley, and Osie and Garnie Danley, were ranchers in the interior Basin. By the beginning of January 1942, all had been informed that their federal grazing leases had been suspended. This forced them to graze their cattle on their privately owned lands, which encompassed but a small minority of their ranch units. Within a month, the ranchers were told they had to move off their private lands as well. The events which transpired over the next 46 years has been treated in other areas of this report and will not be restated here. The main concern is to discuss how the establishment of the Base affected the land owners in the study area.

Susie McNatt's feelings toward the event were understandably bitter. She and Doug were waiting to hear about a loan they had applied for so they could purchase Doug's father's interest in the ranch. With the military taking, they didn't get the loan or the property. She recalled the uncertainty they felt about when and what kind of compensation they would receive, making it virtually impossible to find another ranch. Consolations that their property, including the leased grazing lands, would be returned when the war ended, were short lived when at the end of one lease period the government demanded another. In the meantime, the McNatts purchased a dairy and tried to start over. When the war ended, the McNatts hoped to be able to return to their ranch so they sold the dairy. Unfortunately, the government condemned the land again and Doug was forced to go to work for the Base, where he continually lost his jobs to veterans.

The McNatt's absence from their property took its toll on both the family and their ranch. Although Susie McNatt recognized that everyone had to make sacrifices, she felt that the worst part of not being able to return to the ranch was the effect it had on her three sons, "at an age when boys should be in the country helping with chores and ranch work instead of in town where they had too few chores and not much recreation other than school and church." She also lamented the effect on her husband, "Doug was so unhappy those last years of his life....He was sick for six years before he died and the sicker he got the more bitter he got about how they treated us." She summed up her feelings by saying, "I cannot tell of the pain and turmoil and anger and bitterness this whole thing has caused my family....Their lives would have been so much easier if we had kept the ranch."²³

The ranch property fared little better during the absence of the McNatts. Although the COE promised that all improvements would be restored to their original condition at the time of taking, the military apparently did little to protect the houses, outbuildings, and crop land. According to Susie McNatt,

"We were not allowed to use our ranch, although our neighbors, just off of the Government land, tore down our fences and used our range and fields...for their own cows.... We were fenced out for years and couldn't

even see the place. We did get on it, without a permit, in the summer of 1976. It was a heartbreaking sight. Our houses and other buildings, as well as the corrals and other fences, had been torn down and taken away. Our windmill had been torn down and dragged several hundred feet and torn to pieces. What couldn't be torn down and taken away was torn up with bulldozers. All our farm equipment had been stolen and sold for scrap iron soon after we left the ranch. All we got was our housekeeping furniture, personal items, and what money we could get from the sale of the cows and horses."²⁴

She believed that even if they had been able to move back to the land, they would never have been able to get it back into working condition. Too much damage and too little money would have deterred them.

The Osie Danley family was able to return in 1944, but were again forced off in 1952. Tommy Danley, Osie Danley's son, was still quite young when these events were taking place, and he showed little bitterness toward the government for taking the family ranch. Perhaps their animosity towards the military was low because the family was able to continue the lifestyle they had practiced for the previous two decades. Osie Danley was able to purchase some property north of HAFB's boundaries and to begin ranching again shortly after the second condemnation proceeding. Jewell and Claude Danley both left the state shortly after 1942 and did not return.

In addition to the ranchers, the landowners at the well fields were affected. Most of these individuals did not reside on their property, lessening the blow of losing their land. Luther Boles, on the other hand, was living on the land until 15 years after the Base was established and the ranchers left their homes. He entered into a contract with HAFB to sell water out of his wells and then proceeded to add more land to his property so he could sell more water. Boles became a Civil Service employee of the Base, decided where the wells would be located, maintained the equipment, and trained Base personnel in managing the water. The Base, in turn, built a new road into the well field and Boles home and gave him free access to electricity which the Base had provided for the well pumps. When he was told, eight years after

he had approached HAFB about the water, that the military had condemned his land, Luther Boles was deeply angered.

According to Boles daughter, Betty Jean Johnson, the entire family felt it was unfair for the Base to treat him as they did, "because he felt like the government was very satisfied because we weren't ripping the government off by charging them high prices."²⁵ She stresses that the family never saw the eviction coming and were taken by complete surprise on the day that the Base Commander came to the house and told them the news. They originally had 30 days to vacate the property, but were given an extension when they complained of the hardship the move was causing the family.

The event had lasting effects on Luther Boles, according to his daughter. Like Susie McNatt, she also believed that the condemnation was the reason for her father's illness later in life and his early death. Johnson and her brother, Luther Calvin Boles, Jr., told Secretary of Interior Manuel Lujan, Jr., "we know his bad health was brought on because of stress that the government put him through. He had several heart attacks and was on oxygen until he died in 1965 of a massive heart attack."²⁶

In addition to the problems it caused her father's health, Johnson maintains that the paltry price the government paid, \$40,100 for the land and \$34,900 for the water, was not close to the value of the resource or the livelihood of her father. The Boles family believes more respect should have been paid to Luther Boles, who provided "the life line" to HAFB.

"Mr. Boles was a HERO to Alamogordo, Holloman Air Force Base and the United States government and in return the government stripped him of everything dear to him and made him start his life over again at the age of 57 and in poor health."²⁷

The heirs of Luther Boles have written numerous letters to government officials asking for additional compensation, but have received no satisfaction.

After the government condemned his land, Luther Boles purchased a tract directly across Highway 54 from his profitable farm. He subdivided it and sold lots for development in what is now called Boles Acres. His first farm did not fair well from government condemnation. Shortly after the family moved, HAFB

sold their residence and moved it to the new Boles community. The outbuildings were apparently bulldozed and the ornamental trees were cut down. The improvements of the farm are too destroyed and displaced to adequately identify.

At the time, as well as today, the McNatts and the Boles both recognized the duty and the sacrifice they had to make for their country. An article by Don Bonnell in the March 5, 1942 issue of the Alamogordo News summarizes how they must have felt at the "Declaration of Taking". He editorialized,

"To some this had been their home since childhood. They grew up to love what had always been their home.... To them this year had the most favorable outlook of any they had known. Good grass, good prices.... All of them I have talked to said something like this: 'If it takes this to win the war, well, there she is.' ...we all will have to give. But the man who gives without grumbling is the real American."²⁸

Today, however, both families reflect sadly about the way they feel they were treated. The lack of adequate compensation for the spoiling of their livelihoods seems to be of utmost important, more so than the actual value of the land. Both families felt that the government took away the only lifestyle they ever desired, and the process of starting over was a difficult transition to make. Their feelings are no different from those of the many ranchers displaced by WSMR or Fort Bliss' McGregor Range. When looking back on the events of the mid-20th century, the same people, who reluctantly sacrificed their homes for the general defense, even now feel bitter towards a government who they feel did not protect their rights as patriotic citizens.

Contradictions in the Data

It was discovered that, for the sites at which both oral and archival resources were available, the recovered information from one source corresponded with and complimented the other. For example, photographs from the COE files were helpful during the

interviews. Seeing pictures of their old homes brought back memories of living arrangements and conditions that otherwise may not have been related. Still, once research was finished and all sources of information were compared, it became obvious that each interview was limited in some respect. Gaps in the oral information are not necessarily attributable only to the informant's recollections. The author must also take responsibility for either not knowing enough to ask the right questions or for not following up on basic statements which could have been elaborated.

Interviews were conducted with three females and one male. All three had lived at the ranches or farms with which their families were associated. The three females lived or worked at the sites when in their 20s and 30s, or in the case of Carrie Green, even later in life. Their recollections were vivid and could be verified with historic documents, but each interview contained gaps or was influenced by the biases of the informant. Susie McNatt was directly involved in the operation of McNatt Ranch (HAR-047), but she related little about actual ranching activities. Betty Jean Johnson was young when her family moved to the Boles' farm (HAR-051), but she returned to live there after she was married. She remembered her father's activities, the types of structures that were on the farm, and other items traditionally associated with the male gender. Her memories about the productiveness of the farm and actual farm life, however, were biased due to her feelings of betrayal by the military. Carrie Green, who grazes her cattle at LA 103410 during the winter months, was very familiar with ranching operations because she and her husband cared for the cattle together. She was not as familiar, however, with the dates certain improvements were constructed simply because items like the well or windmill were already on the land when they purchased it.

Tommy Danley, the only male interviewed, was relatively young when his family resided at HAR-042. In addition, because of his busy schedule, the interview was conducted mainly to determine the functions and dates of construction of the features. Therefore, information about ranching activities was limited. A more in depth interview with him when his schedule permits may fill in gaps about operation of the family ranch.

A greater discrepancy was noted between the archival and archaeological resources. Information from the Homestead Proofs rarely corresponded with site remains. Most features claimed at the farm sites were not located and dimensions given in the testimonies did not correlate with feature size. Although one explanation may have been due to exaggerations or misrepresentations made by homesteaders in order to secure land patents, this is not thought to be the case in the study area for several reasons.

It is believed that untruths would have been made more commonly by speculators or persons having only a profit related interest in the land, not by serious minded homesteaders. If settlers were to exaggerate about their improvements, they probably would do so sparingly. The Homestead Act required only the construction of a house and a small percentage of cultivation. Claiming improvements which may not exist in addition to a house which does would gain them nothing in the eyes of the Land Office. Instead, they may have indicated more land in cultivation than they actually had. Secondly, it would be easier to suggest fraud if several proofs indicated far more improvements than others under the same environmental conditions, or if homesteaders had not indicated their efforts for success despite the drought. In addition, if homesteads had been sold immediately after patent at a high profit, fraud may be suspected. The fact that the homesteaders in the study area experienced failure due to drought, retained their property for several years before selling, made little to no profit when they did sell, listed improvements far in excess of those required for patent, and expressed relative uniformity in the types of improvements that they claimed, suggest good faith effort and honesty in establishing homes.

Instead of fraud, the inability to locate claimed features seems to be due to the early abandonment of the sites resulting in the possible recycling of construction materials by nearby residents and/or deterioration and destruction by natural processes. Discrepancies in size are thought to be due to human error, either on the part of the settlers or on the part of the archaeologist. Settlers may have overestimated or guessed the size of their structures or the feature may have been inaccurately measured (by pacing) when the site was documented. Conversions of estimated field dimensions from meters to feet may

also have caused discrepancies in regards to feature size. This also occurred at the ranch sites, at which the feature dimensions did not match those given by the COE.

Explanations of discrepancies between archival and artifactual information can only be supported by archaeological testing. In addition, gaps in the historical data can be filled with artifact analysis and patterning studies. Recommendations for further work at these sites has been given throughout the report.

SUMMARY AND CONCLUSIONS

The historic settlement of lands now administered by HAFB began in the early 1880s by squatters on the Public Domain and lasted through the military takeover of the land in the 1940s and 1950s. Unfortunately, the earliest occupations, those prior to 1900, are not well represented in either the archaeological or the archival records and, therefore, remains relatively unknown. After the turn of the century, more settlers established themselves in the area and many archaeological sites remain to mark their use of the land.

The research points to one comprehensive division of the sites into two prevalent land uses which seems to polarize the sites in regard to many relevant research questions. Ranching sites are located in the interior Basin and are located on lands acquired through various methods, such as the Homestead Act, the use of land scrip, and purchase from the State. These sites were occupied by pioneer ranching families from the Sacramento Mountains who were familiar with the environment. Their experience with ranching and the arid lands allowed them to persevere and survive in the Tularosa Basin until the middle of the century. Farm sites are located at the well field properties near the alluvial flats, and most of these lands were acquired through the Homestead Act. Primarily established by new comers from Midwestern states, the farms failed because of the relative inexperience of the settlers with the marginal environment into which they were lured.

The differences in land use have dictated not only settlement patterns and ultimate consequences, but also the appearance of the archaeological sites today. Because the farm sites were abandoned early in the century, very little remains as evidence of the settler's fatal efforts at survival. Ranch sites, on the other hand, were occupied until the 1940s, and their inclusion since that time within HAFB boundaries has ensured their protection against outside vandalism, even though the military itself has destroyed many of the features. As a result, much of the history of the farm sites was obtained through historic records, where as the ranch sites were more easily documented through informant interviews.

In conclusion, the documentation of 26 research areas has shown that the historical settlement of HAFB is intimately linked

with economic activities which made the marginal Tularosa Basin viable in the first half of the twentieth century. They have provided an abundance of information regarding settlement, land use, and land acquisition patterns and offer insight into the difficult task of living in an arid and hostile environment. Rock alignments and artifacts remain as testimony to the hardships faced by farmers who ultimately failed and abandoned their homes. Lumber structures, tanks, and windmills are evidence of ranching activities sustained through the use of large areas of Public Domain and the perseverance of hardy pioneers who struggled to survive drought and depression only to eventually lose their land to their country, for their country's own survival.

The sites reflect the development of a frontier environment into a prosperous region which continues to progress with the help of Holloman Air Force Base today. It is much to the credit of the Department of Defense that they have initiated a program in which the foundations upon which the regions their installations now serve can be investigated and documented. Although the physical remains of habitations on the lands now administered by HAFB consists primarily of piles of lumber, rock alignments, and fragments of domestic refuse, this report provides the background necessary to understand the channels through which the legacy of historic settlement was produced.

ANALYSIS OF THE HISTORIC RANCH PROJECT

The Historic Ranch Project consisted of two phases. The first entailed a pedestrian survey of units likely to include historic period sites. The second phase encompassed in depth archival research to determine the histories behind the historic sites located during the survey. An analysis of the methods employed for this project will help other institutions desiring similar studies to adapt it to their own needs, funds, and time restraints.

The judgmental sample units were chosen from various sources. GLO survey plats and early USGS topographic maps were used to locate references to historic habitations on lands now encompassed by HAFB. Current topographic maps delineated water sources which would have been a focal point for historic settlement, and a 1958 HAFB map and informant information added to the list of potential survey areas. Finally, survey areas around known historic refuse deposits concluded the list. It was believed that structural remains may be found in association with these dumps if larger areas were surveyed around them.

All potential site areas were plotted on 7.5 minute USGS topographic maps. Forty acre survey boundaries were then established around the potential sites to provide for inaccuracies due to differing map scales. These survey boundaries were then modified to the environmental conditions. For example, survey was not conducted within major draws, but the base of the slope was investigated, as were clumps of trees, visible fence posts, and other potential evidence of historic habitations. Survey boundaries were also adapted to cultural and natural features in order to provide for easier relocation in the future.

All sites within the survey areas were recorded, including military, prehistoric, and historic period sites. Cultural boundaries were delineated, pace and compass maps were completed, and a basic surface artifact inventory was conducted. No testing, excavation, or extensive artifact analysis was done. Fence lines and sites were plotted on topographic maps.

The survey of 734 acres resulted in the location of 26 new archaeological sites including 13 historic, 2 military, 8 prehistoric, and 3 multi-component sites. The success rate of the judgmental sample was excellent for locating historic period

sites. Historic sites were found in 8 of the 14 survey areas with the potential for these sites (57%). This does not include those areas with previously known sites. Five (31%) of the 16 historic sites (including multi-component sites but excluding military sites) had been predicted by early GLO plats or other historic maps showing house locations, and three (19%) were located at water sources indicated on historic or current maps. The remaining four sites were known to exist prior to the survey.

Overall 24% (n=5) of the survey areas did not yield historic period sites. There are a number of explanations why sites were not located in these areas, and many of these reasons were determined only after the historic research had been conducted. They included inaccuracies of historic maps, ephemeral nature of the very early habitations, problems of plotting due to differing scales of the maps, and total obliteration by later occupations or use of the land.

First, inaccuracies of the 1908 GLO survey plat resulted in a survey area (Area 19) plotted north of where the Bert Harris house should have been located. Mistakes in these early plats were not a singular event as can be seen in the 1899 New Mexico Surveyor General's comments to the Commissioner of the GLO about the inadequacy of many of the surveys executed under contract in New Mexico.¹ However, inaccuracies on the GLO plats were only one problem associated with the use of historic maps to plot survey areas. It is believed that, because the scale of the GLO maps differed from the 7.5 minute maps onto which indications of historic habitations were transferred, the 1882 ranch in Area 4 was not located where the survey was plotted. Of course, the inability to find the site may also suggest that the relative earliness of the habitation and the potentially ephemeral nature of squatter improvements have resulted in no remaining evidence for archaeologists to find.

Early maps were not the only survey documents which proved difficult to use. A 1958 HAFB map indicated "ruins" in Area 20 but did not indicate exactly where they were located. Survey of a 40 acre tract in that vicinity revealed no evidence of the ruins. While leaving the area, however, several fence posts were noted in the nearby draw. An investigation resulted in the discovery of the ruins, HAR-063, less than 100 meters west of the survey area.

Finally, the last explanation for not locating potential sites is due to later use of the land which can obliterate all evidence of the earliest occupations. The majority of the sites have been affected by later impacts, but not to the extent of Area 11 where J.L. Burns house was supposed to have been located in 1911. Intensive use of the area for an auto collection yard and residence in the 1960s had destroyed all evidence of Burns' squatter improvements.

The last survey area which did not yield a pre-military historic site was Area 6, chosen because of the presence of the Salt Lakes, a natural water source which would have been a focal point for settlement. Water control features indicated historic use of the area but not as a habitation site. However, HSR located a refuse scatter (HAR-034) just north of the survey boundaries during a different project.

Several of the instances in which the historic sites were not found could have been corrected had the research been conducted prior to the survey. Also, several other survey areas could have been added to the sample. On the other hand, because one of the main goals was to document the history of land use on lands now encompassed by HAFB, the survey would not have been necessary to complete this project. However, corroboration of historic documents with the site remains has given greater insight into the lifestyles of the people who once inhabited these lands, in addition to providing future areas of archaeological research when time and/or funds permit.

Therefore, determining the extent of a project should be based on the goals of the resource manager. If interested only in the site histories, survey would delineate the areas of research, thus making the research more efficient and less time consuming. It should be noted that even using known settlement patterns and historic maps to produce a sampling strategy will not enable a surveyor to locate all historic period sites. There will always be some sites which defy patterning. If, on the other hand, one is interested in both a history of land use and how it is represented by archaeological sites, it would be most efficient to conduct the research prior to determining the survey areas.

Based on the results of this project, the following is a list of suggestions that will allow other installations to alter the methodology to best fit their needs or resources.

I. If the main goal is to produce a history of land use on an installation and to determine how it is reflected in the archaeological resource, conduct the research first.

A. Researching the historic documents will ensure better delineations of survey areas and additions of others that may not fit within known or expected settlement patterns.

B. Better decisions and identifications on the ground can be made if it is known ahead of time what type of site to expect.

C. Research will provide information about occupants' adaptations of the environment to fit their own needs, an aspect often overlooked by during site documentation.

D. Conducting research first will also prevent numerous site visits to compare historic information to the site remains, thereby saving money, time, and effort.

E. If an installations has evidence of ranching activities, if you do, conducting the research first will help the archaeologist locate all range improvements associated with one rancher, especially if the activity took place after the Taylor Grazing Act was instituted. Because these improvements were so important to the efficiency of ranch life, they need to be located and linked with the proper headquarters. Often they do not follow expected settlement patterns, making them difficult to locate even using the means outlined for this project, and surveying all 16,000 acres of a ranch unit would be prohibitive. Therefore, research will narrow down the potential locations of these sites.

F. Do not allow the research to limit the survey. Squatters habitations, for example, often can be found only by using sound sampling strategy based on known settlement patterns, such as water sources.

G. The sources to utilize when funds and time are restricted:

1. BLM Historical Indexes and Serial Registers
2. Homestead Proofs
3. Courthouse deed records

These sources will provide a minimum amount of information regarding the owners of sites, dates of use, and type of use.

H. If possible, the following sources will provide further information regarding the nature of the individuals associated with the sites:

1. Grazing Service Range Reports provide information on the ranch operations, ranch improvements, quarrels between ranchers, carrying capacity, and changes in the operation through time.

2. Local Newspapers, especially the social columns, provide personal information about the individuals, such as what occupations they practiced in addition to the ranch or homestead, what types of entertainment they had, when they leased their land to other farmers or ranchers, their hardships and joys, etc. Newspapers are a very challenging and time consuming source, but can provide important information when no other records exist.

3. Census records: family size, age, occupation, nativity.

I. Be aware of the limitations of sources and try to corroborate information with other sources. Internal criticism is especially important.

J. Conduct oral interviews after archival research and site documentation. This will allow researchers to:

1. Gear questions toward what is on the ground.

2. Make personal associations with each informant, thus avoiding generalizations.

3. Familiarize themselves with the environment.

4. Explain the meaning behind some of the questions to informants. Informants seem to be more receptive if the interviewers already are familiar with their background. They especially enjoy identifying pictures of the site.

5. If informants are receptive, they should be taken to the site. This makes their recollections even more vivid. In addition, features can be identified and other features can be located.

II. If funds do not permit research at the time, but a survey is desired for an inventory of historic sites, the following suggestions may help:

A. Do some general reading about the area/region first. This will help with settlement patterns as well as site identifications by providing information about prevalent land uses of the past.

B. Chose survey areas from BLM indexes as well as GLO plats, current maps, or oral information. These indexes provide property units which were acquired from the Public Domain under various land laws. Plot these on 7.5 minute maps and then determine survey areas in correlation with other maps. This may also provide more survey areas which do not correlate with expected settlement patterns. Knowing the full range of land an individual had will also help identify additional improvements which may have been located at a distance from the farm yard or ranch headquarters.

C. Do not underestimate the importance of roads noted on GLO plats for determining settlement patterns. These should be used when plotting survey areas.

D. When plotting survey areas around GLO derived locations, plan for larger tracts than the 40 acres used for this project. This will help avoid missing the site if the survey plat was inaccurate.

E. Be aware that the earliest habitations may rarely have any remaining indications. This is dependent, of course, on later land uses on individual installations.

F. When documenting sites prior to research:

1. Document the sites in feet as well as meters. This makes it easier to compare to historic information when research can be conducted.

2. Be aware of the surrounding landscape. Look for old road beds, crop land, etc. These too are important aspects of site use.

3. Realize that later use of a site is not simply site disturbance. It may be a very important part of the site's history.

As a final note, it should be remembered that, unlike surveys, which can be done rapidly and inexpensively, historic research is time consuming. Thus the same approach to budgeting can not be used. Historic records are scattered throughout the country in various agencies holdings. Travel is imminent but productive. The reproduction of historic photographs, maps, and other documents are necessary expenses as well. Also, because research results often are not as unequivocal as those from surveys, researchers should be given adequate time to produce quality products, and also ample discretion to revise the research design when necessary. Although priorities should be set, the researcher is often in a better position than the resource manager to determine other directions the project could take.

RECOMMENDATIONS

National Register Recommendations

Table 12 summarizes the recommendations made for the various sites throughout the report. Seventeen of the 22 sites are potentially eligible to the National Register of Historic Places. This includes ten under Criterion D, two under Criterion A, and five under both Criteria A and D. Those sites eligible under Criterion A, association with events that have made a significant contribution to the broad patterns of our history, represent a trend toward cattle ranching as the major economic activity in the Tularosa Basin in the first half of the 20th century. Ranching also provided for use of marginal lands which otherwise would have remained vacant. The sites portray life in an arid and hostile environment, as well as family adaptations to the region. Finally, the displacement of the ranchers by the Alamogordo Bombing Range is also significant to the local area. It marked the end of a traditional lifeway in the Basin and seriously affected the way many perceived their government.

The McNatt Ranch is especially interesting because the entire ranch operation was contained within the current HAFB boundaries. It included a headquarters and range improvements. The sites collectively portray integrity of setting and design, adaptations to marginal environments, and land use patterns. They visibly reflect the importance of ranching in the Tularosa Basin in the first half of this century.

Sites eligible under Criterion D, information potential, are considered noteworthy for the amount of information which could be derived from analysis of the artifact assemblages and limited testing. Several possible research questions for artifact studies are given in the following section on further research.

Five of the sites are not considered eligible to the National Register. Their research potential has been exhausted by the documentation provided in this report. These sites include HAR-052, a military period well head; HAR-064, a corral; HAR-054, Reynolds Dairy; HAR-086, Singleton's Homestead; and LA 103411, Dillard Well. HAR-054 may have eligibility if permission could be obtained from the private land owner to record the part of the site on their land. In the meantime, the research potential of the portion on HAFB has been exhausted. HAR-086 and LA 103411

Table 12. National Register Eligibility

Site #	Eligibility	Criterion	Integrity			Research Potential		
			Design	Setting	Feeling	Assoc.	Historical	Testing
HAR-008	Potential	A, D				X	X	X
HAR-012	Potential	A, D				X	X	X
HAR-014	Potential	D					X	X
HAR-019	Potential	D				X	X	X
HAR-034	Potential	D					X	X
HAR-042	Potential	A, D	X	X	X	X	X	X
HAR-045	Potential	D						X
HAR-047	Potential	A, D	X	X	X	X	X	X
HAR-049	Potential	A			X	X		X
HAR-051	Potential	A (?), D				X		X
HAR-052	No							
HAR-053	Potential	D				X	X	X
HAR-054	No							
HAR-055	Potential	D				X	X	X
HAR-057	Potential	A		X	X	X	X	X
HAR-061	Potential	D				X	X	X
HAR-063	Potential	D					X	X
HAR-064	No							
HAR-065	Potential	D					X	X
HAR-086	No							
LA 103410	Potential	D				X	X	X
LA 103411	No							

have been so heavily modified by recent changes that they do not have any remaining historical integrity or significance.

Management Considerations

Several of the sites have undergone impacts by military development, vandalism, or natural elements. For the most part, the disturbances to the sites can not be prevented. Signs have been erected at HAR-047 to retard vandalism, and occasional monitoring of sites known to be susceptible to this type of impact, such as HAR-061 and HAR-065, should be considered. Because they are cultural resources, all sites should be avoided in the event that ground disturbing activities are planned in their vicinity.

Further Research Possibilities

This project has been perceived as only the first and second steps in determining true patterns of historical settlement on lands administered by HAFB. A domain of historic sites has been located and these have been documented with the use of historic records to provide a general picture of land use prior to the establishment of the Base. A third step, archaeological studies, in the form of testing and artifact analysis, has been suggested for most of the historic sites discussed in this report. The historical information presented herein ultimately should be verified through archaeology and the latter discipline could aid in the location and/or identification of various features at the sites.

It is the artifact assemblages, however, which are believed to retain the greatest research value. Extensive artifact analysis would add substantially to knowledge of these sites as well as to an understanding of historic sites in the Southwest in general. It seems too ambitious to suggest that studies done for the sites in the project area could contribute to site patterns throughout the West, but it is believed that answers to the research questions suggested below can add to or influence studies done in other areas of the frontier. At the very least

it can add to the comparable data base which is steadily being compiled.

Although it is beyond the scope of this project to provide an extensive research design for future studies, the following is a list of potential research questions which could be used in correlation with the site histories produced in this report. The wide variety of sites, such as women's homesteads, bachelor homesteads, family farms and ranches, and specialized activity sites, as well as the large diverse artifact assemblages, provide an excellent resource base for the studies proposed below.

1. Site distinctions:

Can frequencies of certain artifact types provide information about site activities and inhabitants? Is there a correlation between artifacts and land use? Is there any difference in assemblages at female occupied sites and those inhabited by men? Is there a difference in those associated with single person homesteads and family households? Between permanent habitations and temporary sites?

2. Subsistence patterns:

Can artifact types provide information on consumer behavior in terms of preference, use, reuse, and disposal techniques? Are there patterns which can be related to gender, household size, permanency, or economic activity? Do consumers have a choice in the items they use, or are they limited by market availability? Is market accessibility visible in the assemblages? Do sites which are closer to town have larger assemblages? Is the degree of self-sufficiency notable? Can an assemblage provide indicators of fluctuating dependency on primary or secondary subsistence? How important were mail order catalogs in providing for the needs of settlers?

3. Frontier adaptations:

What changes through time are noted in the artifact assemblage which may represent modification of lifestyle to meet environmental conditions? Are changes in relation to national trends visible in the site assemblage? How do assemblages from sites in marginal environments compare to those in other areas of the West? How do artifacts from isolated homesteads compare to

those assemblages from towns, mining camps, or other human communities?

4. What differences in assemblages exist between sites occupied in the early 1900s and those occupied after, for example, 1930?

5. Can patterns discerned through these studies be used to draw generalizations about sites for which no historical documentation can be located?

In addition to archaeological investigations at sites already documented, there is potential to locate additional historic sites on HAFB. In the course of the research, it was found that Albert Barrett, Kenneth Ellerton, Marion Jones, Jose Estrada, John Drake, the Musselwhites, and perhaps George Doggett at some point resided on lands now administered by HAFB. Much of the historical research for these individuals is already complete and locating the sites would add to the data base and the patterns discussed above. (Maps for locating these potential sites have been given to the HAFB Archaeologist and are not included in this report.)

Recommendations have been made for videotaped interviews with the informants contacted for this project. Also, Don Taylor should be considered and a more complete interview with Tommy Danley would be advantageous. Further historical studies, mainly in the form of comparing the HAFB information with other similar studies in the region, is recommended. The patterns visible on HAFB are of a restrictive value, but do add to a comparative data base. It should be remembered that HAFB administers the smallest amount of acreage of all federal agencies operating in the Basin, all of which played similar roles in altering the economy of the region. Projects similar to the one reported on here are currently being undertaken by Fort Bliss and WSMR, and these, together with the patterns discerned for this project, could be synthesized to create a viable model of settlement patterns for the Tularosa Basin. Such an assessment would be useful far beyond the confines of the Base and Tularosa Basin region.

ENDNOTES

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14. New Mexico Tract Book. Volume 70, RG 49. Records of the Bureau of Land Management, New Mexico State Office, Washington National Records Center, Suitland, Maryland. Hereafter cited as WNRC.

15. United States Bureau of the Census, Thirteenth Census of the United States, Otero County, New Mexico, Roll 916 (Washington, D.C.: Government Printing Office (GPO), 1910), 145; Otero County Advertiser March 10, 1906, 3:2; Alamogordo News April 11, 1908, 8:2; Otero County Advertiser April 7, 1906, 3:2.

16. "Homestead Entry, Final Proof, Testimony of Claimant," September 25, 1906, in "Cash Entries," Box 137, File 2189, RG 49, WNRC.

17. Otero County Advertiser, November 3, 1906, 3:1; Chattel Mortgage Book 26:96, OCCO.

18. "Testimony of Claimant"; Tax Assessment Record Book for 1906. Tax Assessment Records for the first two decades of the 20th Century are stored at the Alamogordo Chamber of Commerce Museum, Alamogordo, New Mexico.

19. Alamogordo News March 7, 1908, 2:1.

20. Warranty Deed Book 44:252, OCCO; Tax Assessment Record Book for 1911, 124.

21. Tax Assessment Record Book for 1917, 46.

22. Warranty Deed Book 119:399, OCCO.

23. "Alexander Danley Family," 131.
24. Osie, Claude, and Jewell Danley, Letter to US Department of the Interior, Division of Grazing," February 4, 1936, Danley File, BLM. The discrepancy between the dates on this letter and that on the Warranty Deed probably represents the time it took the Danleys to purchase the McNatt Ranch in full.
25. Tommy Danley, Personal Communication with the Author, June 8, 1994.
26. Warranty Deed Book 651: 396, OCCO.
27. "Schedule of Improvements, Lease and Suspension Agreement, Osie and Garnie Danley and USA," December 7, 1950, in Historical Files, Army Corps of Engineers, Albuquerque, New Mexico. Hereafter cited as 1950 Danley Schedule, COE. Tommy Danley Communication, July 27, 1994.
28. 1950 Danley Schedule, COE; Tommy Danley Communication, July 27, 1994.
29. Tommy Danley Communication, July 27, 1994; 1950 Danley Schedule, COE.
30. 1949 Danley Schedule, COE; 1950 Danley Schedule, COE.
31. 1950 Danley Schedule, COE.
32. "Water Rating Data".
33. R.G. Thompson, "Range Surveys, Appeals, Special Investigations," May 21, 1941, in Danley File, BLM.
34. Tommy Danley Communication, July 27, 1994. According to the Danleys, the drilled well was also called Grant Spring and it had been developed by J.M. McNatt around 1900. This information seems to be false as the McNatts did not acquire the land until 1913. At any rate, it shows the confusion encountered when attempting to identify the features and also the contradictions present in a variety of historical documents. "Affadavit of Private Water and Public Domain Use," April 19, 1938, Danley File, BLM.
35. Tommy Danley Communication, June 8, 1994.
36. "Application for Grazing Permit".
37. P.R. Adair, Field Examiner, Memorandum for File, May 17, 1940, "Studies and Reports," DFRC; "Hearing Cases and Special Investigations," November 20, 1939, Danley File, BLM; J.R. Ahl, District Grazier, Memorandum for File, October 10, 1939, Danley File, BLM.

38. Mr. and Mrs. Danley Interview; Tommy Danley Communication, June 8, 1994; "Grazing Unit Description," February 10, 1939, in "Studies and Reports," DFRC.

39. Susie McNatt, Interview with Author, HAFB, June 8, 1994.

40. "Record of Evidence of Land Ownership or Control," April 1, 1952; and "Summary--Carrying Capacity" April 30, 1952; both in "Studies and Reports." DFRC.

Notes for C.C. McNatt Ranch

1. Martyn D. Tagg, "Owl Well Site Documentation," Holloman Air Force Base Report No. 1993-015, 1993.

2. Desert Land Entry Register, in Record Group 49. Records of the Bureau of Land Management. New Mexico State Office, Denver Federal Records Center, Lakewood, Colorado. Hereafter cited as RG 49, DFRC; "Affadavit of Witness--Thomas Frazier," May 20, 1903, in Cancelled Desert Land Entries, Box 206, File 991, RG 49. Records of the Bureau of Land Management. New Mexico State Office, Washington National Records Center, Suitland, Maryland. Hereafter cited as RG 49, WNRC.

3. United States Bureau of the Census, Thirteenth Census of the United States, Otero County, New Mexico, Roll 916 (Washington, D.C.: Government Printing Office (GPO), 1910), 152.

4. New Mexico Tract Book. Volume 70, in RG 49, WNRC.

5. Serial Register. R8E, RG 49, DFRC.

6. Ibid.

7. State Land Sale No. 269, in State Land Office files, State Land Office, Santa Fe, New Mexico. Deed Book 110, page 112, Otero County Clerks Office, Otero County Courthouse, Alamogordo, New Mexico. Hereafter cited as OCCO.

8. Susie McNatt, Interview with the Author, HAFB, June 8, 1994.

9. Alamogordo News October 18, 1923, 4:3; Alamogordo News January 1, 1931, 1:1; McNatt Interview; Alamogordo News February 2, 1928, 6:5.

10. McNatt Interview.

11. "Water Rating Data," February 15, 1939, in "Studies and Reports, 1939-1981." Box 19, Folder: District 4, C.C. McNatt and Son, RG 49, DFRC. Hereafter cited as "Studies and Reports," DFRC.

12. Tax Assessment Record Book for 1917, page 32; for 1918, page 36. These old courthouse records are stored at the Alamogordo Chamber of Commerce Museum, Alamogordo, New Mexico. In 1917, McNatts improvements were worth only \$180. By the time of the 1918 assessment, his improvements were valued at \$1570. After that, the assessment gradually decreased in value.
13. "Schedule of Improvements for Lease and Suspension Agreement, Belle M. Samples and USA," September 10, 1952, in Historical Files, Army Corps of Engineers, Albuquerque, New Mexico. Hereafter cited as 1952 McNatt Schedule, COE. Belle Samples was C.C. McNatt's daughter. She handled his estate after he passed away.
14. McNatt Interview.
15. Deed Book 119:277, OCCO. This discrepancy in dates may represent the time it took the McNatts to fully purchase the land.
16. Deed Book 652:889, OCCO.
17. McNatt Interview.
18. Ibid.
19. "Water Rating Data".
20. R.G. Thompson, "Range, Surveys, Appeals, Special Investigations, C.C. McNatt vs. Mal Walters," May 20, 1941, in C.C. McNatt file, Bureau of Land Management, District Office, Las Cruces, New Mexico. Hereafter cited as McNatt file, BLM.
21. McNatt Interview; "Water Rating Data".
22. 1952 McNatt Schedule, COE.
23. Ibid.
24. Ibid.; "Water Rating Data".
25. McNatt Interview.
26. Ibid.
27. 1952 McNatt Schedule, COE.
28. Ibid.; McNatt Interview.
29. 1952 McNatt Schedule, COE; McNatt Interview.
30. Ibid.
31. McNatt Interview; 1952 McNatt Schedule, COE.

32. 1952 McNatt Schedule, COE; McNatt Interview.
33. McNatt Interview.
34. 1952 McNatt Schedule, COE.
35. McNatt Interview.
36. 1952 McNatt Schedule, COE.
37. Ibid.
38. McNatt Interview; 1952 McNatt Schedule, COE.
39. McNatt Interview.
40. 1952 McNatt Schedule, COE.
41. McNatt Interview.
42. Serial Register, R8E.
43. Ibid.
44. McNatt Interview.
45. Serial Register, R8E.
46. McNatt Interview.
47. "Water Rating Data".
48. McNatt Interview.
49. "Affidavit of Private Water and Public Domain Use," April 19, 1938, in McNatt file, BLM.
50. "Application for Permit to Construct and Maintain Improvements on Public Lands in a Grazing District, November 22, 1938; Permit to Construct and Maintain Improvements in Grazing District No. 3 [sic]," October 24, 1938; both in McNatt file, BLM.
51. "Bill of Sale," July 7, 1941, in McNatt file, BLM.
52. "Water Rating Data".
53. Handwritten Notes, August 28, 1940, in McNatt file, BLM.
54. "Water Rating Data".
55. Handwritten Notes; Thompson, "Range Surveys, Appeals"; both in McNatt file, BLM.

56. 1952 McNatt Schedule, COE.
57. Anonymous, "Christopher Columbus McNatt," in Otero County Pioneer Family Histories, Volume 2 (Alamogordo: Tularosa Basin Historical Society, 1985), 261.
58. "Affidavit of Private Water and Public Domain Use," April 19, 1938; "Application for Grazing Permit," April 19, 1935; both in McNatt file, BLM.
59. "Summary--Carrying Capacity," February 15, 1939, in "Studies and Reports," DFRC.
60. "Grazing Unit Description," February 15, 1939, in Studies and Reports," DFRC; McNatt Interview.
61. McNatt Interview; "Grazing Unit Description".
62. J.R. Ahl, District Grazier, "Memorandum for files and Regional Grazier," August 6, 1940; D.C. Woods, Jr. Range Examiner, Memorandum for files," May 14, 1940; both in McNatt file, BLM. According to Susie McNatt, the CCC constructed fence lacked only 1/4 mile to completion when they were told to leave in 1942. She stated that the military paid Osie Danley to remove the fence shortly thereafter.
63. McNatt Interview.
64. Ibid.
65. Susie McNatt, Undated Letter in Congressional Reference to the United States Claims Court, No. 2-84, White Sands Ranchers of New Mexico vs. USA, "Plaintiff's Brief in Chief," on file at Alamogordo Public Library, Alamogordo, New Mexico.
66. 1952 McNatt Schedule, COE.
67. McNatt Interview.

Notes for A.A. & C.A. McNatt Ranch

1. "Carrying Capacity Tabulation by Allotments," February 17, 1939, in "Studies and Reports, 1939-1981," Box 19, Folder: District 4, A.A. McNatt & Son, Record Group 49. Records of the Bureau of Land Management, New Mexico State Office, Denver Federal Records Center, Lakewood, Colorado. Hereafter cited as "Studies and Reports," DFRC.
2. Historical Index, T17S, R8E, page 1, Bureau of Land Management, District Office, Las Cruces, New Mexico. Hereafter cited as BLM.

3. "Water Rating Data," February 17, 1939, in "Studies and Reports," DFRC.
4. Desert Land Entry Register, Volume 117, page 121, Record Group 49, DFRC.
5. Wanda Hammond and Ellen Hayles, "The Dillard Family," in Otero County Pioneer Family Histories, Volume 2 (Alamogordo: Tularosa Basin Historical Society, 1985), 106. Hereafter cited as OCPEH.
6. United States Bureau of the Census, Thirteenth Census of the United States, Otero County, New Mexico, Roll 916 (Washington, D.C.: Government Printing Office, 1910), 148-9.
7. Historical Index, BLM.
8. "Homestead Entry Final Proof, Testimony of Witness, George T. Dillard," July 28, 1910, in Serial Patent Files, 1908-1951, Box 5188, File 183387, Record Group 49, Records of the Bureau of Land Management, New Mexico State Office, Washington National Records Center, Suitland, Maryland. Hereafter cited as WNRC.
9. New Mexico Tract Book, Volume 71, RG 49, WNRC.
10. Surface Transfer Book, 16SE, State Land Office, Santa Fe, New Mexico; Susie McNatt, Interview with the Author, Holloman Air Force Base, June 8, 1994.
11. United States Geological Survey, Point of Sands, 15 Minute Quadrangle Map, 1916.
12. Depue Falck, "Report of Block Examination," March 19, 1918, in 8NN-49-91-221, Box 1, Folder: T16S, R8E, NM, RG 49, DFRC.
13. General Land Office, Survey Plat, T16S, R9E, 1936, BLM.
14. "Water Rating Data".
15. Army Corps of Engineers, "Planning Report, Expansion of Facilities," September 10, 1956, in File 405-1of, "Acquisition Files, HAPB, Leasehold Acquisition of 18,240 Acres," Historical Files, Army Corps of Engineers, Albuquerque, New Mexico. Hereafter cited as COE.
16. The metal tank was not mentioned in the 1939 range inspection report. "Water Rating Data".
17. Carrie Green of Cloudcroft mentioned that her son, Arnold Green, also used this area for cattle grazing and watering. He added the portable corrals. Carrie Green, Interview with the Author, Cloudcroft, July 9, 1994.

18. Gertrude M. Painter, "Arthur Augustus McNatt Family," in OCPFH, Volume 2, 289,
19. "Summary--Carrying Capacity," February 17, 1939, in "Studies and Reports," DPRC.
20. Minnie Nations McNatt, "Memoirs of Minnie N. McNatt, 1881-1949," in OCPFH, Volume 2, 284.
21. Ibid., 286.
22. D.C. Woods, Jr. Range Examiner, Memorandum for File, May 25, 1940, in "Studies and Reports," DPRC.
23. "Grazing Unit Description," February 17, 1939, in "Studies and Reports," DPRC.
24. Gertrude Painter, "Columbus Arthur "Sam" McNatt," in OCPFH, Volume 2, 290.

Notes for Fred Bradford's Place

1. Beth O'Leary, The High Speed Test Track Quantity Distance Zone and Missile Test Stands Area Cultural Resource Survey, Holloman Air Force Base Report No. 1994-004, 1994.
2. United State Geological Survey, Point of Sands, 15 Minute Quadrangle Map, 1916.
3. Assistant Commissioner, General Land Office, letter to Mr. Samuel Herrick, Attorney for Fred Bradford, February 14, 1919, in Serial Patent Files, 1908-1951, Box 23322, File 658255, Record Group 49, Records of the Bureau of Land Management, New Mexico State Office, Washington National Records Center, Suitland, Maryland. Hereafter cited as WNRC.
4. Anonymous, "Frederick Monroe Bradford Family," in Otero County Pioneer Family Histories, Volume 1 (Alamogordo: Tularosa Basin Historical Society, 1981), 30.
5. Ibid., 31.
6. Deed Book 82:269, Otero County Clerk's Office, Otero County Courthouse, Alamogordo, New Mexico. Hereafter cited as OCCO.
7. Deed Book 121:9, OCCO.
8. Alamogordo News March 17, 1932, 1:4.
9. D.C. Woods, Jr. Range Examiner, Memorandum for File, May 20, 1940, in "Studies and Reports, 1939-1981," Box 21, Folder: District 4, Mal Walters, Record Group 49, Records of the Bureau of Land Management, New Mexico State Office, Denver Federal

Records Center, Lakewood, Colorado. Hereafter cited as "Studies and Reports," DFR. "Grazing Unit Description," February 21, 1939, "Studies and Reports," DFR.

10. "Application for Grazing Permit," April 13, 1935, in Mal Walters File, Bureau of Land Management, District Office, Las Cruces, New Mexico. Hereafter cited as BLM.

11. "Summary--Carrying Capacity," February 21, 1939, in "Studies and Reports," DFR.

12. J.R. Ahl, District Grazier, Memorandum for File and Regional Grazier, August 6, 1940, in "Studies and Reports," Box 19, Folder: District 4, C.C. McNatt, DFR.

13. Deed Book 106:402-4, OCCO.

14. Chattel Mortgage Book 6; Probate Case File #812; both OCCO.

15. Probate Case File #812; Deed Book 106:402; Deed Book 660:73; all OCCO.

16. Tax Assessment Record Book for 1920. These records are stored in the Alamogordo Chamber of Commerce Museum.

17. "Water Rating Data," February 21, 1939, in "Studies and Reports," DFR.

18. D.C. Woods, Memo, BLM.

19. R.G. Thompson, Jr. Range Examiner, Range Surveys, Appeals, Special Investigations, C.C. McNatt and Son vs. Mal Walters, May 20, 1941, Walters File, BLM.

20. Schedule of Improvements, Lease and Suspension Agreement, William and Ann Walters and USA, January 31, 1950, in Historical Files, Army Corps of Engineers, Albuquerque Office.

Notes for Fairchild Well

1. Helen Black, "Fairchild Country," in Otero County Pioneer Family Histories. Volume 2 (Alamogordo: Tularosa Basin Historical Society, 1985), 128.

2. Serial Register, R10E, in Record Group 49. Records of the Bureau of Land Management. New Mexico State Office, Denver Federal Records Center, Lakewood, Colorado.

3. Maude Fairchild, Personal Communication, July 11, 1994.

4. T. Lindsay Baker, A Field Guide to American Windmills (Norman: University of Oklahoma Press, 1985), 174-175.

5. Maude Fairchild, Personal Communication.

Notes for McKillip Farm

1. Martyn D. Tagg, Boles Wells Road Maintenance, Holloman Air Force Base Report No. 1993-009, 1993.
2. General Land Office, Survey Plat, T17S, R10E, 1908, Bureau of Land Management, District Office, Las Cruces, New Mexico.
3. Otero County Advertiser February 26, 1910, 6:3; United States Bureau of the Census, Thirteenth Census of the United States, Otero County, New Mexico, Roll 916 (Washington, D.C.: Government Printing Office, 1910), 215.
4. Serial Register, R10E, in Record Group 49. Records of the Bureau of Land Management. New Mexico State Office, Denver Federal Records Center, Lakewood, Colorado. Hereafter cited as RG 49, DFRRC.
5. "Appeal from the General Land Office," June 24, 1914, in Serial Patent Files, 1908-51, Box 14319, File 426014, RG 49, Washington National Records Center, Suitland, Maryland. Hereafter cited as File 426014, WNRC.
6. Alamogordo News March 16, 1911, 5:4.
7. Alamogordo News March 23, 1911, 5:2.
8. "Appeal from the GLO".
9. James C. McKillip, "Affidavit," November 7, 1913, in File 426014, WNRC.
10. Clay Tallman, Commissioner of the GLO, Letter to Register and Receiver, Las Cruces, New Mexico, October 18, 1913, in File 426014, WNRC.
11. "Affidavit."
12. Ibid.
13. "Appeal from the GLO".
14. Otero County News September 11, 1914, 3:3.
15. Tax Assessment Record Books for 1915 through 1921. These books are stored at the Alamogordo Chamber of Commerce Museum, Alamogordo, New Mexico.
16. Graham E. San, Deputy US Marshal, "Return of Service of Notice of Suit," Civil Action No. 2386, USA vs. 1,799.98 acres of land in the County of Otero, New Mexico, Robert G. Walker, et al,

and Unknown Owners, in Civil Case Files 1938-1953, Box 240, Entry 74, Folder: Case 2386, Progress File, RG 21. Records of the District Court of the United States, District of New Mexico. DPRC. Hereafter cited as Civil Action No. 2386.

17. "Order of Dismissal," Civil Action No. 2386.

Notes for Boles Farm

1. General Land Office, Survey Plat, T17S, R10E, 1908, Bureau of Land Management, District Office, Las Cruces, New Mexico.

2. "Homestead Entry, Final Proof, Testimony of Claimant," September 10, 1910, in Serial Patent Files, 1938-51, Box 5412, File 189124, Record Group 49. Records of the Bureau of Land Management, New Mexico State Office. Washington National Records Center, Suitland, Maryland. Hereafter cited as File 189124, WNRC.

3. Otero County Advertiser April 13, 1907, 6:3.

4. Otero County Advertiser July 28, 1909, 3:1; Alamogordo News August 8, 1912, 1:4

5. Tax Assessment Record Books, 1909. These books are stored at the Alamogordo Chamber of Commerce Museum, Alamogordo, New Mexico.

6. "Testimony of Claimant."

7. Ibid.; Tax Assessment Book 1911.

8. Deed Book 47: page 179, Otero County Clerks Office, Otero County Courthouse, Alamogordo, New Mexico. Hereafter cited as OCCO.

9. Tax Assessment Books 1917-1921.

10. Deed Book 33:417, OCCO.

11. Deed Book 82:405, OCCO.

12. Deed Book 117:120, OCCO; Chattel Mortgage Book 3, Record #19360, OCCO.

13. Deed Book 1119:579, OCCO.

14. Deed Book 121:456, OCCO; Deed Book 124:315, OCCO.

15. Deed Book 124:556, OCCO; Betty Jean Johnson, Interview with the Author, Alamogordo, July 15, 1994.

16. Betty Jean Johnson Interview.

17. "Order of Delivery of Possession," July 29, 1953, Civil Action No. 2386, USA vs. 1,799.98 acres of land in the County of Otero, New Mexico, Robert G. Walker, et al, and Unknown Owners, in Civil Case Files 1938-1953, Box 240, Entry 74, Folder: Case 2386, Progress File, RG 21. Records of the District Court of the United States, District of New Mexico. DFRC. Hereafter cited as Civil Action No. 2386.

18. Johnson Interview.

19. Ibid.

20. Ibid.

21. "Partial Transcript of Pre-Trial Conference," May 20, 1959, Civil Action No. 2386.

22. "Contract to Supply Water," in File 1504, Realty Historical Files, Volume II, Army Corps of Engineers, Albuquerque, New Mexico. Hereafter cited as COE.

23. Dr. David Bushnell, "History of Water Use and Resources, Holloman Air Development Center, New Mexico," (United States Air Force, Historic Branch, Office of Information Services, 1957), 28.

24. Johnson Interview.

25. Bushnell, 27.

26. "Partial Transcript."

27. "Judgement," June 30, 1959, Civil Action No. 2386.

28. Johnson Interview.

29. Johnson Interview; "Plaintiff's Requested Special Instructions (to the Jury)," Civil Action No. 2386.

30. Johnson Interview.

31. Army Corps of Engineers, Real Estate Planning Report Including Gross Appraisal Addition to Water Well Area, HAFB, Alamogordo, New Mexico, December 23, 1953, in File 1504-05, Realty Historical File, Volume VII, COE, 13.

32. "Plaintiff's Requested Special Instructions".

33. Johnson Interview.

34. Photographs are from the 1953 Real Estate Planning Report.

35. Johnson Interview.

36. Ibid.
37. Ibid., "Partial Transcript".
38. Albert Mendez, Personal Communication with the Author, November 29, 1993.

Notes for Groom's Residence

1. General Land Office, Survey Plat, T17S, R10E, 1908, Bureau of Land Management, District Office, Las Cruces, New Mexico.
2. United States Bureau of the Census, Thirteenth Census of the United States, Otero County, New Mexico, Roll 916 (Washington, D.C.: Government Printing Office, 1910), 214.
3. Alamogordo News February 29, 1908, 2:1.
4. Thirteenth Census, 138; "Homestead Entry Final Proof, Testimony of Claimant," April 25, 1913, in Serial Patent Files, 1908-1951, Box 12247, File 369163, Record Group 49, Records of the Bureau of Land Management, New Mexico State Office, Washington National Records Center, Suitland, Maryland. Hereafter cited as File 369163, WNRC.
5. Alamogordo News September 16, 1909, 4:3; Emily Kalled Lovell, A Personalized History of Otero County, New Mexico (Alamogordo: Star Publishing Company, Inc., 1963), 5.
6. Alamogordo News September 16, 1909, 5:3.
7. Tract Book, New Mexico, Volume 72, T17, R10, in RG 49, WNRC.
8. Alamogordo News October 13, 1910, 5:1.
9. "Testimony of Claimant."
10. Ibid.
11. "Testimony of Witness, James C. McKillip," April 25, 1913, in File 369163, WNRC.
12. Chattel Mortgage Book 3, page 3, in Otero County Clerks Office, Otero County Courthouse, Alamogordo, New Mexico. Hereafter cited as OCCO.
13. Alamogordo News December 6, 1928, 6:3; January 17, 1929, 1:6.
14. Deed Book 79:442, OCCO.
15. Probate Case File #1357 and #1624, OCCO.

16. Cloudcroft Silver Lining January 7, 1905.

Notes for Reynolds Dairy

1. Marion Jones homesteaded the SE 1/4 of Section 25, T17S, R9E, on January 14, 1909. Serial Register R9E, in Record Group 49, Records of the Bureau of Land Management, New Mexico State Office, Denver Federal Records Center, Lakewood, Colorado.

2. General Land Office, Survey Plat, T17S, R10E, 1908, Bureau of Land Management, District Office, Las Cruces, New Mexico.

3. "Homestead Entry Final Proof, Testimony of Claimant," August 22, 1912, in Serial Patent Files 1908-51, Box 9971, File 307872, RG 49, Washington National Records Center, Suitland, Maryland. Hereafter cited as File 307872, WNRC.

4. Lilian R. (Bennett) Hooks, "The Bennett/Reynolds Family," in Otero County Pioneer Family Histories, Volume 2 (Alamogordo: Tularosa Basin Historical Society, 1985), 20.

5. Martha Doty Freeman, "The Historic Resource," in A Cultural Resource Inventory and Assessment of McGregor Guided Missile Range, Otero County, New Mexico, Part 1. Research Report No. 65 (Austin: Texas Archeological Survey, University of Texas, 1977), 136.

6. Otero County Advertiser August 27, 1909, 4:2.

7. Hooks, 21.

8. "Testimony of Claimant", Tax Assessment Book 1913. These books are stored at the Alamogordo Chamber of Commerce Museum, Alamogordo, New Mexico.

9. Hooks, 20-21.

10. Probate Case File #180, Otero County Clerks Office, Otero County Courthouse, Alamogordo, New Mexico; Tax Assessment Books 1916-1921.

11. Tax Assessment Books 1916-1921.

Notes for Singleton's Homestead

1. Serial Register R10E, in Record Group 49, Records of the Bureau of Land Management, New Mexico State Office, Denver Federal Records Center, Lakewood, Colorado.

2. Ibid.; Patent Book 110: 309, Otero County Clerks Office, Otero County Courthouse, Alamogordo, New Mexico. Hereafter cited as OCCO.

3. "Homestead Entry Final Proof, Testimony of Claimant," December 14, 1935, in Serial Patent Files 1908-51, Box 41342, File 1084970, RG 49, Washington National Records Center, Suitland, Maryland. Hereafter cited as File 1085970, WNRC.

4. Deed Book 137:367, OCCO.

5. Deed Book 148:220, OCCO.

6. Deed Book 172:31, OCCO.

7. Deed Book 253:45, OCCO.

8. Deed Book 274:526, OCCO.

9. Sergio Garza and J.S. McLean, Freshwater Resources in the Southeastern Part of the Tularosa Basin, New Mexico State Engineer Technical Report 40 (Modern Press, Inc, 1977), 16.

10. Deed Book 274:526, OCCO.

11. "Tract 95" in Active File 405-1of, ACQ Files, HAFB, NM, Tract NO. 95, Betty Dare Memorial Rest Home Foundation, Inc., Army Corps of Engineers, Albuquerque, New Mexico.

12. Deed Book 663:938, OCCO; T.D. Engelage, Appraisal of Tract 95, October 11, 1988, in Active File 405-1of, COE, 29.

13. Engelage, 14-15.

14. Robert J. Majka, Lt. Colonel USAF, Base Civil Engineer, Letter to Thomas Merlan, State Historic Preservation Officer, May 2, 1990, in Archaeologist's Site Files, HAFB, Environmental Flight.

15. Engelage, 14.

16. Ibid.

17. Ibid., 14-15.

Notes for Charles Redies Homestead

1. "Homestead Entry Final Proof, Testimony of Claimant," November, 1, 1916, in Serial Patent Files 1908-51, Box 204999, File 577788, Record Group 49, Records of the Bureau of Land Management, New Mexico State Office, Washington National Records Center, Suitland, Maryland. Hereafter cited as File 577788, WNRC.

2. Deed Record 44:30, Otero County Clerks Office, Otero County Courthouse, Alamogordo, New Mexico. Hereafter cited as OCCO.
3. Alamogordo News July 18, 1908, Supplement; Otero County Advertiser December 16, 1907, 3:4.
4. Serial Register, R8E, in RG 49, Denver Federal Records Center, Lakewood, Colorado.
5. "Certificate of Naturalization," October 2, 1916, in File 577788, WNRC.
6. "Homestead Proof, Testimony of Claimant."
7. "Purchase Proof, Testimony of Claimant," August 17, 1920, in Serial Patent Files, 1908-51, Box 28511, File 801559, RG 49, WNRC. Hereafter cited as File 801559, WNRC.
8. Ibid.
9. Commissioner, GL0, Letter to Register, Las Cruces, New Mexico, January 15, 1917, File 801559, WNRC.
10. "Purchase Proof, Testimony of Claimant."
11. "Homestead Proof, Testimony of Claimant."
12. Ibid.
13. Susie McNatt, Interview with the Author, Holloman AFB, June 8, 1994.
14. Deed Book 78:608, OCCO; Mortgage Book 46:315, OCCO.
15. Deed Book 119:277, OCCO.
16. "Testimony of Witness, Herman Pruess," November 1, 1916, File 577788, WNRC.

Notes for Hyde's Farm

1. Serial Register, R9E, in Record Group 49, Records of the Bureau of Land Management, New Mexico State Office, Denver Federal Records Center, Lakewood, Colorado. Hereafter cited as RG 49, DFR. "Homestead Entry Final Proof, Testimony of Claimant," July 28, 1910, in Serial Patent Files, 1908-51, Box 5188, File 183387, in RG 49, Washington National Records Center, Suitland, Maryland.
2. Patent Record 34:50, Otero County Clerks Office, Otero County Courthouse, Alamogordo, New Mexico. Hereafter cited as OCCO.
3. "Testimony of Claimant."

4. Alamogordo News May 12, 1910, 8:3; February 24, 1910, 5:3.
5. "Testimony of Claimant."
6. Alamogordo News January 1, 1931, 1:4.
7. Deed Book 119:446, OCCO.
8. Chattel Mortgage Book 3, Record 17533, OCCO.
9. Deed Book 119:463, OCCO.
10. Deed Book 124:273, OCCO.
11. Carrie Green, Interview with the Author, Cloudcroft, August 9, 1994.
12. Ibid.
13. Depue Falck, "Report of Block Examination," March 19, 1918, in 8NN-49-91-221, Box 1 of 2, Folder: T16S, R8E, NM, RG 49, DFRC.

Notes for HAR-014

1. W. H. Doleman, Archeological Sample Survey of Boles Wells Water System Annex, HAFB, Otero County, New Mexico (Albuquerque: Office of Contract Archeology, 1992), 20-29.
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6. Serial Register.
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2. Land Lease for Expansion of Water Facilities, Lease W-41-038-Eng-6809, in File 1504, Realty Historical File, Volume 1, COE.
3. Real Estate Planning Report.

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2. Patent Record 34:107, Otero County Clerks Office, Otero County Courthouse, Alamogordo, New Mexico. Hereafter cited as OCCO.
3. Tax Assessment Record Book for 1911. These records are stored at the Alamogordo Chamber of Commerce Museum, Alamogordo, New Mexico.
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5. Deed Book 31:344, OCCO.
6. Otero County Advertiser April 18, 1908, 2:2.
7. Thirteenth Census, 214.
8. Alamogordo News March 14, 1908, 2:1; April 18, 1908, 2:2.

9. Deed Book 52:93, OCCO.
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11. Probate Case File #372, OCCO.
12. Probate Case File #409, OCCO; Alamogordo News April 30, 1931, 6:3.
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15. Miscellaneous Book 86629, OCCO, Honorable Discharge from the Navy, May 15, 1921; Alamogordo News September 4, 1930, 6:6.
16. Deed Book 95:637, OCCO.
17. Alamogordo News January 1, 1931, 1:7; Alamogordo News April 30, 1931, 6:3.
18. Deed Book, 169:500, OCCO.
19. "Transcript of Proceedings," May 26, 1959, Civil Action No. 2386, USA vs. 1,799.98 acres of land in the County of Otero, New Mexico, Robert G. Walker, et al, and Unknown Owners, in Civil Case Files 1938-1953, Box 240, Entry 74, Folder 5, RG 21. Records of the District Court of the United States, District of New Mexico. DFR.
20. Tax Assessment Record Books for 1911 through 1921.
21. General Land Office, Survey Plat, T17S, R10E, 1908, Bureau of Land Management, District Office, Las Cruces, New Mexico.

Notes for Lightfoot Well

1. Deed Book 56:5 61:377, Otero County Clerks Office, Otero County Courthouse, Alamogordo, New Mexico.
2. Historical Indexes, T15S, R8E, Bureau of Land Management, District Office, Las Cruces, New Mexico. Hereafter cited as BLM; "Adverse Proceedings Ordered, 1942-1943, Alamogordo Bombing Range," in 8NN-49-91-234, Record Group 49. Records of the Bureau of Land Management, New Mexico State Office, Denver Federal Records Center, Lakewood, Colorado. Hereafter cited as RG 49.
3. Map, in C.C. McNatt File, BLM.

4. Willis Danley, Interview with the Author, Tularosa, May 26, 1994,
5. Tract Book. New Mexico Volume 70, in RG 49, Washington National Records Center, Suitland, Maryland.
6. R.G. Thompson, Jr. Range Examiner, Memo to James Ahl, District Grazier, RE: Inventory of Sam Hanna's Waterings, February 13, 1941, BLM.
7. Supplemental Agreement No. 1, Contract DA-29-005-eng-474, April 17, 1951, in File 1504-05, Realty Historical Files, Army Corps of Engineers, Albuquerque, New Mexico.
8. Department of the Air Force, Master Plan, Vicinity Map, June 17, 1958, Holloman Air Force Base, Environmental Flight.
9. Thompson Memo.
10. Supplemental Agreement.
11. Hewitt Smith, Consumer Representative, Borden, Inc., Letter to Author, September 8, 1994, in Archaeologist's Site Files, Holloman AFB. Similar tokens with center holes were discovered at a Hispanic homestead near Roswell, New Mexico. According the Yvonne R. Oakes, these were distributed by stores in return for traded items, in the case of the Roswell site, for wool. These tokens could then be used the same as money to purchase items or services at a later time. Chinese coins with holes in the center were also found at the Harmony Borax site in California. Apparently these were used as gaming pieces. Yvonne R. Oakes, The Ontiberos Site: A Hispanic Homestead Near Roswell, New Mexico. Laboratory of Anthropology Note No. 311 (Santa Fe: Museum of New Mexico, 1983), 78; George A. Teague and Lynette O. Shenk, Excavations at Harmony Borax Works. Publications in Anthropology No. 6 (Tucson: Western Archeological and Conservation Center, 1977), 143.

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2. Affidavit of Private Water and Public Domain Use, April 19, 1938, in Luis and Pete Aguilar file, Bureau of Land Management, District Office, Las Cruces, New Mexico.
3. "Water Rating Data," December 19, 1938, in "Studies and Reports, 1938-1981," Box 15, Folder: District 4, Luis and Pete Aguilar, Record Group 49. Records of the Bureau of Land Management. New Mexico State Office, Denver Federal Records Center, Lakewood, Colorado.

4. "Summary--Carrying Capacity," December 19, 1938, in "Studies and Reports".
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6. Clovis B. Aguilar, Personal Communication with Author, Lancaster, California, August 11, 1994.
7. Ibid.
8. Martyn D. Tagg, Test Track Artifact Collecting, Cultural Resource Investigation, Holloman Air Force Base Report No. 1993-017, 1993.

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1. General Land Office, Surveyor's Notes, 1882, Volume 1159, page 21, Bureau of Land Management, District Office, Las Cruces, New Mexico.
2. Serial Register, R8E, in Record Group 49, Records of the Bureau of Land Management, New Mexico State Office, Denver Federal Records Center, Lakewood, Colorado. Hereafter cited as RG 49, DFRC.
3. Contest Docket, Volume 132, RG 49, DFRC.
4. Albert Barrett, Sworn Statement, August 21, 1908, in Serial Patent Files, 1908-1951, Box 1628, File 90464, RG 49, Washington National Records Center, Suitland, Maryland. Hereafter cited as File 90464, WNRC.
5. Deed Book 34:6, 7:352, Otero County Clerks Office, Otero County Courthouse, Alamogordo, New Mexico. Hereafter cited as OCCO.
6. United States Bureau of the Census, Thirteenth Census of the United States, Otero County, New Mexico, Roll 916 (Washington, D.C.: Government Printing Office, 1910), 206.
7. "Homestead Entry Final Proof, Testimony of Claimant," August 21, 1908, in File 90464, WNRC.
8. Edwin Walters, Survey Map, undated, in File 90464, WNRC.
9. "Testimony of Witness, Francis DeGroot," August 21, 1908, in File 90464, WNRC.
10. Tax Assessment Record Books 1909-1911. These records are stored at the Alamogordo Chamber of Commerce Museum, Alamogordo, New Mexico.
11. Chattel Mortgage 26:296, OCCO.

12. Tax Assessment Record Book 1912.
13. Thirteenth Census, 206; Deed Book 44:133, OCCO.
14. Tax Assessment Record Book 1913.
15. Deed Book 44:511, OCCO.
16. Tax Assessment Record Book 1914.
17. Deed Book 53:578.
18. Dorothy Jensen Neal, The Cloud Climbing Railroad (Alamogordo: Alamogordo Printing Company, 1966), 2-6.
19. Certificate of Death 496:345, OCCO.
20. Deed Book 660:74, 648:862, OCCO.
21. Wanda Jean Davis, Personal Communication with Author, May 22, 1994.
22. Chattel Mortgage 3:36, #1440, OCCO.

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1. General Land Office, Survey Plat, T18S, R10E, 1909, Bureau of Land Management, District Office, Las Cruces, New Mexico. Hereafter cited as BLM.
2. Otero County Advertiser, January 2, 1907, 4:3.
3. Chattel Mortgage 26:244, Otero County Clerks Office, Otero County Courthouse, Alamogordo, New Mexico. Hereafter cited as OCCO.
4. General Land Office, Surveyor's Notes, 1909, Volume 10, page 118, BLM.
5. Otero County Advertiser June 24, 1909, 2:4; Alamogordo News November 6, 1910, 4:2.
6. Serial Register, R10E, in Record Group 49. Records of the Bureau of Land Management. New Mexico State Office, Denver Federal Records Center, Lakewood, Colorado. Hereafter cited as RG 49.
7. "Homestead Entry, Final Proof, Testimony of Claimant," December 14, 1935, Serial Patent Files, 1908-1951, Box 41342, File 1084970, RG 49, Washington National Records Center, Suitland, Maryland.

8. Deed Book 148:220, 172:31, OCCO.
9. Deed Book 253:45, OCCO.
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12. "Preliminary Relocation Data Form," November 28, 1988, in Active File 405-1of, HAFB, Tract NO. 57, COE.
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14. Robert J. Majka, Lt. Colonel, USAF, HAFB Civil Engineer, Letter to Thomas Merlan, State Historic Preservation Officer, may 2, 1990, in Archaeologist's Site Files, Holloman AFB, Environmental Flight.

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2. Desert Land Entry Register, Volume 117, page 115, in Record Group 49, Records of the Bureau of Land Management, New Mexico State Office, Denver Federal Records Center, Lakewood, Colorado. Hereafter cited as RG 49, DFRC.
3. Otero County Advertiser October 31, 1908, 3:1.
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5. Serial Register; "Henry Dick Franklin," 198.
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3. Deed Book 47:179, Otero County Clerks Office, Otero County Courthouse, Alamogordo, New Mexico.
4. Otero County Advertiser May 22, 1909, 2:6.
5. Otero County Advertiser May 27, 1909, 2:4.
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APPENDIX

Cattle Brands Formerly Used by Settlers
in the Holloman Air Force Base Area

J.S. Brooks and Fred Bradford

RP

Danley Family

C7D

△E

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Fairchild Family

SWF

John Grant

17

717

◇B

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William Huss

WV

William Karr

KAR

T-G

Ƨ

∞

A.A. McNatt Family

>TY

C.C. McNatt Family

+LU

Mal Walters

CLV

ABOUT THE AUTHOR

Lori S. Hawthorne is a native of Belleville, Illinois. She moved to New Mexico in 1987 and graduated Summa Cum Laude with a Bachelor of Science degree in both History and Anthropology from Eastern New Mexico University in Portales. She is currently finishing her Master of Arts degree in History at New Mexico State University. She has worked in various parts of New Mexico on archeological survey crews and has conducted extensive research concerning the Sacramento Mountain and Tularosa Basin region of the state.

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