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## Inventory and Assessment of Cultural Resources Above the 1,551.5-Foot Contour Line, Stacy Reservoir Recreation Areas, Concho, Coleman, and Runnels Counties, Texas

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INVENTORY AND ASSESSMENT OF CULTURAL RESOURCES ABOVE  
THE 1,551.5-FOOT CONTOUR LINE, STACY RESERVOIR  
RECREATION AREAS, CONCHO, COLEMAN, AND  
RUNNELS COUNTIES, TEXAS

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Chris Lutz

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## PREFACE

A draft of this report was prepared by archaeologists from Prewitt and Associates Inc. in 1986 and submitted to the U.S. Army Corps of Engineers, Fort Worth District, on behalf of the Colorado River Municipal Water District (CRMWD). The report was prepared to comply with terms of a Programmatic Memorandum of Agreement at Stacy Reservoir in accordance with Section 404 of the Clean Water Act (33 USC 1344) and Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403). During the lengthy review process, Prewitt and Associates Inc. resigned from the cultural resource program at Stacy Reservoir, and CRMWD awarded the project to Mariah Associates, Inc. Review comments issued in 1988 requested only that the criteria of distinguishing burned versus unburned rock be clarified and that the presence of cairns on two sites (41CC213 and 41CC237) required reconsideration of their National Register significance in light of the potential for, and sensitivity to, human burial remains at these sites. Accordingly, archaeologists from Mariah revised the report recommendations to incorporate the required changes. Editorial revisions by Prewitt and Associates were also incorporated in this report. The report was produced by Mariah personnel as part of Prewitt and Associates report series.

Christopher R. Lintz

## ABSTRACT

In August and September 1986, personnel from Prewitt and Associates, Inc. conducted an inventory and assessment of cultural resources in five recreational area tracts above the conservation pool elevation of the proposed Stacy Reservoir in Concho, Coleman, and Runnels counties, Texas. These investigations were sponsored by the Colorado River Municipal Water District in compliance with federal requirements for a construction permit from the Corps of Engineers.

Approximately 1,690 acres were surveyed, and five previously unrecorded sites were discovered and documented. Cairn feature sites 41CC213 and 41CC237 are deemed potentially significant and should be preserved or investigated to determine their significance if preservation cannot be assured. In the course of the survey, 16 previously recorded sites were encountered and, in the case of 5 of these sites, adjustments were made in their boundaries.

Concurrent with the survey, 11 localities and 34 sites within the previously surveyed conservation pool area were revisited. A preliminary examination of the geologic context of these sites was conducted which resulted in recognition of important geoarcheological data potential for sites in the alluviated valleys of the project area.

## FOREWORD AND ACKNOWLEDGMENTS

West Central Texas is enigmatic in the history of archeological research in Texas. Among the earliest vestiges of scientific archeology in the State were investigations at Paint Rock in 1919 by J. E. Pearce and near Abilene in the 1920s and 1930s by E. B. Sayles and Cyrus Ray. This early interest waned, and progress in surrounding areas soon exceeded the tentative beginnings made by these pioneers. As a result, the archeology of the Central, Trans-Pecos, and Llano Estacado areas of Texas is better known and has defined a number of problems of interareal significance that potentially could be resolved with data from West Central Texas. Recently, interest in the area has been renewed with work by Shafer near Robert Lee Reservoir in the late 1960s and in the Concho valley by Douthit and by Creel in the last 10 years. Strong similarities and significant contrasts are seen between West Central Texas and surrounding areas.

The abundant archeological record in the proposed Stacy Reservoir area is critical from this perspective. The present study is the second to be concerned with management of the cultural resources in the project area and was undertaken with planning for future studies in mind. Basic to future study of the cultural resources in the Stacy project area will be comprehensive cultural-ecological reconstruction. In this manner, the greatest potential exists for contributing to understanding the local cultural record and relating it to those of surrounding areas.

Numerous people have contributed to the conduct of this study. Landowners who allowed access to their property and helped in familiarizing the field party with the area include Vernon Wallace, Elmo Hudson, Joe Freeman, Randy Sowell, and Jane Padgitt. Their helpfulness is gratefully acknowledged.

The field crew included the authors, as well as C. Britt Bousman, who assisted Collins in the geomorphological investigations; Darrell Creel, who supervised the archeological survey; and crewmembers Bill Bryan, Wayne Chesser, and Madelon Tusenius. Bill Bryan did the laboratory processing and analysis of the collection. The efforts of all of these are greatly appreciated.

Ellen Atha prepared the artifact illustrations, Sandra Hannum drafted the maps, and Linda Nance Foster typed and edited the text of this report, which has benefited greatly from their contributions. The content of the report also has been enhanced by advice and suggestions from Dave Dibble, Elton Prewitt, and Ross Fields.

Throughout the project, personnel of the Colorado River Municipal Water District, particularly Ernest Lillard, Rod Lewis, and John Taylor, facilitated our work, for which we are very appreciative.

## CHAPTER 1

### INTRODUCTION

In August and September of 1986, personnel from Prewitt and Associates, Inc. conducted archeological and geomorphological investigations in the proposed Stacy Reservoir area in Coleman, Concho, and Runnels counties, Texas (Fig. 1). The reservoir, which is to be constructed by the Colorado River Municipal Water District (CRMWD), is in the vicinity of Leaday, which is southeast of Ballinger and east of Paint Rock. The reservoir is to be formed by building an earthfill dam on the Colorado River 15.9 river miles below the confluence of the Concho and Colorado rivers. The purpose of the reservoir is to provide a domestic and municipal water source for the CRMWD service area, as well as for recreation and wildlife conservation purposes. During the fall of 1980, the area to be inundated by the reservoir was surveyed by personnel from Espey, Huston and Associates, Inc. in order to locate and assess any cultural resources which might be present within the area.

The CRMWD, as an element of state government, sponsored the 1986 investigations under the provisions of the Texas Antiquities Code (Texas National Resources Code of 1977; Title 9, Chapter 191; VTCS 6145-9). The CRMWD made a Permit Application to the Fort Worth District, U.S. Army Corps of Engineers, necessitating Federal involvement under the provisions of 33 CFR 325, Appendix C; 36 CFR 800; and 36 CFR 36. Authorizing legislation for the investigations includes the National Historic Preservation Act of 1966, P.L. 89-665, P.L. 96-515 (as amended); Executive Order 11593 (Protection and Enhancement of the Cultural Environment 1971); and the Archeological and Historic Preservation Act of 1979, P.L. 43-291 (as amended).

There were two objectives in the 1986 investigations. The first was to locate and assess the cultural resources within five tracts of fee lands which were to be impacted by their development into recreation areas (Fig. 2). The second objective was twofold in nature and consists of revisiting selected localities within the 1980 survey area in the river valleys in order to: (1) determine the geomorphological nature of the area and its relationship to the cultural resources; and (2) gather more information to be used in formulating an efficient management plan for the cultural resources within the Stacy project area.

The first objective was reached by the pedestrian survey of 1,690 acres of proposed recreation areas. These lands consist of five tracts which are situated in the upland plains and river bottomlands in the vicinity of the confluence of the Concho and Colorado rivers (see Fig. 2). Within each of these tracts, previously unrecorded archeological sites were documented and assessed, and sites which had been located during the 1980 investigations were revisited to check the accuracy of their documentation.

Eleven localities within the previously surveyed conservation pool area were revisited. A major characteristic of the valleys of the project area is extensive alluvial fill. Archeological remains are abundant in and on this

Figure 1

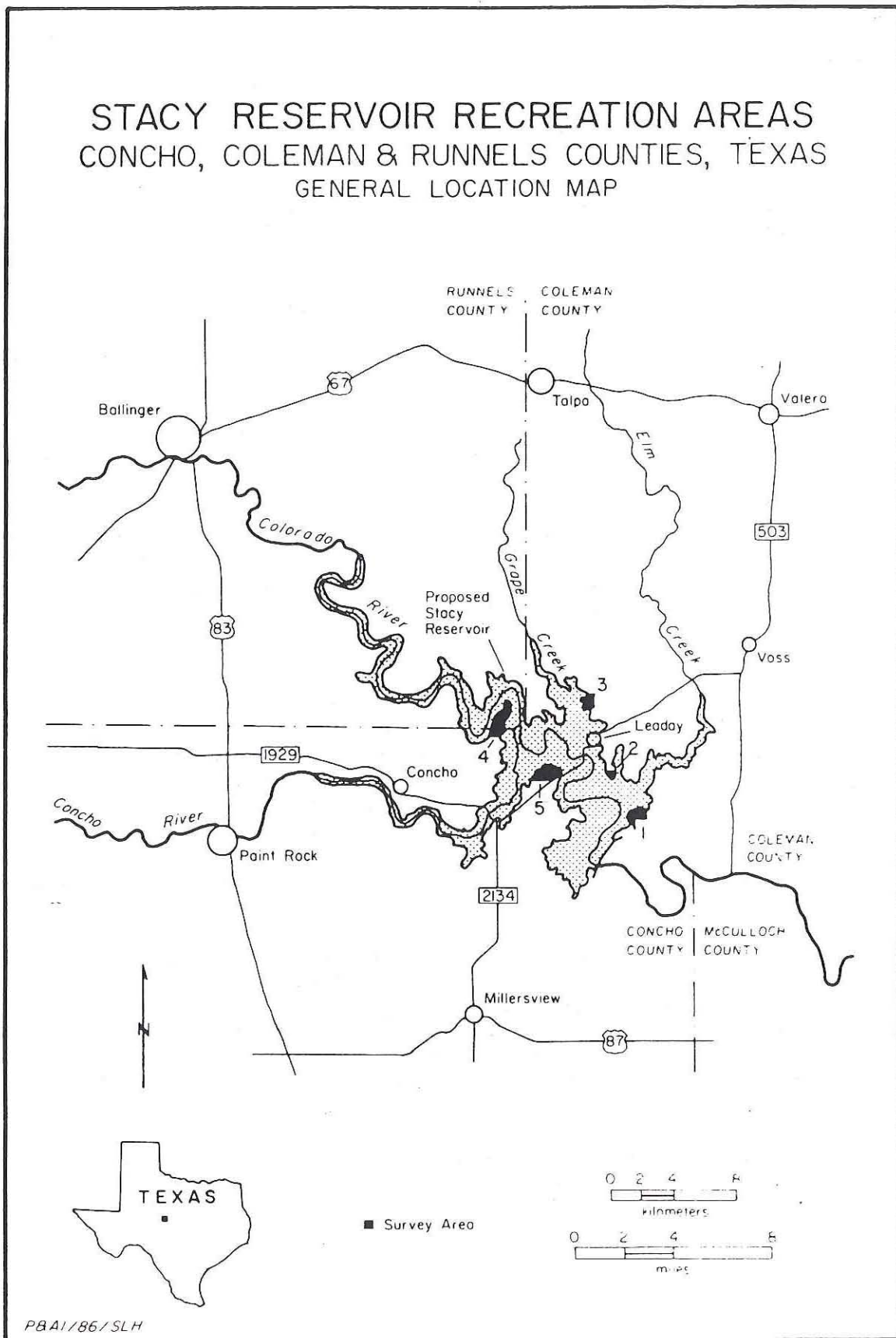
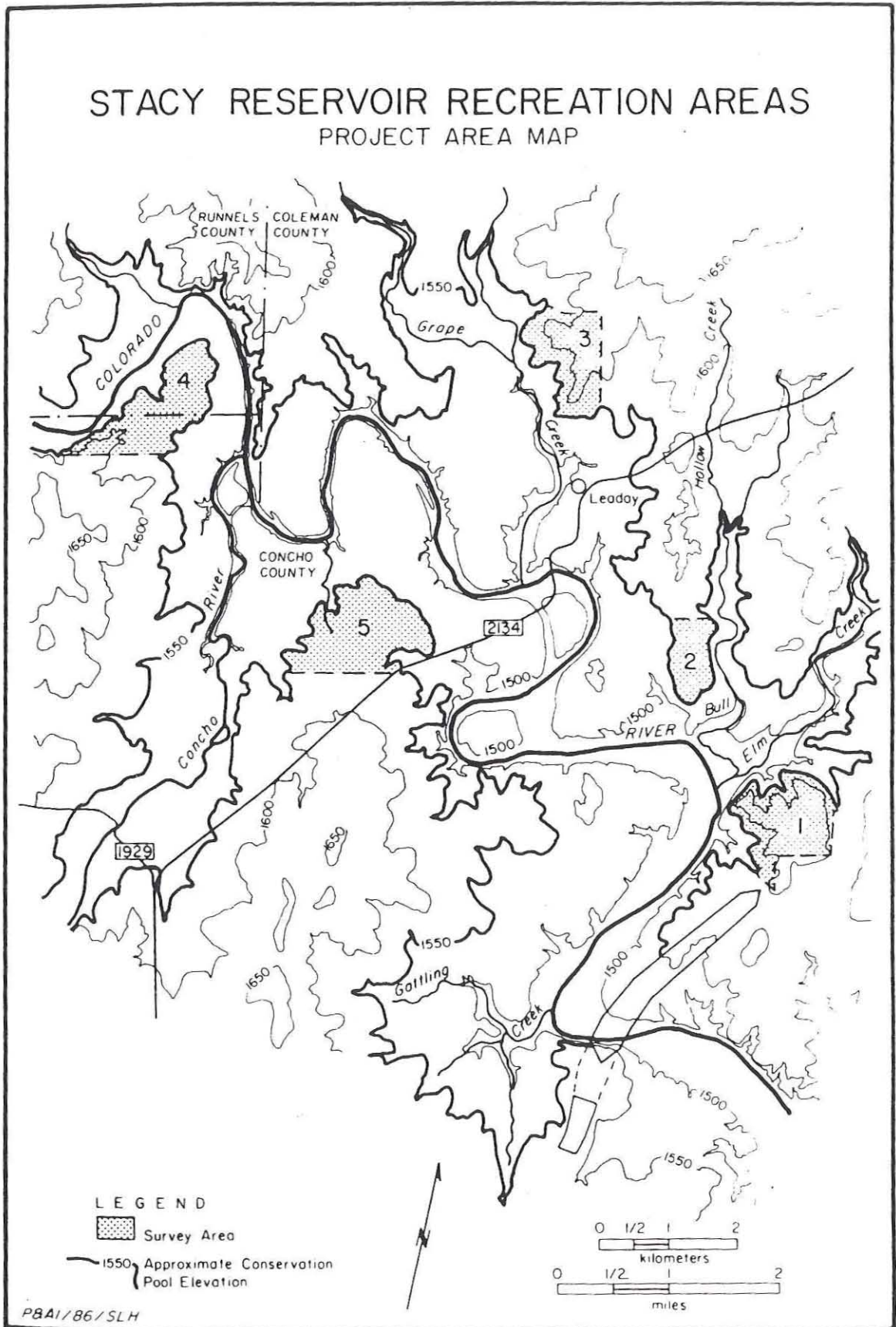


Figure 2



alluvium, and the 11 localities were selected to offer a sample of the geologic context of the archeological sites in the project area.

In the report which follows, background to this study is presented along with an account of this project and its findings. In contrast to the previous archeological survey, which concentrated on the conservation pool of the proposed reservoir, this survey of upland areas discovered relatively few sites. This underscores a major characteristic of the project area: that is, this confluent riverine setting in a generally semiarid region was critical to human groups throughout the prehistoric and early historic periods.

## CHAPTER 2

### ENVIRONMENTAL BACKGROUND

#### Geology, Geomorphology, and Soils

The project area lies in the southern part of an area referred to as the Lower Plains or Osage Plains (Sellards et al. 1933:Fig. 3; Arbingast et al. 1973:6). This area was submerged until the end of the Triassic Period and again during the Cretaceous Period. In the periods that followed, erosional processes removed the later strata, exposing the limestone and shale deposits of the Permian Period (Sellards et al. 1933). In the immediate project area, these deposits are represented by the Bead Mountain Formation, the undivided Jagger Bend and Valera Formations, and the Elm Creek Formation, although the latter occupies only a small percentage of the project area (Barnes 1976).

The present Concho and Colorado river valleys were entrenched into the Permian limestones and shales when continental deposition forced the recession of the Gulf Coast. The same drainage systems which deposited the sediments that extended the coastline also formed the upland escarpments and ridges of the project area. The only break in this erosional pattern is believed to be when fluvial terrace deposits were built up by the Colorado River during the Quaternary (Sellards et al. 1933).

This creates the three dominant geomorphic areas within the project area: upland plains, valley slopes, and river bottomlands. The upland plains and valley slopes occupy a majority of the project area and are essentially limestone deposits which have been eroded to form escarpments and ridges. Soil formation involves weathering of the limestone to form the clays and clay loams of the Tarrant-Purves-Owens, Kimbrough-Mereta, and Talpa-Kavett soil associations (Botts et al. 1974; Wiedenfeld et al. 1970). The bottomlands are made up of fluvial terrace deposits left by the Colorado and Concho rivers. The resulting alluvium has formed the various loams of the Spur-Colorado-Miles association (Wiedenfeld et al. 1970).

#### Climate

The project area is situated in a transitional zone between the humid climate of east Texas and the semiarid climate of west and northwest Texas (Botts et al. 1974:67). The yearly average temperature is ca. 65° F, with a growing season of ca. 237 days (Arbingast et al. 1973:15, 18). During the summer, 100° F temperatures are often reached for several days on end, while the winters are relatively mild, with only brief periods of freezing weather (Botts et al. 1974:67).

It is probable that the environment during prehistoric times, however, was not always the same as it is today. Unfortunately, the Stacy area has been little-studied by paleoenvironmentalists (Bryant and Holloway 1985:Fig.



1). Pollen studies in western and central Texas have demonstrated that the environment during the Wisconsin glacial period was considerably cooler and more humid than it is today. This period lasted from ca. 22,500 to 14,000 years ago and was followed by a 4,000-year-long transitional period by the end of which the modern climate was established (Bryant and Holloway 1985:39-72). This relatively stable climatic period was punctuated by an interval of warmer and drier conditions lasting from roughly 7,500 to 4,000 years ago (Antevs 1955:328-329), but the effects of this interval within the Stacy Reservoir area are not known. These changes undoubtedly affected both the plant and animal communities in the region, as described in the following paragraphs.

### Flora

As stated above, the climate of the area from 22,500 to 14,000 B.P. was cooler and wetter than it is today. During this time, according to Bryant and Holloway (1985:48-53), the region would have supported forests and parklands of deciduous trees such as willow, birch, basswood, alder, hazelnut, ash, and oaks. Spruce trees also may have been present. Grassland areas would have been present as well but to a more limited extent than today. In the warming and drying period that followed, the forests and parklands would have very nearly vanished, leaving scrubby grassland savanna. This trend would have continued until the present vegetational community was established (Bryant and Holloway 1985:63).

The current plant community is characteristic of that of the Edwards Plateau area (Gould 1975). The project area lies within a lobe of this area, which is bordered by the Rolling Plains on the north, east, and west. The Edwards Plateau area is described as supporting a grass understory with an overstory of live oak, shinnery oak, juniper, and mesquite. Northward, this vegetal complex grows to resemble that of the Rolling Plains, which is a mesquite-tobosa prairie (Gould 1975). In the area of the fee lands, the understory consists of tobosa grass (Hilaria mutica), buffalograss (Buchloe dactyloides), and sideoats grama (Bouteloua curtipendula). The overstory consists of live oak (Quercus virginiana), juniper (Juniperus asheii), and mesquite (Prosopis glandulosa var. torreyana) (Texas Agricultural Extension Service 1980). Other grass species which could occur in the area are purple three-awn (Aristida purpurea), silver bluestem (Bothriochloa saccharoides var. torreyana), sand dropseed (Sporobolus cryptandrus), slim tridens (Tridens muticus), little bluestem (Schizachyrium scoparium var. neomexicanum), and common curlymesquite (Hilaria belangeri) (Wooldridge et al. 1981:2-16). In addition to the trees and grasses, a midstory growth of scrub is present, which includes agarita (Mahonia trifoliolata), tasajillo (Opuntia leptocaulis), prickly pear (Opuntia lindheimeri), yucca (Yucca torreyi), beargrass (Nolina texana), Spanish dagger (Yucca treculeana), little leaf sumac (Rhus microphylla), Mormon tea (Ephedra viridis), catclaw acacia (Acacia rigidula), lotebush condalia (Ziziphus obtusifolia), Mexican buckeye (Ungnadia speciosa), and persimmon (Diospyros texana). A few tree species also occurred in the area as scrub. Most prominent of these are hackberry (Celtis pallida) and Bastard oak (Quercus sinuata var. breviloba), the latter being confined to the slopes and edges of the uplands.

The history of the mesquite in the area has been discussed by several authors in different studies (i.e., Wooldridge et al. 1981:2-22 through 2-24; Creel 1986). This literature indicates that mesquite has been present in the area for at least 100 years but has greatly increased in later years due to drought, overgrazing, and historic land-use practices. This increase has been in density and not in range, however, so that the prehistoric inhabitants would have had access to mesquite as a resource, although possibly to a more limited extent than today.

### Fauna

The changes in the climate and vegetation brought about changes in the fauna of the region. During the Wisconsin glacial period, the animals present in the area would have been those associated with a cool forest environment (Bryant and Holloway 1985:49-50). These animals would have become extinct in the region as the climate became more xeric and the woodlands gave way to the scrub grasslands. At the same time, a faunal assemblage suited to a grasslands environment would have become established. With few exceptions, this environment and its fauna have probably undergone little or no change for the past 8,000 to 7,000 years (Creel 1978:253). Therefore, it can be said that most animals present in the area today were very likely present 8,000 years ago as well.

The project area lies within the Balconian biotic province as defined by Blair (1950: 112-115). He described the province as a mixture of faunal elements from the adjacent biotic provinces. Of the numerous species listed by Blair, those which may have been most important to the prehistoric inhabitants of the area are whitetail deer (Odocoileus virginianus), jackrabbit (Lepus californicus), cottontail rabbit (Sylvilagus floridanus), and rock squirrel (Sciurus sp.). Important bird species include turkey (Meleagris gallopavo), wood duck (Aix sponsa), and quail (Callipepla squamata). In addition to these species, there are numerous species of rodents, reptiles, and amphibians which could have been of some economic value. In addition to the above animals, there are several others that have been absent from the area during the last 200 years. The most important of these are bison (Bison bison), antelope (Antilocapra americana), prairie chicken (Tympanuchus pallidicinctus), and passenger pigeon (Ectopistes migratorius) (Wooldridge et al. 1981:2-37). Of these animals, the bison would have held the greatest economic value, and, as a result, its presence or absence may have had a pronounced effect on the subsistence patterns of the aboriginal inhabitants of the area. The availability of bison has evidently gone through considerable change over the last 10,000 years. Dillehay (1974:181) has documented periods of bison presence and absence in Texas during this period. Extrapolating these data to the Stacy Reservoir area would result in the prediction that bison were relatively abundant during the periods of 10,000 to 6000-5000 B.C., 2500 B.C. to A.D. 500, and A.D. 1200-1300 to 1550, with periods of absence from 6000-5000 to 2500 B.C. and from A.D. 500 to 1200-1300.

## CHAPTER 3

### ARCHEOLOGICAL BACKGROUND

The area of Stacy Reservoir and the surrounding region has been the subject of archeological investigations for much of the twentieth century. An extensive and up-to-date summary of these investigations is provided in Darrell Creel's doctoral dissertation concerning burned rock middens in west-central Texas (Creel 1986:29-39). According to Creel's summary, the earliest archeological investigation in this area was by J. E. Pearce for the University of Texas when he excavated three middens near the site of Paint Rock (41CC1) in 1919 (Pearce 1938:38-39; Creel 1986:30). Numerous investigations have taken place since that time. Notable among these are the investigations by Ray and Sayles during the 1920s and 1930s (Creel 1986:30-34), the burial excavations by Woolsey for the University of Texas in 1936 (Woolsey 1936a, 1936b, 1936c; Creel 1986:33), the rock art studies by Kirkland and Jackson in the 1930s (Jackson 1938:266-292; Kirkland 1938, 1941; Kirkland and Newcomb 1967:161-169; Creel 1986:34), Stephenson's (1950:2) surveys of the Hinds Creek and San Angelo reservoirs for the Smithsonian Institution in the late 1940s (Creel 1986:35), Jelks and Moorman's (1953) survey of Oak Creek Reservoir in 1952 (Creel 1986:35), the survey of Twin Buttes Reservoir in 1958 by the West Texas Museum-Texas Technological College (Willis 1958:2; Creel 1986:35), Shafer's survey (1967, 1971) and excavation (1969, 1971) of sites in Robert Lee Reservoir (now Lake Spence) for the Texas Archeological Salvage Project in the late 1960s (Creel 1986:36), the work in the North Concho River area by Douthit (1978) in the late 1970s (Creel 1986:38), Creel's (1978) survey of the South Concho River in 1975 and 1976 (Creel 1986:39), and the survey of Stacy Reservoir by Espey, Huston and Associates, Inc. in 1980 (Freeman and Freeman 1981; Wooldridge et al. 1981; Creel 1986:36-37). The studies most pertinent to the current investigations are those by Shafer, Douthit, Creel, and Espey, Huston and Associates, Inc.

In the summer of 1966, Harry Shafer of the Texas Archeological Salvage Project directed the survey of Robert Lee Reservoir in Coke County. This survey recorded 109 sites within the area of the floodpool; while these sites were located in almost all places where there was a reliable source of water and represented occupations from Paleoindian to Late Prehistoric times, most were located on alluvial terraces at river bluffs and dated from the Archaic to the Late Prehistoric periods (Shafer 1967). Following this survey, excavations were carried out at eight of these sites (Shafer 1969, 1971). The results of these excavations gave evidence of occupations from the Archaic to the Protohistoric periods, with the Late Prehistoric being the most strongly represented. In addition, 11 more sites were located during further survey work, increasing the total number of sites in the area to 120 (Shafer 1971). These investigations provided a working chronology for the area as well as initial patterns of settlement and resource utilization.

Nearer to Stacy Reservoir, Creel conducted a survey of the South Concho River area during 1975 and 1976 in an effort to correlate the distribution of different types of archeological sites with specific resources (Creel 1978). Within the 20-km study area, Creel located and recorded 49 sites. These sites were placed into separate type categories and types of environmental

settings, then correlations were made between the resources available at a site and the activities represented there. In this way, a model was developed which described, to an extent, the relationship between site type and resource availability within the area of the South Concho River. Another study by Creel furthered this to the extent of demonstrating the connection between burned rock middens and the exploitation of acorns as a food resource (Creel 1986).

Further investigations in the region occurred during the late 1970s when Mary Douthit conducted a survey of several areas along the North Concho River in order to determine the settlement patterns and methods of resource utilization of the prehistoric inhabitants of the area. The survey located 61 sites within the four selected survey areas and demonstrated the existence of a settlement pattern which was based upon the seasonal variance of resources - primarily plant foods and water. Large sites representing large aggregate groups were located in areas where water and plant resources were available in the fall and spring, while small sites representing small, dispersed groups were located within a wider range of environments in order to more effectively exploit a generally diminished resource pool (Douthit 1978).

The archeological investigations which are most relevant to the current study are those of the previous Stacy Reservoir survey directed by Peter Nichols and reported by H. G. Wooldridge et al. (1981) for Espey, Huston and Associates, Inc. During the fall and early winter of 1980, the survey recorded approximately 431 sites within the 19,200 acres of the reservoir floodpool. This is the largest survey conducted in the area, both in area and in the number of sites recorded. In addition to the vast amount of data retrieved, the survey is notable for several aspects of its research design and methodology. The research design was not directed solely to the location, recording, and assessing of archeological sites but also to a refinement of data-gathering methods through the utilization of the concept of behavioral episodes (B.E.s). These are defined as "the smallest unit of understandable behavior that can be identified in the archeological record" (Wooldridge et al. 1981:3-16). This concept was utilized during the survey by locating and mapping B.E.s either within a selected portion of a site or within a transect along the long axis of the site. In addition to mapping and recording the B.E.s, a lithic artifact tabulation sheet was completed for each B.E. In this way, the survey attempted to gather more-detailed information about a site within the same amount of time required for usual methods of site recording. Checklists for plant species also were used, again toward the goal of gathering more-accurate and more-detailed information without dramatically increasing the amount of time spent in recording a site.

Analysis of the materials and data collected by the 1980 survey indicated that of the 431 sites recorded, 327 had only prehistoric components, 62 had only historic components, and 42 had both prehistoric and historic components. Occupational periods represented at the prehistoric sites ranged from the Paleoindian period through the Late Prehistoric period. The historic sites represented settlement from the 1860s and later. In addition to interpreting and assessing the archeological sites within the area, the report also dealt with prehistoric water quality and its effect on settlement patterns, the location and origin of lithic resources, the architectural history and

architectural significance of certain historic structures within the area, and recommendations for future research and investigations in the area of Stacy Reservoir (Freeman and Freeman 1981; Wooldridge et al. 1981). The 1980 survey, however, did not emphasize the geologic contexts of the archeological remains. Geologic context is critical in a confluent riverine setting where sites occur in deep alluvial deposits and the potential for reconstruction of past cultural ecology is optimal.

An archeological investigation not described in Creel's 1985 summary is the excavation of a Late Prehistoric burial by the Midland Archeological Society in 1982 (Collins and Caddell 1984). The burial was originally seen eroding from the bank of Lake Spence (formerly Robert Lee Reservoir) and was excavated shortly thereafter. As a result of the excavation and analysis of the burial, it was determined that it contained the remains of two adults, probably females, who may well have died as a result of arrow wounds. This theory as to the cause of death is based mainly upon the presence of only broken arrow points in the body cavity, which somewhat precludes the possibility of them being grave offerings, and the lack of pathologies indicated in the osteological remains. The date of the burial is estimated at A.D. 1100 to 1500 (Collins and Caddell 1984:102).

The 1980 investigations of Stacy Reservoir, as well as the others mentioned briefly here, provide background information vital to this and future investigations within the region and to the accurate interpretation and assessment of cultural resources encountered thereby.

## CHAPTER 4

### SURVEY METHODS

Personnel from Prewitt and Associates, Inc. conducted a pedestrian survey of five tracts of fee lands. These tracts contain a total of 1,690 acres of land above the conservation pool of the proposed Stacy Reservoir which are subject to impact through the development of recreation areas. The survey was conducted to locate, record, and assess the cultural resource value of any archeological sites which might be present.

The survey was conducted by a crew of four people walking parallel transects 20-25 m apart. The usual method of covering an area was to walk along the 1,550-ft contour line to delineate the area, and then to walk transects back and forth between the boundaries to cover the interior of the area. In most cases, the area was divided into two or more sections by a road, a fence, or a prominent drainage. Such internal boundaries were often used to orient the transect lines or served as stopping points. To keep track of land that had been walked over and to avoid crossing transect lines, the outer edge of each transect line was flagged with tissue paper. This flagged line provided an additional guide by which to orient subsequent transects. As such artificial and natural guidelines were available, compass bearings were seldom used and then only to initiate a transect.

During the walking of these transects, close attention was paid to the ground surface in order to locate any evidence of prehistoric or historic activity. Such activity would usually be represented by a surface scatter of metal, glass, burned rocks, chipped stone tools and debris, bones, mussel shells, or other cultural materials. Other evidence would be anomalously large rocks, especially if they formed an arc or ring, or piles of rocks or displaced slabs in areas near the edges of bluffs. In addition to surface inspections, areas along the edges of bluffs and escarpments were examined for the presence of limestone overhangs since such places have been known to contain burials or caches.

No shovel testing or shovel probes were made as ground surface visibility was sufficient to locate cultural materials without subsurface testing. Also, the sediments within the survey areas was shallow enough to preclude the presence of buried cultural deposits.

When any isolated temporally or culturally diagnostic artifact was encountered, its location was marked on the appropriate USGS 7.5' topographic map and the artifact was collected as an Isolated Find. Whenever a concentration of burned rocks, chipped stone debris, or conspicuous boulders was found, the general area was inspected closely to determine its extent and nature and to ascertain whether or not it warranted treatment as an archeological site. Occasionally, when the crew was pressed for time or uncertain about a concentration area, the area was flagged so that it could be relocated for further examination the next day. When an area was determined to be an archeological site, it was recorded on a State of Texas Archeological Site Data Form. A compass-and-pace map of the site and any features was made, and photographs were taken. Also, the locations of any diagnostic or unusual artifacts present at the site were plotted on the map using a compass and pacing distances, after which they were collected.

On several occasions, large areas of thermally altered limestone were encountered with few or no other kinds of associated cultural indicators (e.g., chipped or ground stone artifacts, burned bone or shell). The origin of widely dispersed burned rock is problematic since burned rock scatters may relate to early natural/controlled brush fires predating the re-establishment of vegetation. In this survey, two criteria were established to differentiate natural brush burning from prehistoric cultural activities.

1. Fire-cracked rock was attributed to cultural activities if it was in the immediate vicinity of other cultural materials (e.g., stone tools/debitage). Under such conditions, site forms and records were completed.
2. Fire-cracked rock was attributed to natural/controlled brush burning if evidence of geomorphological burning was found (e.g., burned bedrock exposures, scarcity of ground cover, charcoal fragments, etc.). Such localities were not recorded as sites.

Since the area below the 1,551.5-ft contour line had been surveyed in 1980, previously recorded sites were located at the edge of the current project boundaries. When one of these sites was located during the survey, the site and surrounding area were re-examined to see if the site extended beyond the boundaries of the 1980 survey area. The current condition of the site also was examined, and any diagnostic artifacts were collected or noted.

Throughout the survey, careful documentation was maintained. Observations were recorded in a daily journal, on site forms and on photograph logs. Isolated finds, archeological sites, and transect lines were plotted in the field on topographic maps.

In this manner, the survey and documentation of the five tracts of fee lands was conducted. The results of this survey are presented in the following chapters.

## CHAPTER 5

### SURVEY AREA DESCRIPTIONS

The fee lands to be developed into recreation areas consist of five tracts of land. Each of these tracts was treated as a survey area and referred to as such throughout the fieldwork. These survey areas are located along the margins of the valleys of the Colorado and Concho rivers in the vicinity of their confluence (see Figs. 1 and 2).

#### Survey Area 1

Survey Area 1 is located in Coleman County east of a large bend in the Colorado River 5.6 km (3.5 miles) south-southeast of Leaday townsite at the confluence of Elm Creek and the Colorado River. The area is part of an upland plain dissected by numerous small draws and drainages. Three such drainages form the boundaries to the north, northeast, east, and southwest, while the Colorado River and Elm Creek, respectively, bound the area to the west and northwest. The southern and southeastern boundaries are delineated by a dirt road. This area contains 320 acres.

The central and southern portions of this area consist of flat upland plains. The soil is mapped as a shallow layer of brown clayey loam (Kimbrough-Mereta soil association) with caliche nodules over caliche (Botts et al. 1974). The upperstory vegetation is mainly mesquite, with some hackberry and little-leaf sumac present as well. The midstory growth consists of prickly pear, tasajillo, agarita, yucca, Spanish dagger, and other shrubs. Neither the upper or midstory growth was dense enough to cause any problems in movement and visibility. The ground cover is mainly short, sparse grass and low forbs which have been fairly heavily grazed. Also, some brush-clearing has been done at some time in the past which has resulted in the low second-stage growth. The sparse ground cover afforded good surface visibility throughout the area.

The rest of Survey Area 1 consists of the slopes which form the boundaries for most of this area. The slopes are separated from the uplands by an exposure of limestone rimrock. The soil here is mapped as a brown clay loam over reddish brown clay with caliche concentrations (Stony Lands of the Tarrant-Purves-Owens association) (Botts et al. 1974). The ground surface is quite rocky, with the soil filling in the gaps between the bedrock exposures. The vegetation here is denser than on the plain above, probably due to a lack of clearing brush from the slopes. In general, the vegetation is the same as that on the plain but with fewer mesquite and more of the midstory growth. Spanish dagger, agarita, and catclaw acacia are the dominant plants. Grass growth is very sparse, although fairly high (50 cm) clumps are present in a few places. As before, surface visibility is good, although the density of the shrubs did make movement difficult in places.

The area was surveyed by walking transects spaced ca. 20 m apart. During these transects, a chert outcrop was seen to occur along the rimrock and extending for 100 m up onto the plain. This outcrop continues along the entire length of the slopes -- a distance of over 4 km. Throughout the area



of the outcrop, there is a general scatter of cultural materials, including tested cobbles, cores, bifaces, burned rocks, and debitage. Also, an occasional projectile point or scraper was noted amid the scatter. Within this scatter, there are several areas of concentrated activity. Since these areas are all linked by the chert outcrop and the artifact scatter, the entire area of the chert outcrop was designated as site 41CN213 (see Chapter 6). In addition to recording 41CN213, six prehistoric sites which had been recorded by the 1980 survey were briefly re-examined. These sites are 41CN90, 41CN91, 41CN98, 41CN102, 41CN103, and 41CN104. All six were judged to be accurately plotted and defined with reasonable accuracy.

### Survey Area 2

Survey Area 2 is located in Coleman County ca. 2.8 km (1.75 miles) north-northeast of Survey Area 1 and 3.1 km (1.9 miles) southeast of Leaday. It is bounded on the east by Bull Hollow Branch and on the north by a fence within the Day Ranch. The west, south, and southeast boundaries follow the 1,550-ft contour line. This contour line was fairly easy to identify as it follows the upper edge of slope on the southwest just below the rimrock and runs just above a prominent stock tank on the southeast. The survey area is divided into two sections by a fenceline -- one north and one south. The combined area of these two sections is 200 acres, making this the smallest of the five survey areas.

The northern section consists of a flat to gently rolling upland plain. The soil is mapped as Tarrant-Purves brown clay containing up to 80% of its volume in limestone fragments (Botts et al. 1974). These fragments are readily seen on the surface, giving it a coarse, rocky appearance, especially on the slopes. The vegetation consists of low mesquite, hackberry, and lotebush, with agarita, prickly pear, and other shrubs also present. According to Elmo Hudson, who manages the lands, the area had been chain-cleared 15 years ago, which made the second-stage growth very dense, especially in the southern end of this section. Grass growth, however, is generally sparse, and as a result, the surface visibility is quite good, except for the denser patches of cacti.

The southern section of the area is about one-third the size of the northern section. The soil and topography are basically the same as that to the north, but here the rimrock is a more prominent feature of the landscape. There apparently had been less, if any, clearing in this section, as evidenced by the number of larger trees. These are mainly hackberries and oaks, with some mesquite present as well. Despite the lack of clearing, the understory is quite dense in some places, especially below the rimrock on the slopes. Large Spanish daggers, agarita, catclaw acacia, tasajillo, prickly pear, and other shrubs grow in dense stands between the exposed limestone boulders. The density of the vegetation combined with the ruggedness of the terrain made surveying difficult, and some places had to be skirted for the sake of efficiency. Grasses grow in clumps up to ca. 75 cm high. Elsewhere it is relatively sparse and surface visibility is adequate.

The area was surveyed by walking transects with an interval of ca. 20 m. During this survey, a very thin scatter of cultural materials was found throughout the area. More particularly, a diffuse, light scatter of historic artifacts was located in the northwestern corner of the survey area. This scatter includes fragments of brown and purple bottle glass, undecorated whiteware, large tin can fragments, part of a stove leg, and other bits and pieces of metal. The area was examined and photographed, but due to its small size, light scatter, and no clear-cut concentrations, it was not designated as a site.

The rest of the artifact scatter consists of a few pieces of burned rocks and chipped stone debris in an area where chert cobbles are naturally exposed. These materials are apparently part of a previously recorded prehistoric site, 41CN149, which had been located by the 1980 survey. As the scatter extends beyond the survey boundaries delineated by the 1980 survey, the site boundaries were changed to include the denser portions of the lithic scatter seen by the 1986 survey (see Chapter 6). The extent of the lithic scatter throughout the survey area is rather curious. It is extremely light but far removed from the site and the chert outcrop. The most plausible explanation is that the chain-clearing of the area has spread an already thin artifact scatter across a larger area, thus creating an extremely thin, generalized scatter with vague concentrations near original artifact locations.

A final item noted during the survey is a single bulldozer scrape which had pushed aside several large slabs of limestone. This looks suspiciously like a rock cairn which has been bulldozed, especially since no other cuts or scrapes were seen in the area. There is no conclusive evidence that this is, in fact, a destroyed cairn, and no site designation has been given. Nonetheless, the feature is noteworthy.

### Survey Area 3

Survey Area 3 is located in Coleman County ca. 1.8 km (1.1 miles) north of Leaday and 3.2 km (2 miles north) of the Colorado River. It is bounded on the east by a north-south-running fenceline and on the north by a small unnamed drainage. The western boundary is formed by Grape Creek and its tributary, Wheeler Branch. The southern boundary is formed by a bench which follows the 1,550-ft contour line. The area contains 320 acres of upland plains dissected by several small drainages. The soil is thin, rocky Tarrant-Purves clay (Botts et al. 1974) with many outcrops of limestone bedrock. The rocky character of the ground, and the slopes and ridges formed by the drainages, made this the most rigorous and difficult of the five survey areas.

Vegetation is fairly dense, with an upperstory of mesquite and hackberry. Midstory vegetation includes agarita, Spanish dagger, prickly pear, prickly ash, little-leaf sumac, whitebrush, and tasajillo. Grass growth is moderate, although the rocky nature of the ground provided enough gaps so that surface visibility is fairly good. According to Randy Sowell, the landowner, the area had been cleared in the 1950s, and, as a result, the ground surface is somewhat disturbed.

The survey of this area was conducted by walking transects ca. 25 m apart. Very few cultural materials were found in this area, with the exception of one prehistoric site located in the northwestern corner of the area overlooking Wheeler Branch. This was designated 41CN212 and consists of several burned rock clusters and an artifact scatter including projectile points, biface fragments, a mano, and debitage (see Chapter 6). In addition to locating and recording the site, four prehistoric sites which had been recorded by the 1980 survey were re-examined. These sites are 41CN61, 41CN62, 41CN63, and 41CN87. In general, these sites were found to be accurately plotted and defined, but in two cases their descriptions seem somewhat inaccurate. At 41CN61, more burned rock accumulations were found than were originally recorded, a few of which are probably middens. One dart point (Frio) was collected and plotted on the site map. Site 41CN63 was found to be in better condition than indicated in the 1980 notes and site form. The burned rock middens were described as eroded or deflated, but they appear to be reasonably intact. Also, one of the middens has a bulldozer-cut through it, from which a dart point (Zephyr) was collected.

#### Survey Area 4

Survey Area 4 is located in Runnels and Concho counties in the southern part of a large bend in the Colorado River ca. 6.1 km (3.8 miles) west-northwest of Leaday and 1.3 km (0.8 mile) northwest of the confluence of the Colorado and Concho rivers. It is bounded on the northwest by the Colorado River and on the north and east by the 1,550-ft contour line. This contour line roughly parallels and lies 300 to 1,000 m south of the Colorado River. The southern boundary is delineated by an east-west-running fence line. The western edge of the survey area is called Brushy Bluff on the 1963 USGS Leaday 7.5' topographic map. Topographically, the area can be divided into two sections. One is the upland area southeast of Brushy Bluff in the southwestern part of the survey area, and the other is the valley slope and alluvial plain of the Colorado River located in the northeastern part of the area. The combined area of these two sections is about 400 acres.

The upland section is a gently rolling plain dissected by several small drainages. The soil is a stony, shallow clay loam of the Talpa-Kavett association over limestone bedrock (Wiedenfeld et al. 1970). Bedrock is exposed on the bluff slopes and at the rimrock. Vegetation is almost entirely agarita and juniper, with some lotebush, little-leaf sumac, catclaw acacia, and yucca also present. Junipers and hackberries are primarily on the edge of the upland slopes. The slopes of Brushy Bluff are densely overgrown by Bastard oaks and are, at best, quite difficult to survey. At worst, they are impenetrable. Ground cover consists of a moderately dense growth of grass, forbs, and low shrubs. These obscured the ground surface somewhat, but there are enough bare, rocky patches to afford a sufficiently clear view of cultural materials.

The northeastern section of the survey area occupies part of the valley slope and Colorado River floodplain. The plain is predominantly flat with two low hills. The soils here are Winters fine sandy loam in the northeast and Olton clay loam in the southeast portions, while the higher elevations in the

western half of the section are of the Talpa-Kavett association. Both the Winters and Olton soils are fairly deep and have developed from old alluvial deposits (Wiedenfeld et al. 1970). The vegetation is largely mesquite with an understory of agarita, lotebush, and catclaw acacia. The grass growth is short but more dense than in other areas. Overall, the vegetation is denser in the eastern portions of this section than in the western portions. The western portions are at a higher elevation and are very similar to the uplands section in the southwestern part of the survey area. The differences in the vegetation are reflected in surface visibility. The relatively bare, rocky uplands provide good visibility, while in the lower alluvial areas, surface visibility is limited due to the denser grass growth. However, there are numerous bare patches in the grass where there is good visibility, so an accurate assessment of the cultural resources was possible without shovel testing.

The survey of this area was done by walking transects with a spacing interval of ca. 20-25 m. Cultural materials noted consist of a light scatter of chipped stone debris and occasionally a tested cobble. This scatter is concentrated in the upland areas and the higher elevations of the plains below. Very little cultural materials were seen in the floodplain. In the southwestern tip of the area, a prehistoric site was located overlooking Brushy Bluff. This site was designated 41CC237 and consists of a lithic scatter and a rock cairn. The lithic scatter includes a loose cluster of burned rocks, projectile point fragments (including a Bulverde stem), and debitage. The rock cairn is located very near the edge of the bluff and appears to be undisturbed (see Chapter 6). In addition to locating and recording this site, sites 41CC224, 41RN123, 41RN154, and 41RN156 were briefly re-examined. These prehistoric sites had originally been recorded during the 1980 survey and were accurately plotted, with the exception of sites 41RN123 and 41RN154. In the case of 41RN154, the site's lithic scatter extended farther upslope and beyond the 1980 project boundary; the site boundaries were changed accordingly. The site boundaries of 41RN123 were also extended to include the remainder of a lithic procurement area at the northern end of the site and the rest of a lithic scatter at the southern end (see Chapter 6).

Finally, while the scatter of chipped stone debris seems to be confined to the uplands, this could be due, in part, to the decreased surface visibility in the floodplain and not strictly a result of prehistoric activity patterns. Also, deposits of alluvium and blow sand may have buried cultural materials during geologically recent times. However, this likelihood is remote since a few chert flakes and nodules were seen in a few places in the floodplain.

#### Survey Area 5

Survey Area 5 is located in Concho County ca. 2.3 km (1.4 miles) east of the Concho River and 3.9 km (2.4 miles) southwest of Leaday. It is situated between the Colorado River to the north and FM 2134 to the south and is 3.1 km (1.9 miles) south-southeast of the confluence of the Colorado and Concho rivers. There are few distinct natural boundaries to the area, the exception being a small unnamed stream delineating an indentation in the southeastern

corner of the area and a large cleared field in the floodplain along the western edge of the area. The southern boundary is formed by the combination of an east-west-running fenceline and a dirt road. The northern and eastern boundaries are the 1,550-ft contour line, which roughly parallels the course of the Colorado River to the northeast. These boundaries encompass 450 acres, making Survey Area 5 the largest area of the survey.

The area occupies an upland plain which, for the most part, grades fairly gradually down the valley margin to the north, east, and west. This upland plain is dissected by numerous small drainages and has a flat to gently sloping topography. The soils are clay loams with numerous caliche fragments on the surface, similar to the upland areas of Survey Area 4. No named soil association can be applied, as the Soil Conservation Service has not yet completed the soil survey for Concho County. Near the edges of the uplands to the east and northwest, the soil is quite thin, with the limestone bedrock exposed throughout most of that area. Also along these edges, especially along the eastern margin, a chert outcrop is present and numerous nodules are visible along the margins of the survey area. Vegetation consists of an upperstory of mesquite with an understory of prickly pear, tasajillo, agarita, catclaw acacia, lotebush, and Spanish dagger. The understory, in particular the prickly pear, is quite dense in places and difficult to survey. Grass growth is moderate to dense, tending to be more dense in the western portion of the survey area. This decreases the ground surface visibility in places, but there are still enough clear patches to allow accurate observation of cultural materials.

Survey of this area was done by walking transects ca. 25 m apart, zigzagging occasionally to accommodate the denser patches of cacti. Cultural materials in the area include a generalized lithic scatter, a prehistoric site, and an historic site. The lithic scatter extends, to various degrees, throughout the survey area. It is densest in the area of the chert outcrop to the east and to the northwest where it is associated with a previously recorded site. Here it consists of tested nodules, cores, large crude bifaces, projectile point fragments, and debitage; at times it is difficult to distinguish culturally modified chert from nodules that have fractured naturally. One of the projectile points, although untyped, was collected (see description of site 41CC119 in Chapter 6 and Artifact Descriptions in Chapter 8). The prehistoric site, designated 41CC238, consists of a lithic scatter and two burned rock concentrations. The lithic scatter includes cores, thick bifaces, debitage, and a few isolated burned rocks (see Chapter 6). The historic site was designated 41CC239 and consists of two rock concentrations, a building stone-dressing area, an old stock pen, and a generalized scatter of historic artifacts. The two rock concentrations are made up of limestone cobbles and are believed to represent foundations for buildings of some sort. The stone-dressing area includes two clusters of large limestone flakes and chunks within an area roughly 15 m in diameter. To the west, a few planks appear to be the remains of an old pen. The artifact scatter includes whiteware, crockery, glass, and various metal fragments (see Chapter 6). In addition to recording these two sites, five sites which had been recorded by the 1980 survey were re-examined. These sites are 41CC118, 41CC119, 41CC130, 41CC133, and 41CC232. These sites were found to be correctly plotted and recorded, except for 41CC119 and 41CC133. At these two sites, the lithic

scatter extended beyond the boundaries proposed by the 1980 survey, especially in the case of 41CC119 where the lithic scatter extends ca. 500 m following a chert outcrop (see Chapter 6). The boundaries of both these sites were changed according to the extension of their lithic scatters.

## CHAPTER 6

### SITE DESCRIPTIONS

During the course of the survey, five new sites were located and recorded. Three of these sites (41CC237, 41CC238, and 41CC239) are located in Concho County, and two sites (41CN212 and 41CN213) are located in Coleman County. All but one of the sites are prehistoric; the exception is 41CC239, which is an historic site. In addition to these sites, the survey crew also visited 16 previously recorded sites in order to check their boundaries above the 1,551.5-ft limit of the 1980 survey. Most of these sites seem to be accurately reported, but five were found to have boundaries which extend beyond those described in 1980. These five sites are described in the following paragraphs.

#### Previously Recorded Sites

In the fall of 1980, approximately 431 sites were recorded by personnel from Espey, Huston and Associates, Inc. (Freeman and Freeman 1981; Wooldridge et al. 1981) during a survey of the proposed Stacy Reservoir conservation pool. This survey covered 19,200 acres of land to be inundated by Stacy Reservoir. As the upper boundary for the project was the 1,551.5-ft msl contour line, there was little investigation of sites above this contour. For this reason, the 16 previously recorded sites which lay within or adjacent to the 1986 project boundary line (1,551.5-ft msl contour) were re-examined to see if they extend beyond the site boundaries shown by the 1980 site survey forms. This proved to be the case for five of these sites. A description of these five sites, along with the amount and basis of their extensions, is presented below.

The 1980 survey was reported using a format in which individual prehistoric sites are not described and all sites are summarized in tabular form (Wooldridge et al. 1981:Table 3-1). Site locations are plotted on maps housed at the Texas Archeological Research Laboratory (TARL), and site survey forms are held by the Texas Historical Commission (THC). The present reanalysis of these sites has utilized the report, the maps at TARL, and the site forms at the THC, in addition to data collected in the field.

#### 41CC119

This prehistoric site was originally reported by the 1980 survey as occupying 10,000 m on an upland plain at an elevation of 1,550-1,560 ft msl. The soil was composed of a thin layer of clay loam (lithosols) overlying limestone bedrock. Vegetation was not described on the 1980 site form but currently consists mainly of mesquite, prickly pear, tasajillo, and agarita. Cultural materials noted in 1980 were tested cobbles, cores, bifaces, and debitage, all found along with naturally occurring chert nodules. The site was shovel tested, but no surface collection was made. Based on the lithic scatter situated on a chert outcrop with no diagnostic artifacts present, the site was interpreted as a lithic procurement area and classified as

Undetermined Prehistoric. No further work was recommended for this site (Wooldridge et al. 1981:Table 3-1).

When the site was revisited during the 1986 survey of Survey Area 5, a lithic scatter consisting of tested cobbles, cores, thick bifaces, debitage, and small amounts of burned rocks were found to extend to the northwest of the mapped site boundary along the chert outcrop for approximately 500 m. Near the northwestern end of the scatter where the ground rises, the artifact density is the greatest. This increased the area of the site to ca. 60,000 m and increased its elevation to ca. 1,550-1,572 ft msl. One impact-fractured dart point, which is currently untyped but compares favorably with a Pandale point, was found and collected within the northern half of the scatter. However, it is as likely that this point is a hunting loss as an artifact associated with lithic procurement. As such, it cannot be used in dating a component of the site with any surety. Therefore, the only change in the site description made by the 1986 survey is the extension of the site boundaries to the northwest along the edge of the slope.

## 41CC133

This prehistoric site was originally described as occupying 100,000 m<sup>2</sup> on the slope of an upland mesquite grassland savanna at an elevation of 1,520-1,560 ft msl. The soil was a thin layer of clay loam over limestone bedrock. Vegetation was mainly mesquite with an understory of agarita, yucca, tasajillo, sugarberry, and wolfberry. Grass cover was moderate and afforded enough visibility to observe cultural materials on the surface. These materials were chert flakes and cobbles in a dense scatter. No shovel testing or surface collection was done at the site. Because of the density of the scatter, the site was considered to be a lithic procurement area. Due to the absence of any diagnostic artifacts, the site was designated as Undetermined Prehistoric. No further work was recommended (Wooldridge et al. 1981:Table 3-1).

When the site was revisited by the 1986 survey of Survey Area 5, the lithic scatter was seen to extend another 150 m to the south, and the site boundaries were changed accordingly. As with the 1980 survey, no diagnostic artifacts were noted or collected. Therefore, the only change is an increase in the size of the site to an area of 115,000 m and an elevation of 1,520-1,560 ft msl.

## 41CN149

This prehistoric site was originally described as occupying 50,000 m on an upland plain at an elevation of 1,540-1,560 ft msl and overlooking Bull Hollow Branch 50 m to the northeast. The soil was composed of 10 cm of loam overlying limestone bedrock. Vegetation was mainly mesquite, with prickly pear and agarita also present. Grass growth was sparse and afforded good ground surface visibility. Cultural materials noted were a light scatter of burned rocks and chipped stone debris. Previous chain clearing of mesquite at the site had disturbed the surface considerably, making it impossible to



discern any cultural features such as hearths or middens. The site was shovel tested, and one dart point was surface collected. This dart point was used to date the site to the Archaic period. No further work was recommended at the site due to its disturbed nature and shallow deposit (Wooldridge et al. 1981:Table 3-1).

When the site was revisited by the 1986 survey of Survey Area 2, the scatter of burned rocks and chipped stone debris was found to extend far beyond the boundary originally shown for the site. The scatter extends southward for another 400 m along the edge of the upland plain to a point north of a small rise, where it trends west for 200 m following a chert outcrop. This gives the site an area of 100,000 m and an elevation of 1,540-1,580 ft msl. Also noted in the 1986 survey were a few clusters of burned rocks in the southern end of the extended scatter, but nothing could be identified as a hearth or a midden. Aside from the extension of the site boundary, no other difference with the 1980 site survey form was found.

## 41RN123

This prehistoric site was originally described as occupying 200,000 m on a bluff at the base of an upland plateau overlooking the Colorado River and at an elevation of 1,510-1,550 ft msl. The soil was composed of clay lithosols overlying limestone bedrock. Vegetation was described as mainly juniper and mesquite grassland savanna, with some whitebrush, Mexican buckeye, and coma also present. A great deal of cultural materials were found, primarily burned rocks, chipped stone debris, and tested cobbles. The 1980 survey identified 10 "behavioral episodes," which included 4 burned rock clusters, 3 hearths, and 3 buried middens. A lithic procurement area was also identified at the northern end of the site. The site was shovel tested, and erosional features were examined. In one erosional gully, midden deposits were seen 1 m below the ground surface. A surface collection was made, by which the site was dated as spanning from the early to late Archaic. Further testing was recommended for the site as anticipated wave action would erode the cultural deposits (Wooldridge et al. 1981:Table 3-1).

When the site was revisited by the 1986 coverage of Survey Area 4, the procurement area continued southeastward up and along the top of a ridge for ca. 600 m. The southern one-third of the site's lithic scatter extended 100 m upslope. This gives the site an area of 300,000 m and an elevation of 1,510-1,570 ft msl. This extension of the boundaries was the only difference noted with the 1980 site survey form.

## 41RN154

This prehistoric site was originally described as occupying 10,000 m of dissected upland plateau at an elevation of 1,520-1,550 ft msl and overlooking the Colorado River 50 m to the northwest. The soil was composed of shallow lithosols overlying limestone bedrock. Vegetation was composed mainly of juniper and mesquite, with an understory of Mexican buckeye, whitebrush, and coma. Cultural materials noted were a moderately dense scatter of burned

rocks and a light scatter of chipped stone debris. The site was shovel tested, and these tests indicated that cultural deposits could extend to a depth of 40 cm. No surface collection was made. Site 41RN154 was considered to be separate from nearby 41RN123, primarily because the two sites are separated by a small draw. As no diagnostics were found, the site was defined as Undetermined Prehistoric. Further testing was recommended for the site to determine the nature and extent of the buried cultural deposits (Wooldridge et al. 1981:Table 3-1).

When the site was revisited by the 1986 survey of Survey Area 4, it was discovered that the artifact scatter extends ca. 180 m farther to the southeast than defined by the 1980 survey, although the extended scatter is very light. This gives the site an area of 450,000 m and a range in elevation of 1,520-1,600 ft msl. This was the only difference noted with the 1980 site survey form.

#### Newly Recorded Sites

##### 41CC237

This prehistoric site is in Survey Area 4 and occupies ca. 12,500 m at an elevation of 1,610-1,620 ft msl on the top of Brushy Bluff overlooking a large bend in the Colorado River ca. 150 m to the north where the Colorado crosses the Concho-Runnels county line (Fig. 3a). A previously recorded site, 41CC224, lies downslope in the river floodplain just 50 m to the west. The soil is a shallow clay loam with numerous rocks and limestone fragments on the surface. Limestone bedrock is exposed in several places, especially near the edge of the bluff. A few trees, namely stunted oaks, mesquite, junipers, and hackberries, are concentrated near the bluff edge. On top of the bluff are agarita, lotebush, yucca, and catclaw acacia. Grass growth is sparse, and ground surface visibility is generally good.

Cultural materials noted at the site are two very slight clusters of burned rocks, a small mound of pebbles and cobbles which appears to be a rock cairn, and a light scatter of chipped stone tools and debitage. The two burned rock clusters are near the center of the site and are both ca. 2 m in diameter. Neither is very concentrated or appears to be an intact hearth. The lithic scatter is also concentrated in the central portion of the site and consists of cores, thick bifaces, unifaces, dart point fragments (including one Bulverde base), and debitage, with a few small burned rocks also present.

The rock cairn is located very near the edge of the bluff and is made of small cobbles and pebbles piled together. This cairn is about 3 to 4 m in diameter and about 20-30 cm high. It is noticeably higher than the immediately surrounding area, and the cobbles are smaller than others naturally occurring nearby. The cobbles are tightly packed, and the cairn is apparently undisturbed. This is probably due to its being partially covered, and thus hidden, by vegetation. No testing was done at the site or the cairn, so it is impossible to say for certain that the cairn contains a burial.

rocks and a light scatter of chipped stone debris. The site was shovel tested, and these tests indicated that cultural deposits could extend to a depth of 40 cm. No surface collection was made. Site 41RN154 was considered to be separate from nearby 41RN123, primarily because the two sites are separated by a small draw. As no diagnostics were found, the site was defined as Undetermined Prehistoric. Further testing was recommended for the site to determine the nature and extent of the buried cultural deposits (Wooldridge et al. 1981:Table 3-1).

When the site was revisited by the 1986 survey of Survey Area 4, it was discovered that the artifact scatter extends ca. 180 m farther to the southeast than defined by the 1980 survey, although the extended scatter is very light. This gives the site an area of 450,000 m and a range in elevation of 1,520-1,600 ft msl. This was the only difference noted with the 1980 site survey form.

#### Newly Recorded Sites

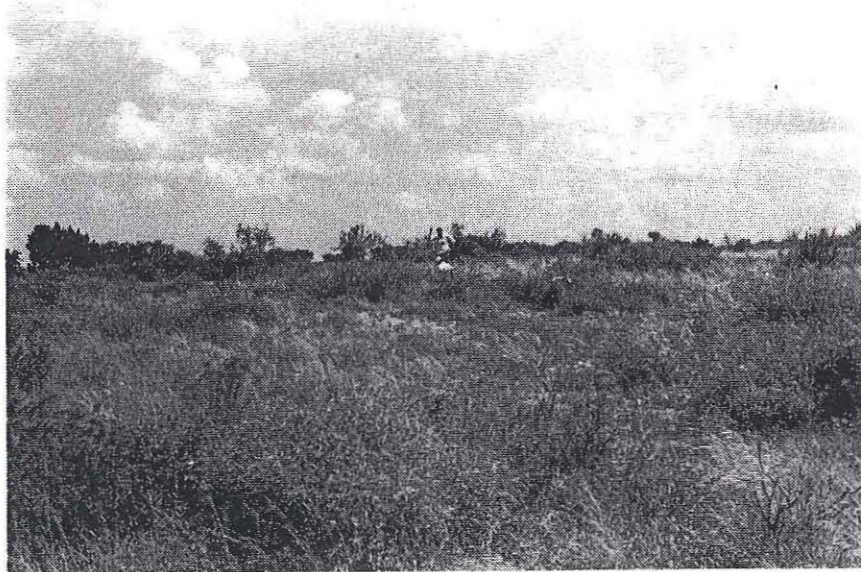
##### 41CC237

This prehistoric site is in Survey Area 4 and occupies ca. 12,500 m at an elevation of 1,610-1,620 ft msl on the top of Brushy Bluff overlooking a large bend in the Colorado River ca. 150 m to the north where the Colorado crosses the Concho-Runnels county line (Fig. 3a). A previously recorded site, 41CC224, lies downslope in the river floodplain just 50 m to the west. The soil is a shallow clay loam with numerous rocks and limestone fragments on the surface. Limestone bedrock is exposed in several places, especially near the edge of the bluff. A few trees, namely stunted oaks, mesquite, junipers, and hackberries, are concentrated near the bluff edge. On top of the bluff are agarita, lotebush, yucca, and catclaw acacia. Grass growth is sparse, and ground surface visibility is generally good.

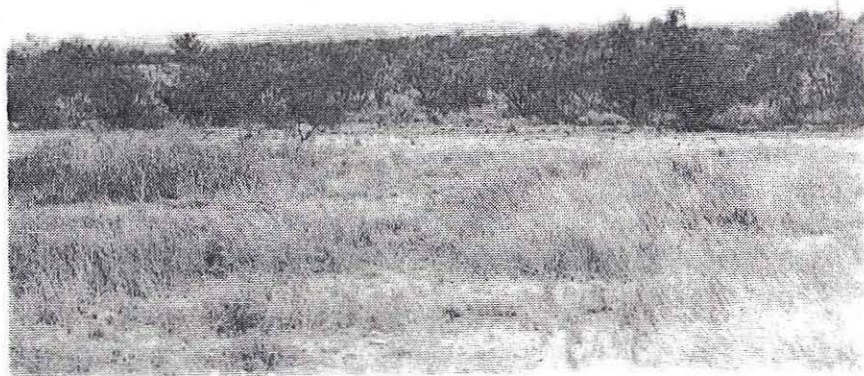
Cultural materials noted at the site are two very slight clusters of burned rocks, a small mound of pebbles and cobbles which appears to be a rock cairn, and a light scatter of chipped stone tools and debitage. The two burned rock clusters are near the center of the site and are both ca. 2 m in diameter. Neither is very concentrated or appears to be an intact hearth. The lithic scatter is also concentrated in the central portion of the site and consists of cores, thick bifaces, unifaces, dart point fragments (including one Bulverde base), and debitage, with a few small burned rocks also present.

The rock cairn is located very near the edge of the bluff and is made of small cobbles and pebbles piled together. This cairn is about 3 to 4 m in diameter and about 20-30 cm high. It is noticeably higher than the immediately surrounding area, and the cobbles are smaller than others naturally occurring nearby. The cobbles are tightly packed, and the cairn is apparently undisturbed. This is probably due to its being partially covered, and thus hidden, by vegetation. No testing was done at the site or the cairn, so it is impossible to say for certain that the cairn contains a burial.

## Site Photographs



- a. Site 41CC237. Facing east-northeast toward site from edge of Brushy Bluff. Archeologists are mapping site. Note increased density of shrub growth in bluff area.



- b. Site 41CC238. Facing north toward site, with disturbed burned rock feature in pasture road at center. Vegetation is typical of overgrazed upland pasture.

Based on the single Bulverde dart point base and the presence of a probable rock cairn burial, it is believed that the site was occupied sometime from the middle Archaic to possibly the Late Prehistoric period.

## 41CC238

This prehistoric site is located in Survey Area 5 and occupies ca. 200 m of upland plains on the slope of a small rise overlooking the bottomland to the northwest and situated at an elevation of 1,580 ft msl (Fig. 3b). In general, the area is flat and slopes down gradually to the east to a broad bottomland area bounded on the east by the Concho River and on the north by the Colorado River. The confluence of these two rivers lies 3.15 km north-northeast of the site. The soil is a shallow silty loam with numerous limestone nodules on the surface. The area has been cleared of brush recently, so the vegetation is only a meter or so high and consists of mesquite, with agarita and tasajillo also present. Grass cover is sparse, and ground surface visibility is quite good.

Cultural materials noted at the site are two burned rock clusters and a light scatter of chipped stone debris. Of the two burned rock clusters, one is apparently an intact hearth ca. 1 m in diameter. The other cluster may have been a hearth, but it has been disturbed by the grading of a pasture road. The majority of these burned rocks have been pushed to the side of the road 3 to 4 m from where they appear to have been originally. It is impossible to determine the original size of this cluster, but it is now ca. 2 m long and ca. 1 m wide. The lithic scatter includes cores, thick bifaces, debitage, and burned rocks. Two of the bifaces are within 10 m of the intact hearth. The burned rocks are found between the two burned rock clusters. No diagnostics were noted at this site, so it cannot be assigned a temporal component more specific than Prehistoric.

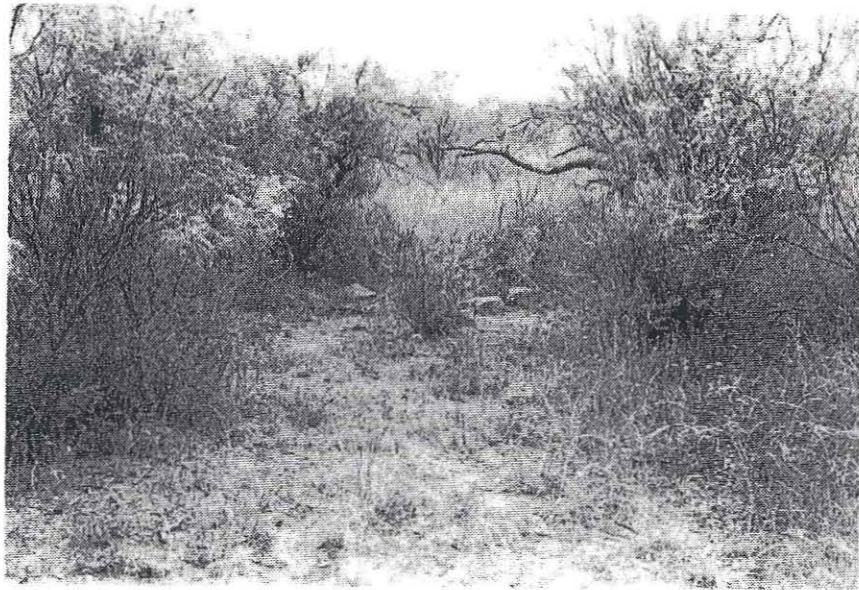
## 41CC239

This historic site is located in Survey Area 5 and occupies ca. 5,000 m of flat upland plains at an elevation of ca. 1,591 ft msl. It is situated on the north slope of a small rise overlooking the bottomland to the northwest and a drainage to the southwest. The soil is a shallow silty loam with numerous caliche nodules. The dominant form of vegetation is large mesquite, with tasajillo, agarita, and prickly pear also present (Fig. 4a). Dense patches of grass partially cover the ground surface, but the clear areas afford excellent visibility.

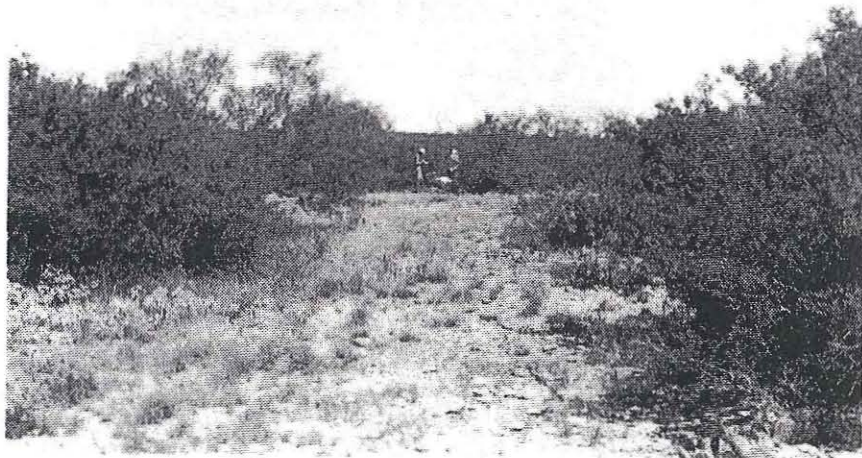
Cultural materials noted are clusters of limestone nodules and a scatter of historic artifacts. The two limestone clusters occur at the north and south ends of the site. The southern concentration is roughly rectangular and measures ca. 9x7 m. The other concentration lies ca. 75 m to the north and is roughly T-shaped (stem pointing west) and is ca. 7x7 m in size. Both of these concentrations are believed to be foundations for shacks or sheds. USGS topographic maps made in 1870 and 1925 do not show any houses present in the area of this site, although this possibility cannot be excluded. With this in

## Site Photographs

Figure 4



a. Site 41CC239. Facing southeast toward northern cluster of possible foundation stones. Note dense mesquite thicket.



b. Site 41CN212. Facing north-northeast across site. Archeologists in center of photograph are mapping the site. Vegetation is typical of lowland bench settings.

mind, the southern concentration is interpreted as representing a line shack, with the northern one possibly being a tack room. This is based on the inclusion of whiteware in the artifact scatter around the southern concentration and two saddle buckles in the scatter immediately surrounding the northern concentration. Other artifacts making up the scatter are whiteware, crockery, window glass, bottle glass (clear, brown, green, and purple), sheet metal fragments, stove fragments, machinery parts, and both square and round tin cans. A single mussel shell was also noted in the scatter. The artifact scatter is concentrated around the stone concentrations, but it does extend some 30 m to the east. In addition to the historic artifacts, a core and a single flake were found along the eastern edge of the artifact scatter.

To the west are other historical features. These are a scatter of large limestone flakes 50 m west of the southern rock concentration and some planks 25 m farther to the west. The scatter of limestone flakes is 15 m in diameter with concentrations at its north, west, and southeast ends. This appears to be debris from the dressing of limestone building stones. The planks are arranged in an open-ended rectangle with two planks to a side. These are probably the remains of some sort of pen. In addition, a few pieces of crockery and glass were seen in this area. None of the artifacts could be considered diagnostic of any certain time period, so this site remains Unknown Historic. Some overlap exists between this site and 41CC238, but not enough to call them a single site with two temporal components.

#### 41CN212

This prehistoric site is in Survey Area 3 and occupies ca. 8,750 m on a bench at an elevation of 1,550-1,560 ft msl (Fig. 4b). The bench lies above a steep slope overlooking Wheeler Branch 25 m to the west and 475 m north of its confluence with Grape Creek. The soil is composed of a thin layer of colluvial sediment covering an eroded bedrock bench. Vegetation is mainly mesquite, with skunk-bush sumacs, agaritas, lotebushes, tasajillos, prickly pear, and a few junipers also present. Elms and hackberries grow along the edge of the creek. The growth of grass and forbs is very sparse, providing good visibility of the ground surface.

Cultural materials noted include burned rock clusters and a moderate scatter of stone tools, projectile points, debitage, and some mussel shells. The burned rock clusters are more common to the western end of the site, and none is large enough to be called a midden or concentrated enough to be a hearth, although it is possible they could be hearths which have been disturbed by erosion. Large slabs and boulders of limestone which could have been used prehistorically were also found. In one area, these stones formed two-thirds of a rough circle ca. 3 m in diameter. The few stones forming this area are relatively small (ca. 20-30 cm single largest dimension) and are spaced roughly 0.75 to 1.0 m apart. There are very few stones of this size in the area, and there are no discernible artifact concentrations around the area. While the lack of similar stones makes those comprising the arc conspicuous and increases the likelihood of their being manuports, there is no

definite indication of a former structure. Nonetheless, this remains a possibility. The lithic scatter is also more concentrated in the western end of the site and is mainly composed of debitage and biface fragments. Five dart points were found, along with one arrow point. Other artifacts noted are a bifacial sandstone mano and a uniface. Based on the diagnostic projectile points, the time of occupation is believed to range from the Paleoindian to the late Archaic period.

## 41CN213

This prehistoric site in Survey Area 1 is the largest site recorded by the 1986 survey and also the most complex. It coincides with a natural chert outcrop about 100 m wide and runs along the upper edge of an upland plain for a distance of roughly 4.7 km (Fig. 5a). This gives the site an area of approximately 470,000 m<sup>2</sup> overall. The outcrop is situated at an elevation of 1,600-1,610 ft msl overlooking Elm Creek to the north and the Colorado River to the east. The confluence of Elm Creek and the Colorado River is ca. 275 m to the northwest at its closest point. Vegetation is primarily mesquite and juniper with a few stunted oaks, as well as agarita, whitebrush, tasajillo, prickly pear, Spanish dagger, and persimmon. Grass growth (namely Nolina) is sparse, and visibility is very good as a result.

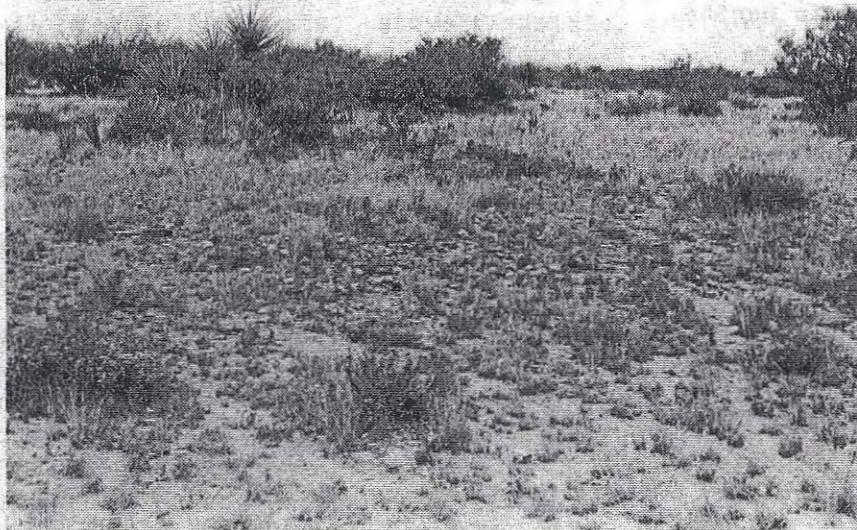
In general, the site consists of a moderate scatter of tested nodules, cores, and thick bifaces, with a few widely scattered projectile points, modified flakes, and debitage. Burned rocks are also found, usually as widely scattered fragments but also in varying degrees of concentration. Within this general scatter, six areas were identified as having distinct, definite concentrations of either chipped stone debris, burned rocks, or other features.

Area 1 is an outcrop of good-quality chert with evidence of exploitation in the form of a dense concentration of chipped stone debris and small concentrations of burned rocks. Area 2 consists of two small clusters of burned rocks ca. 25 m apart, with the clusters at the north and south ends of the area. The southern cluster is ca. 7 m in diameter and has a scatter of cores and debitage associated with it. The northern cluster is smaller and more diffuse, with less chipping debris. Neither of these burned rock clusters is distinct enough to be defined as a hearth or a midden. Also, the area appears to have been bulldozed at some time, and this has damaged the area slightly. Area 3 is another cluster of burned rocks ca. 7 m in diameter and ca. 10-20 cm in thickness. It appears to be intact. A second and much more diffuse cluster, ca. 3.5 m in diameter, is nearby. Both clusters are surrounded by a scatter of chipped stone debris.

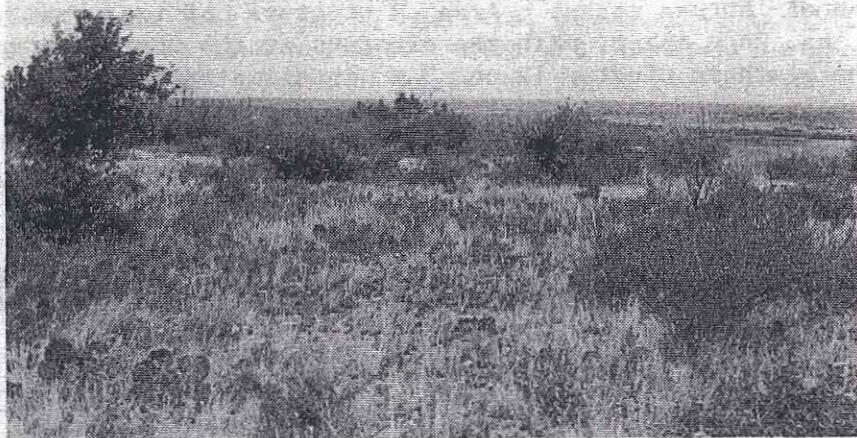
Area 4 is a small cluster of burned rocks ca. 2 m in diameter, with other burned rocks scattered more widely about. In this area, the generalized scatter is lighter, although in the immediate area of the cluster three bifaces were found along with some debitage. Area 5 consists of two small burned rock clusters tentatively identified as hearths, with a light scatter of debitage found in the vicinity. Areas 4 and 5 (especially Area 5) are presumed to be cultural on the basis of the presence of burned rocks in



## Site Photographs



a. Site 41CN213. Facing northwest toward burned rock feature in Area 3. Topography and vegetation are typical of upland plains settings as well as 41CN213 overall.



b. Site 41CN213. Facing southwest toward possible cairn at edge of upland plain. Colorado River valley is in background. Vegetation is typical of upland plains setting.

conjunction with the debitage. Some evidence of relatively recent burning by a natural fire or brush-clearing exists, and therefore some of the burned rocks of Areas 4 and 5 are possibly noncultural. The debitage may be merely a coincidental occurrence.

Area 6 is a possible rock cairn burial on the westernmost part of the upland plain (Fig. 5b). The presence of this feature is indicated by several large limestone slabs in an area ca. 3 m across. It is moderately overgrown with agarita, mesquite, whitebrush, and persimmon; and the resultant leaf litter obscures a great deal of the surface in the immediate area. Nonetheless, the stones are partially exposed. No particular arrangement can be seen, although one of the stones is on edge. There is also a fair scatter of lithic debris, including cores, bifaces, debitage, and one untyped dart point, the latter being collected. There is some disturbance from bulldozing, but the possible cairn seems to be intact. The location of this area on the top of a prominence overlooking a creek supports the argument that the feature is a cairn.

Even though several dart points were either noted or collected from this site, none of them are diagnostic of anything other than an undifferentiated Archaic component. The possible rock cairn is also typical of this component. There is not much doubt that this site functioned as a chert source for the sites previously recorded on the benches below, and therefore the six areas are likely to be related to these sites as well.

## CHAPTER 7

### REVISITATION OF SELECTED PREHISTORIC SITES RECORDED DURING THE 1980 SURVEY

Survey for the purpose of inventorying archeological sites below the 1,551.5-ft contour at the proposed Stacy Reservoir was conducted in 1980 (Wooldridge et al. 1981). The reported results are 431 sites, of which 327 are prehistoric, 62 are historic, and 42 are multicomponent historic and prehistoric.

The 1980 survey did not emphasize the geologic dynamics of the confluent Concho- Colorado river setting of these sites, and the nature of the geologic context and geoarcheological potential of these sites is not clear from the report (Wooldridge et al. 1981) or from the original field documents (held by the Texas Historical Commission). Three factors make it extremely important that this aspect of the archeological record at Stacy be fully understood:

1. An archeological resource of major proportions and prime importance is represented by the sites in the proposed reservoir project area.
2. The funding available for mitigating the adverse impacts of the project on these resources is limited; it is, therefore, imperative that an approach to mitigation be devised which efficiently applies the monies available toward the maximum recovery of data from the resources.
3. The greatest potential for data recovery in a riverine setting such as that at Stacy most probably is comprehensive integration of paleoenvironmental and archeological inquiry within a stratigraphic framework established in the extensive alluvium of the Colorado, Concho, and tributary stream valleys.

Based upon these three factors, the need for fuller information about the geologic context of the archeological resources at Stacy is apparent. Accordingly, a small sample of previously recorded sites in the alluviated valleys was revisited during the period 25-30 August 1986 by archeologists versed in the geology of archeological sites. In addition to recorded site locations, fluvial deposits were inspected at several localities where sites had not been previously recorded. Site locations are not presented in the original survey report (Wooldridge et al. 1981), and thus the present effort depended upon site plottings on maps in the files of the Texas Archeological Research Laboratory of The University of Texas at Austin and upon the 1980 site survey forms held at the Texas Historical Commission.

Revisiting these sites was not conducted as a formal survey. The objective was to observe geological aspects of the extensive valley alluvium and the nature of the relationships between these deposits and the archeological remains present. The strategy was to visit as many localities as possible in the time available so as to gain general familiarity with the entire project area rather than detailed understanding of a restricted area. Eleven localities (and 34 sites) were visited (Fig. 6). The suitability of these localities for the purposes stated above varied considerably. Also, the

amount of information recorded varied depending on the usefulness of a particular locality to meet these objectives. The uneven treatment in the following descriptions of the 11 localities is the result of this strategy.

This strategy proved to be effective in that each visit to a new locality benefited from information gained at previous localities. Unfortunately, time did not permit returning to localities to apply insights gained at subsequent locations. It required observing about five localities before enough cumulative information was at hand for understanding the general nature of the fluvial stratigraphy in the project area. The localities are not described below in the exact order in which they were visited. The principal variables observed were: (1) the configuration and composition of deposits (i.e., levees, point bars, dunes, channel fill; particle size); (2) evidence of pedogenesis (i.e., color, Figure 6, geomorphic locality map structure, calcium carbonate, organic content); (3) age indicators (i.e., color, cohesiveness, extent of pedogenesis, diagnostic cultural associations); and (4) archeological, floral, and faunal content.

#### Visited Localities

Each of the 11 localities revisited in 1986 is described individually below, followed by overall interpretations and conclusions. In addition to bottomland sites, one upland site and one valley margin site were visited. As indicated above, these are not formal descriptions and the interpretations are preliminary.

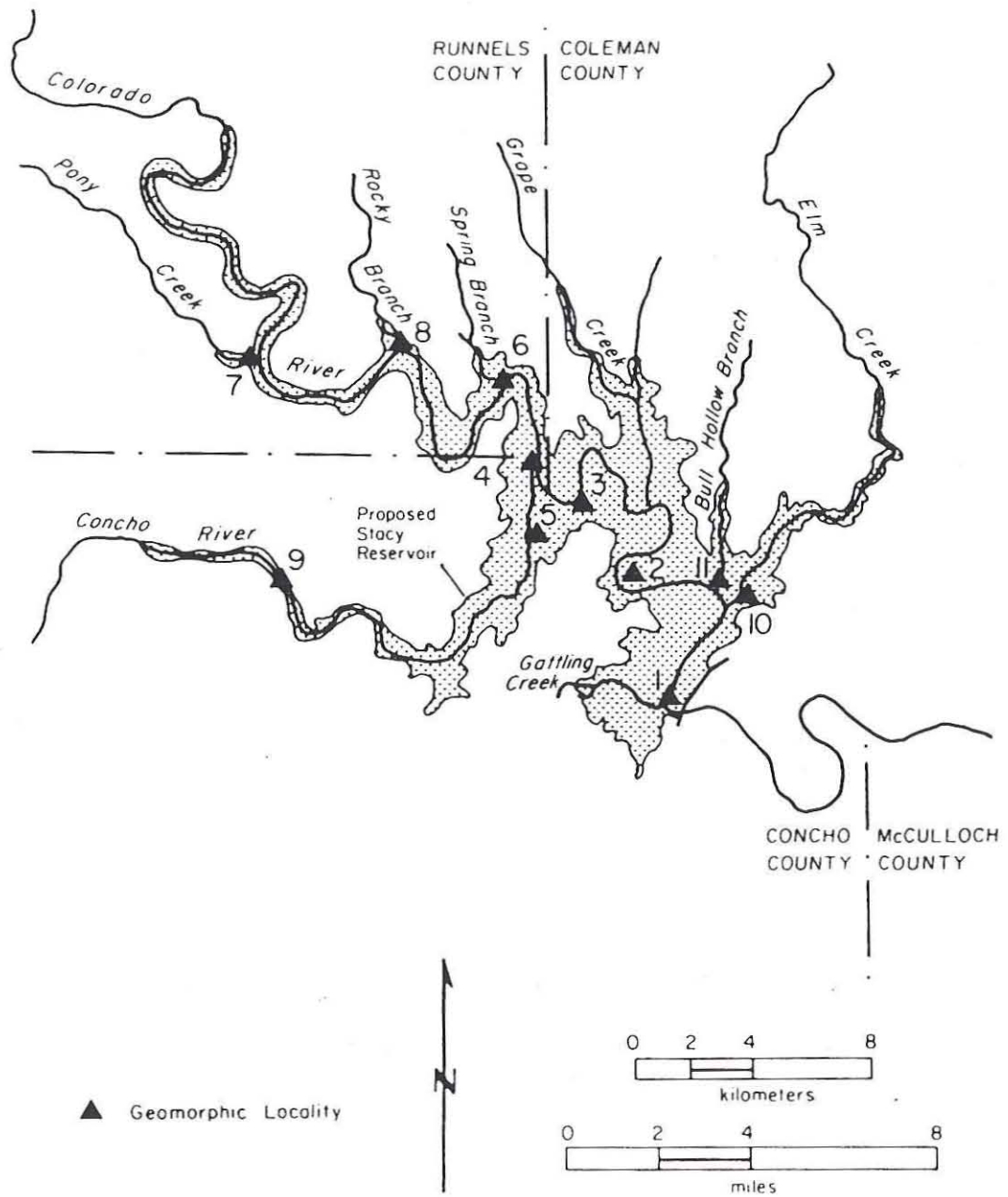
#### Locality 1

In the vicinity of the proposed damsite, a number of archeological sites occur in an area of extensive and complex alluvial deposits on both sides of the Colorado River near the mouth of Gattling Creek. The river is the boundary between Concho and Coleman counties at this locality, which is 7.5 km south of Leaday.

The left (Coleman County) alluvial bank of the Colorado at this locality is the interior of a wide bend in the river and appears to be a point bar. Only one site (41CN80) was recorded in this setting by the 1980 survey. When revisited, site 41CN80 was observed to include a subsurface cultural component occurring in a buried soil exposed in an erosional cut. Throughout the remainder of the broad interior of this bend, sparse cultural materials (primarily burned rocks and flakes) occur at the surface of the alluvium. This is an area disturbed in the past by brush clearing and possibly by plowing. There are both fluvial and eolian deposits in this setting. It appears that at this locality cultural materials may be buried in extensive point bar deposits and a limited eolian deposit. Trenching at this locality may expose an important sequence of cultural deposits.

Across the river in the vicinity of the mouth of Gattling Creek, sites 41CN84 and 41CN87 occur in the upper portions of a substantial body of

# STACY RESERVOIR RECREATION AREAS GEOMORPHIC LOCALITY MAP



PBAI/86/SLH

alluvium averaging about 6 m in thickness. Site 41CN84 is downstream from the mouth of Gattling Creek. Most of the cultural materials are on the surface and in the upper meter of alluvium. The alluvium containing this site is relatively youthful in appearance, but no temporal diagnostics were observed. Just upstream, at site 41CN87, cultural materials again occur in the upper meter of, and on the surface of, alluvium. The deposits containing this site express greater age characteristics, especially toward the upstream end. No diagnostic artifacts were observed to indicate the age of this deposit.

The alluvial mass containing sites 41CN84 and 41CN87 lies on the outside of the bend at the base of limestone bluffs along the river and lower Gattling Creek. The evidence that soils are more mature upstream may indicate that the alluvium here is prograded downstream. Since cultural materials occur in the upper meter or so of the length of these deposits, there may be horizontal cultural stratigraphy at this locality.

#### Locality 2

This is a major area of deposition (point bar?) on the interior (left) bank in a bend of the Colorado River 3.5 km southwest of Leaday in Coleman County. A channel chute cuts the point bar about 1,000 m from its apex. The D-shaped area between the channel chute and the river bend is Locality 2. Only two sites (41CN143 and 41CN144) were recorded in this setting by the 1980 survey. When the locality was visited in 1986, two levees were observed with sparse, previously unrecorded cultural materials exposed along the entire surface of the levee closer to the river.

At site 41CN143, which appears to be on the levee farther from the river, cultural materials appeared to be heavily weathered (carbonate-encrusted burned rocks and patinated chert), but their context was difficult to ascertain because of the disturbed (eroded) nature of the site. Site 41CN144 is exposed in an eroded edge of the downstream end of the levee closer to the river. It consists of mussel shells, flakes, and burned rocks evidently weathering out of a subsurface zone darker in color than the general deposit.

The large scale of the point bar, levees, and channel chute at Locality 2 indicate considerable antiquity, yet cultural materials appear to be associated with their development. If these are not entirely surficial cultural occurrences, this may be an area of considerable geoarcheological potential.

#### Locality 3

Two sites (41CC125 and 41CC126) are present on the right bank of the Colorado River 2 km downstream from the mouth of the Concho River in Concho County. These are on the outside of a bend in, and on, a mass of alluvium at the mouth of an unnamed side stream. The alluvium is approximately 8 m in thickness.

Cultural materials are present over a greater area than indicated by records from the 1980 survey, and it was not clear what site designation should apply to some of the exposures visited. North of the northern end of site 41CC126, a buried cultural deposit, ca. 2 m below the surface, with two soils having formed above it, was observed. A short distance upstream, but evidently in the same site, cultural materials are present in a single buried soil. No age-diagnostic materials were observed, and the relationships between the fluvial deposits, cultural materials, and soils are not entirely clear at this locality.

An upland site (41CC128) on the blufftop northeast of 41CC125 and 41CC126 was briefly visited. The occurrence of features and artifacts on a stable surface is the predominant characteristic of this site.

#### Locality 4

Locality 4 is located at the confluence of the two major rivers on the south side of the Colorado and east of the Concho River in Concho County. Four sites (41CC135, 41CC136, 41CC137, and 41CC122) were visited at this locality.

The extensive valley area at the confluence shows evidence of shifts in channel locations, substantial deposition, and complex stratigraphic relationships among deposits. Cultural materials are present on the surface and are obviously eroding out of subsurface deposits in several places. Sites 41CC135 and 41CC136 consist of cultural materials eroding from a buried soil in the alluvium along the right bank of the Concho. These occur approximately 1.5 m below the surface. A late Archaic Frio dart point was found eroding from the deposits along the western edge of 41CC135. A perched channel cuts across the peninsula-like area between the Colorado and Concho rivers. This is evidently a relict channel of the Concho which still carries water during periods of high flow. The southern margins of sites 41CC135 and 41CC137 coincide with the northern edge of this channel and reside on and in a prominence that appears to be a levee associated with the perched channel. There is a mature soil at the surface of this prominence, indicating that the deposits and their contained cultural materials may be of greater age than the Frio point would suggest, at least along this depositional feature.

On the opposite side of the perched channel and in deposits along the right bank of the Concho River is site 41CC122. Cultural materials are not abundant at this site but consist of discrete lenses and possible features at various depths from just below the surface to approximately 5 m. Nothing diagnostic was observed, but even at depth, the deposits lack development of age-related characteristics. This would seem to be a locus of relatively rapid deposition during the late Holocene. As comparable deposits are evidently uncommon in the project area, this may prove to be an important site for recovering data on the late Holocene if more-promising deposits are not identified elsewhere.

In general, this entire locality is potentially important in geoarcheological inquiry; however, substantially more investigation of a

preliminary nature is required to devise a practical strategy for such an investigation. Research here would benefit from establishment of specific objectives formulated from prior knowledge gained at less-complex localities.

#### Locality 5

This is the major locality visited on the Concho River in the 1986 revisitation effort. It is on the right bank of the Concho from 2.0 to 3.4 km upstream (south) from the Concho-Colorado confluence in Concho County. Five sites are present (41CC141, 41CC116, 41CC131, 41CC132, and 41CC148). Site 41CC141 is typical of many sites in the project area in that burned rocks, mussel shells, and flakes are eroding out of a dark-colored zone near the top of reddish valley fill 7 m or so above the stream. The cultural materials making up site 41CC141 occur in a limited area (ca. 250 m long) along a uniform exposure over 900 m in length. Just beyond the north end of this uniform exposure is the contrasting sequence of deposits of site 41CC122, but the nature of the contact between these is unknown. Probably the apparently younger deposits at 41CC122 fill a cut in the apparently older deposits containing site 41CC141.

Upstream from 41CC141 in the vicinity of an anomalous bend in the Concho River are sites 41CC116 and 41CC131. The former is eroding out of an apparent levee on the outside of a bend. Plowing and erosion have obscured the stratigraphic context of the cultural materials, and additional exposures would be needed to determine this context.

A deeply incised intermittent tributary stream enters the Concho River from the east a short distance upstream from this levee and site 41CC116. The banks of this unnamed side stream are heavily eroded and expose an extensive, dense midden (41CC131) at and just below the surface. The midden is approximately 7 m above the streambed. Considerable digging by relic collectors is currently in progress at this site, and their backdirt contains large quantities of well-preserved bison bones. The site is eroding out of a youthful soil, and a diagnostic arrow point (Lott type) found in the midden indicates a very late prehistoric age for at least one component at this site. A large corner-notched dart point (Zephyr?) found in secondary context at the bottom of the side stream channel evidently indicates another component.

Sites 41CC132 and 41CC148, still farther upstream on the Concho River, exhibit similar occurrences of dark midden and soil developed near the present surface of 7-m-thick alluvial deposits. No diagnostics were recovered, and the age of these deposits is unknown.

The value of Locality 5 as a late Holocene complex of cultural and fluvial deposits seems to be quite high, particularly the very late component at site 41CC131. East of Locality 5 on the valley margin is site 41CC133. The western edge of this site extends onto the valley floor, and colluvial deposition has likely buried some cultural materials at the toe of the slope. However, the potential for intact, subsurface features and deposits is not considered particularly high.



## Locality 6

Extensive alluvial deposits and copious archeological materials occur along the lower reaches of Spring Branch near the confluence of that stream with the Colorado River in Runnels County and comprise Locality 6. The association of diagnostic cultural remains with strongly expressed, age-related characteristics of natural deposits at this locality proved to be the most informative found during this project.

At this locality, 6.4 km northwest of Leaday and 2.5 km north-northwest of the mouth of the Concho River, the Colorado River flows north-northeasterly in a broad valley before bending abruptly to the east and southeast at the foot of a prominent limestone bluff. A large levee parallels the river along its left (westerly) bank and laps onto the limestone bluff. On the inside of the bend (the right bank), there appears to be an extensive point bar and levee.

Spring Branch flows generally in a southeasterly direction and enters the Colorado River from the left just as the river begins its bend to the east. The branch deeply dissects the levee and underlying alluvium, and the cultural materials of sites 41RN3 and 41RN103 are exposed along its eroded margins. Six areas were examined within this locality, each yielding important geoarcheological information.

Area 1 is on the eastern edge of the levee just downstream from the mouth of Spring Branch. Here, a buried burned rock midden and an extensive midden with small, slab-lined hearths (ca. 0.5 m in diameter) occur in the upper 1.5 to 2.0 m of alluvium. Sufficient wood charcoal for radiocarbon dating was present in one eroding hearth in the midden. The soil developed in Area 1 is youthful, organic, and lacks calcium carbonate nodules. Dart points of late Archaic affiliation were observed weathering out of the base of the midden, and arrow points were found overlying these. A few Historic Period artifacts were noted on the surface. Bison bones are abundant in this midden, and numerous blade-like flakes were noted. The chert in this deposit is fresh in appearance. Mussel shells are also numerous and in very fresh, unbroken condition (some retaining the colors and luster of mother-of-pearl).

Area 2 is west of Area 1 and farther up Spring Branch on the north side. It is on the western edge of the levee and in the swale behind the levee. Numerous hearths of medium size (ca. 1 m in diameter) are exposed on, and are eroding from, the upper part of the alluvium. Associated with the hearths are mussel shells somewhat more weathered than those of Area 1 but in moderately fresh and good condition, flakes and other chert artifacts generally lacking patination, and three dart points (two Pedernales and one Bulverde). No bison bones were observed, but smaller mammal bones are present in limited amounts. Large end and side scrapers were also observed in this area.

Farther up Spring Branch, on the same side, is Area 3. This is an exposure of deeply weathered alluvium with several large hearths (ca. 2.2 m in diameter) being exposed by erosion. These hearths occur in a concentrated zone of calcium carbonate nodules. No bones were observed, and only badly eroded hinge areas of mussel shells are present. Chert artifacts exhibit

patination, and a fragmentary lanceolate point with edge smoothing (Angostura?) was found in the center of one of the large hearths.

Area 4 is on the opposite side of Spring Branch across from Area 2. Area 4 consists of two buried cultural zones eroding out of a slightly dark soil or midden. The cultural materials consist of burned rocks, moderately fresh mussel shells, unpatinated chert, small mammal bones, and three dart points (Frio, Pedernales, and Bulverde). Both culturally and geologically, this area compares favorably with Area 2 directly across Spring Branch to the north.

Area 5 is the crest of the levee on the south side of Spring Branch and should represent a continuation of the conditions observed in Area 1 to the north. A thin scatter of historic glass and metal and modern campfires are present on the surface as are a few recent bone fragments and pieces of turtle shell. Very little in the way of chert or other evidence of aboriginal occupation was observed. There is a youthful soil development at the surface of the alluvium.

Area 6 is on the surface of the levee near the base of the limestone bluff north of Spring Branch and west of the Colorado River. There is a large burned rock midden on this surface, as well as surface artifacts of apparently diverse ages. An unidentified dart point fragment provided no temporal indications, but burned rocks range from fresh to carbonate encrusted, and chert ranges from fresh to patinated. These observations suggest that this is an area of surface stability where materials have accumulated for considerable time.

In all six areas of Locality 6, cultural materials occur at roughly the same elevation (i.e., near the top of approximately 6 to 7 m of alluvium); however, it is apparent that there is an increase in age with increased distance from the river. This may result from inset or foreset deposits (which cannot be determined without additional data) developing behind an eastwardly shifting location of the Colorado River channel in conjunction with a human preference for camping on the highest surfaces nearest the river. In other words, there is little evidence of archeological materials at depth in these deposits as would be expected if cultural activities had transpired on low floodplain or riverbank surfaces. For the archeologist, this results in "horizontal" rather than "vertical" stratification of cultural materials.

#### Locality 7

Alluvium and cultural materials accumulated in the vicinity of the mouth of Pony Creek constitute this locality. The mouth of Pony Creek is 7.3 km north of Concho in Runnels County. Of four sites (41RN144, 41RN118, 41RN153, and 41RN117) previously recorded at the locality, three (all but 41RN117) were visited. Cultural materials making up sites 41RN147, 41RN118, and 41RN153 occur on the surface of, and in the upper meter or less of, the alluvium at this locality. A sandy knoll (dune?) covers the southerly parts of sites 41RN153 and 41RN118 and may afford the opportunity for well-stratified cultural deposits.

In site 41RN147, there is indistinct evidence that some "horizontal" stratigraphy like that seen at Locality 6 is present. There is a burned rock midden and relatively youthful soil development near the river and the possible association of burned rocks with a strongly developed calcareous zone at greater distance from the river.

#### Locality 8

This locality consists of alluvium and cultural materials around the mouth of Rocky Branch in Runnels County. The previously recorded sites are 41RN107, 41RN106, 41RN108, and 41RN169, and the locality is 7.5 km north-northeast of Concho.

The Colorado River flows northeasterly past this locality before bending abruptly southeasterly along the base of Deadman's Bluff. Rocky Branch enters the Colorado from the northwest about 250 m upstream from the river's bend.

Extensive sand dune deposits are present along the southerly edge of Rocky Branch, and sites 41RN107 and 41RN108 are associated with these dunes. Important features of this locality are erosional cuts which expose dune deposits of different ages. At the southeastern end of site 41RN107 is the most anomalous geologic deposit observed during the project. It consists of freshwater spring and pond deposits of entirely different character than the prevalent reddish alluvium in the project area. The spring and pond evidently existed at a remote time in the past at the point where the lower edge of an extensive dune tapered out on top of limestone bedrock. It is inferred that groundwater moving through the sand emerged on the bedrock surface at the toe of the dune and was impounded behind a dam of undetermined character. The deposits consist of a white sand with gravel lenses overlain by a gray sand overlain by a light brown sand. The white sand appears to have accumulated in an active spring, the gray sand in a pond, and the tan sand in an encroaching dune. These three deposits are heavily weathered, with calcium carbonate increasing with depth. Unconsolidated dune sand overlies this sequence of indurated sands. Cultural materials consisting of burned rocks and flakes are present in all but the lowest of these deposits, and some of the flakes eroded out of the exposure are heavily patinated. Nothing diagnostic was recovered in direct association, but the generally early appearance of some of the patinated chert and the spring/pond deposits are suggestive of a late Pleistocene age.

To the southeast of this exposure is a deeply incised, intermittent tributary to Rocky Branch. This cuts a sequence of at least three weathered dune deposits capped by recent, unconsolidated dune sand. On the surface of the weathered dunes (in blowouts of the recent sand) were found a fragmentary end scraper made on a blade, a thin biface fragment resembling a Midland type of projectile point, and the basal portion of a Plainview point. The former two of these are deeply patinated. These were recovered in the northwestern portion of previously recorded site 41RN108.

Elsewhere in site 41RN108 are in-situ cultural deposits of early Holocene and evidently late Holocene ages. Along the right bank of Rocky Branch and

the northern perimeter of the site, subsurface hearths up to 2 m in diameter are exposed in deeply weathered alluvium. An early stemmed dart point was found in apparent association with one of these hearths. Higher in this alluvium is another cultural zone with burned rocks, flakes, and mussel shells in a moderately developed soil. Middle and late Archaic styles of dart points were found on eroded surfaces in the vicinity of this deposit.

In the bed of the intermittent tributary are exposed indurated gravel and light-colored sand containing mineralized bones and large herbivore (bison?) tooth fragments. These suggest the presence of another prior spring or stream in this area. The discovery of these early types of artifacts in close proximity to ancient pond, spring, and dune deposits suggests that this is an important locality of late Pleistocene age.

Across Rocky Branch to the northeast near the Colorado River is a deposit of recent alluvium containing fresh chert, burned rocks, and bison bones. The alluvium is approximately 7 m in thickness, and the cultural materials are in the upper 2 m, repeating the pattern of sites tending to occur well above the elevation of the river. These remains are probably Late Prehistoric in age.

Locality 8 encompasses a complex suite of natural deposits and cultural materials spanning much of the culturally relevant past. It is probable that deposits representing the late Pleistocene and much of the Holocene are present here. Eolian, fluvial, pond, and possibly spring deposits all occurring in one locality afford the opportunity collect data on a broad spectrum of past environmental conditions and relate these to human adaptations.

#### Locality 9

The roadcut on the right bank of the Concho River in Concho County approaching the low-water crossing southwest of the community of Concho has exposed in cross section a thick deposit of valley alluvium capped by a levee. Cultural materials (burned rocks and mussel shells) are exposed at two different levels in this cut; one is in the levee ca. 35 cm below the surface, and another is in the valley fill at about 2.5 m below the surface.

These are sparse archeological occurrences and probably do not have significant data potential. They appear to be relatively recent and may indicate a late Holocene episode of valley filling and levee deposition along this stretch of the Concho. Investigation of this locality would be warranted only if specific information was sought on the depositional history along this part of the Concho River and better localities could not be located.

#### Locality 10

Both sides of lower Elm Creek between a low-water crossing and the mouth of the creek at the Colorado River are lined with sites. This is the lower 1,200-m-long stretch of Elm Creek which lies about 4.5 km southeast of Leaday in Coleman County.

A brief perusal of four of these sites (41CN123, 41CN102, 41CN98, and 41CN95) revealed cultural materials buried in complex deposits of colluvial, Elm Creek fluvial, and Colorado River fluvial origin. Although these sites have been damaged by erosion and some digging by relic collectors, there remains some potential for important geoaerchological data recovery.

Site 41CN123, along the right bank of Elm Creek, resides in 40 cm or less of alluvium apparently derived from Elm Creek flooding and possibly from eolian deposition. The site is extensive, with numerous burned rock features and general midden debris on the surface and in the shallow subsurface. No age indicators other than a burned rock midden were observed.

On the opposite bank of Elm Creek along the toe of a steep limestone hillside are sites 41CN102 and what appears to be either a northward extension of site 41CN98 or materials washed downslope from 41CN98. The surficial appearance of these sites indicates considerable natural disturbance of colluvial and fluvial culture-bearing deposits. The archeological materials occur in a soil horizon with calcium carbonate development. Although there is geoaerchological potential in these deposits, it does not appear to be particularly high.

Farther downstream along the left bank of Elm Creek is site 41CN95. It occurs as extensive surface archeological materials on an alluvial surface with lenses of cultural materials to ca. 1 m below the surface. The alluvium appears to originate primarily from the Colorado River.

Soil development in the exposures along Elm Creek is minimal, indicating relatively recent alluviation at this point. Further work at this locality has the potential of producing significant geoaerchological data.

#### Locality 11

Adjacent to lower Bull Hollow Branch are three sites (41CN178, 41CN106, and 41CN108) overlooking this tributary stream. The locality is 4 km south-southeast of Leaday in Coleman County, where Bull Hollow Branch bends abruptly from a westward-flowing to a southeastward-flowing stretch. Site 41CN108 is in thin soil on a relatively high divide between the Colorado River and Bull Hollow Branch. The remaining two sites are inside the bend of Bull Hollow Branch in thick sandy soils. Site 41CN178 is an historic aquaduct and site 41CN106 is prehistoric.

The setting of these latter two sites and the nature of the deposits in which they occur suggest mixed eolian and fluvial deposition. The cultural materials seem to be concentrated in the plow zone, and little depth of cultural deposit is indicated, although this field impression could not be confirmed without subsurface investigation. However, from a geologic point of view, this locality seems to offer little potential for significant data recovery.

### Synthesis and Interpretations

The valleys of the Colorado and Concho rivers and their major tributaries in the Stacy Reservoir project area contain extensive fluvial deposits of sandy loam with localized accumulations of eolian sand present. Archeological materials are abundant on and in these deposits. The 11 localities visited produced data from which a number of preliminary interpretations may be drawn concerning the nature of the geologic record, the characteristics of the archeological sites in the valley floors, and, most importantly, the relationships between these two data sets.

The growing sophistication of geoarcheological research procedures and the increasing prowess of geochronometric techniques in the last decade have brought about a significantly improved capability for investigating and understanding past human ecology. The efficacy of this approach is that it uses a geological framework on which to organize and interpret an array of paleoenvironmental and archeological data. Properly structured, the geologic framework directs the research effort toward representative coverage of the time span under investigation, thereby reducing the risks of overrepresenting or underrepresenting any aspect of that record. From the physical characteristics of the geologic deposits and from the chemical, biological, and cultural content of those deposits are derived the data necessary for comprehensive reconstruction of past human ecologies.

The geoarcheological approach is ideally suited to the investigation of the archeological resources in the Stacy project area. The extensive deposits with good exposure facilitate geologic interpretation and mapping. It seems likely from the indications gathered in this brief inspection of the valley alluvium and its archeological content that a very complete record of the culturally relevant past is present in the project area.

Conspicuous gaps are notable in the distribution of the prehistoric sites recorded by the 1980 survey (Wooldridge et al. 1981:Fig. 3-8). For the most part, these are located in the interior of major bends in the Colorado River. Ordinarily, interiors of river bends are loci of point bar deposition, and deep, stratified archeological sites are commonly found in these settings, sometimes completely buried. During the present study, two of these localities were inspected. In the interior of the downstream-most bend of the Colorado River (Locality 1), considerable evidence was noted that buried archeological manifestations may be present. Similarly, at Locality 2, extensive levee and point bar deposition is indicated, and cultural materials were observed eroding from the surface. The potential for recovering well-stratified sequences of cultural and natural deposits seems particularly high in Locality 2.

The other localities visited are more eroded and visibility was greater. In aggregate, these suggest a general pattern in which deeply buried sites are not as characteristic of the area as are sites of different ages occurring high in deposits of different ages. The strong correlation between cultural age indicators and geological age indicators at Localities 6 and 8 indicates considerable promise for developing and interpreting a geoarcheological sequence in the project area. The impression gained in the field was that the

grades of the streams in the project area have been at or near the same bedrock base as they are today and that a possible explanation for the prevalent occurrence of archeological materials several meters above those grades was flood avoidance. However, the possibility that one or more periods of valley filling temporarily raised stream grades must also be investigated.

Eolian processes have been active in parts of the project area over a long period of time. Changes in the extent of this activity can be identified and provide sensitive indicators of environmental changes. Localities 7 and 8 are representative of the data potential provided by dunes. The large dunes of different ages at Locality 8 and the associated cultural materials seem to be particularly promising.

The spring and pond deposits at Locality 8 are evidently uncharacteristic of the area. It is not clear why in a major riverine setting these would constitute an attraction to peoples, but they evidently did, and a major early site may be present at this locality. This appears to be an opportunity to recover important ecological and cultural data from an unusual setting and from an early time period. Younger deposits are present in the alluvium of this locality, and it is unknown what may occur beneath the surfaces of the large dunes.

Bones and shells are preserved in some of the deposits observed, but the majority of the valley alluvium is not conducive to the preservation of microbotanical or macrobotanical remains. Consequently, the research potential for paleobotany is not as great as would be desired, but some data should be recoverable in the form of charred plant remains in archeological sites, and the possibility exists that limited deposits favorable for preservation of pollen do occur. Failing these, soils and geological indicators of vegetation cover will provide some indirect evidence for the vegetational record in the area.

Certainly the most important characteristic of the area is the potential for isolating cultural components sealed in fluvial and eolian deposits. Comprehensive recovery of data on the content and structure of a sequence of such components covering as much as possible of the prehistoric record in the area is a feasible objective in this setting. Considerable evidence of the natural environmental record accompanying this cultural sequence is also recoverable from the area. Integration of these data constitutes what Butzer (1982) has referred to as "archeology as human ecology," which is among the sounder approaches to the study of archeological remains.

## CHAPTER 8

### ARTIFACT DESCRIPTIONS

This appendix describes the prehistoric and historic artifacts collected during the 1986 investigations at Stacy Reservoir. All of these materials were collected from the surface of 11 of the previously recorded sites, 2 of the newly recorded sites, and as isolated finds within 3 of the survey areas. These artifacts are divided into three categories: chipped stone tools, unmodified debitage, and historic artifacts.

#### Chipped Stone Tools

This category includes 52 complete and fragmentary specimens, which represent 11 previously recorded sites, 2 newly recorded sites, and 3 of the 5 survey areas. The chipped stone tools have all been divided into five main classes: 37 dart points, 6 arrow points, 5 bifaces, 2 unifaces, and 2 modified flakes. These classes have, in turn, been further divided into named types or groups where appropriate. Provenience for these specimens is provided in the following table. Descriptions are presented for each group within the five classes.

#### Dart Points

Twelve sites and three survey areas are represented by the sample of 37 whole and fragmentary dart points. All of these specimens were collected from the surface. The dart points were analyzed according to standard procedures in Texas. Where possible, they are classified in reference to established types, with the classification criteria included in the type descriptions. Measurements follow the unpublished system developed by Elton Prewitt in which typological criteria are based on the hafting elements. These elements are haft length (stem length) and base depth (concavity or convexity of the base - "+" for a concave base, "-" for a convex base, and "0" for a straight base).

#### ANGOSTURA

One specimen is classified as an Angostura dart point (Turner and Hester 1985:66). Angostura is characterized by a slender leaf-shaped body, oblique parallel flaking, a concave or irregularly straight base, and ground basal edges. The type is tentatively applied since a large percentage of all lanceolate points with contracting stems and concave bases are classified as Angostura points, which may have damaged the integrity of the type (Elton R. Prewitt, personal communication 1986).

This specimen (Fig. 7a) is from 41CN212. It is a proximal fragment which is missing a basal corner. The sides are contracting, and the base is concave. The sides have been well smoothed by grinding. Also, the flaking is similar to that of Angostura. Length, unknown; thickness, 0.7 cm; haft length, 2.2 cm; neck width, 1.8 cm; base width, 1.8 cm; base depth, +0.3 cm. Angostura dart points are associated with the Circleville Phase of the early Archaic period and date to ca. 6,550-5,050 B.C. (Prewitt 1981:77).



## PROVENIENCE OF PREHISTORIC AND HISTORIC ARTIFACTS

Provenience	Dart Points	Arrow Points	Bifaces	Unifaces	Modified Flakes	Historic Artifact	Totals
41CC87	0	0	1	0	0	0	1
41CC125	1	0	0	0	0	0	1
41CC131	1	1	0	0	0	0	2
41CC133	1	0	0	0	0	0	1
41CC135	1	0	0	0	0	0	1
41CN61	1	0	0	0	0	0	1
41CN63	1	0	0	0	0	0	1
41CN212	5	1	1	0	0	0	7
41CN213	1	0	0	0	0	0	1
41RN3/103							
Area 1	3	2	-	-	-	1	6
Area 2	3	-	-	-	-	-	3
Area 3	1	-	-	-	-	-	1
Area 4	4	-	-	-	-	-	4
Area 6	<u>1</u>	-	-	-	-	-	<u>1</u>
Totals:	12	2	0	0	0	1	15
41RN107							
Area 1	-	-	-	1	1	-	2
Area 1A	<u>1</u>	<u>1</u>	-	-	<u>1</u>	-	<u>3</u>
Totals:	1	1	0	1	2	0	5
41RN108							
Area 2	3	-	3	-	-	-	6
Area 3	3	-	-	1	-	-	4
Area 4	<u>1</u>	-	-	-	-	-	<u>1</u>
Totals:	7	0	3	1	0	0	11
41RN169	1	1	0	0	0	0	2
Survey Area 1	2	0	0	0	0	0	2
Survey Area 3	1	0	0	0	0	0	1
Survey Area 5	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>
GRAND TOTALS:	37	6	5	2	2	1	53

Figure 7. Dart Points

- a. Angostura dart point, 41CN212.
- b. Bell dart point, 41RN108, Area 2.
- c. Bulverde dart point, 41RN3/103, Area 4.
- d. Bulverde dart point, 41RN3/103, Area 2.
- e. Ensor dart point, 41RN108, Area 2.
- f. Ensor dart point, 41CC133.
- g. Ensor dart point, 41RN3/103, Area 1.
- h. Ensor dart point, 41CN213, Area 1.
- i. Frio dart point, 41CN61.

All artifacts are illustrated actual size.

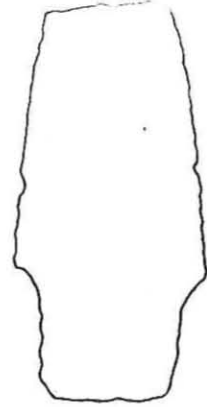
Figure 7



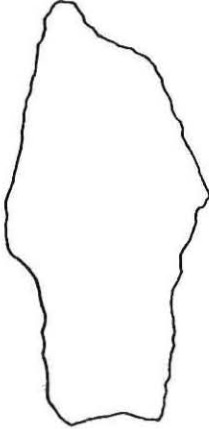
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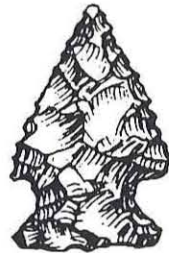
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*c*



*d*



*e*



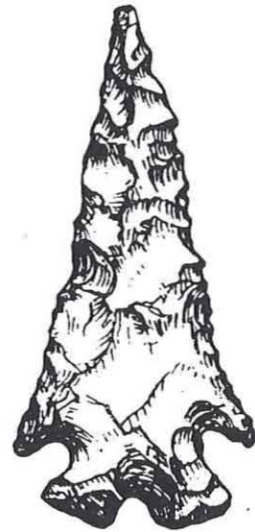
*f*



*g*



*h*



*i*

## BELL

One specimen is classified as a Bell dart point (Turner and Hester 1985:72). Bell is characterized by a wide, thin, triangular body and deep, narrow barbs formed by narrow, vertical basal notching.

The single specimen (Fig. 7b) is from Area 2 of 41RN108. It is nearly complete, lacking only the barbs. The body is triangular with straight sides and an alternate bevel to the left. The stem is expanding with a concave base. The base has been thinned by vertical flaking, and both the stem and the base have been ground. The base is wedge-shaped in cross section. The point is of light gray chert with mottles of white and gray-brown. One side has a nearly white (light gray) patina from weathering. Length, 4.3 cm; thickness, 0.8 cm; width (minus barbs), 4.2 cm; haft length, 1.4 cm; neck width, 1.4 cm; base width, 1.8 cm; base depth, +0.2 cm. Bell points are associated with the Jarrell Phase (ca. 4050- 3050 B.C.) of the early Archaic (Prewitt 1981:78).

## BULVERDE

Two specimens are classified as Bulverde dart points (Turner and Hester 1985:73). Bulverde is characterized by a strong-shouldered to barbed body and a thin, finely chipped base which is wedge-shaped in cross section. Both specimens are from the surface of 41RN3/103.

Specimen 1 (Fig. 7c) is from Area 4 of 41RN3/103. The point is nearly complete, lacking only the distal tip. The body is triangular with slightly convex sides and alternate beveling to the left. The stem is rectangular with a flat base and slightly rounded basal corners. The specimen is of light gray-brown chert with mottles of darker red-brown, and it appears to have been heat treated as there is pottlidding and crazing on the surface. Estimated length, 7.2 cm; thickness, 0.8 cm; width, 2.6 cm; haft length, 1.5 cm; neck width, 1.7 cm; base width, 1.7 cm; base depth, 0.

Specimen 2 (Fig. 7d) is from Area 2 of 41RN3/103. It is a point fragment which has been reworked in an apparent attempt to refurbish the damaged distal tip. The body is triangular with straight sides and no noticeable beveling. The stem is slightly contracting with a concave base. The specimen is of gray chert with white flecks, and there is some light patination on one side due to weathering. Estimated length, 6.8 cm (ca. 5.5 cm reworked); thickness, 1.1 cm; width, 2.7 cm; haft length, 1.9 cm; neck width, 2.0 cm; base width, 1.5 cm; base depth, +0.2 cm.

Bulverde dart points are associated with the Marshall Ford Phase (ca. 2050 B.C. - A.D. 1450) of the middle Archaic period (Prewitt 1981:79).

## ENSOR

Four specimens are classified as Ensor dart points (Turner and Hester

1985:94). Ensor is characterized by a broad stem, shallow side notches, and a generally straight base.

Specimen 1 (Fig. 7e) is from Area 2 of 41RN108. It is whole and has a triangular body with slightly convex sides, serrated edges, and an alternate bevel to the right. There appears to be some damage and subsequent reworking to one of the edges. The side notches are relatively large, forming distinct shoulders and an expanding stem with a wide, flat base. The point is of a white and light brown banded chert. Length, 3.1 cm; thickness, 0.5 cm; width, 2.1 cm; haft length, 0.9 cm; neck width, 1.3 cm; base width, 1.9 cm; base depth, 0.

Specimen 2 (Fig. 7f) is from 41CC133. It is a fragmentary point missing a basal corner and a fair portion of body. The body is triangular with straight to slightly concave sides and serrated edges. The side notches are narrow and point upward to form short barbs and an expanding stem. The base is wide and slightly concave. The specimen is of mottled gray-brown chert with white flecks. Thickness, 0.6 cm; width, 2.3 cm; haft length, 1.0 cm; neck width, 1.5 cm; estimated base width, 2.2 cm; base depth, +0.2 cm.

Specimen 3 (Fig. 7g) is from Area 1 of 41RN3/103. This point is very nearly complete, lacking only a basal corner and a small part of the distal tip. The body is triangular with slightly concave sides and slightly serrated edges. The side notches are larger and deeper than average, giving the point long, thin basal corners resembling those of Fairland points (Turner and Hester 1985:96). The shoulders are well formed, and the point has an expanding stem with a slightly concave base. The specimen is of light gray chert with darker gray-brown mottles. The broken tip appears to be the result of impact fracturing. Estimated length, 3.8 cm; thickness, 0.6 cm; width, 2.2 cm; haft length, 1.1 cm; neck width, 1.1 cm; estimated base width, 1.9 cm; base depth, +0.2 cm.

Specimen 4 (Fig. 7h) was collected as an isolated find within Survey Area 1. The point is nearly complete but lacks both basal corners and a small part of the distal tip. The body is triangular with slightly convex sides, although this is not certain due to a high degree of subsequent battering. The side notching appears to be fairly small, which probably resulted in larger-than-average basal corners. The specimen is of gray chert with a few mottles of lighter gray. Estimated length, 4.9 cm; thickness, 0.7 cm; width, 2.7 cm; haft length, 0.8 cm; neck width, 1.7 cm; base width, 2.6 cm; base depth, 0.0 cm.

Ensor dart points are associated with the Twin Sisters Phase (A.D. 200-550) of the late Archaic period (Prewitt 1981:81).

#### FRI0

Three specimens are classified as Frio dart points (Turner and Hester 1985:100). Frio is characterized by a triangular body, wide side or corner notches, and a shallow to deep U-shaped basal indentation.

Specimen 1 (Fig. 7i) is from 41CN61. It is a complete point that has a triangular body with barbs and concave recurved sides which may be due to resharpening. This resharpening may also be the cause of a slight alternate bevel to the right. The stem has deep corner notching, an expanding stem, and a notched concave base. The specimen is of light brown chert with light gray-brown mottling and a light gray patina on one side from weathering. Length, 6.7 cm; thickness, 0.7 cm; width, 3.3 cm; haft length, 1.2 cm; neck width, 1.8 cm; base width, 2.5 cm; base depth, +0.4 cm.

Specimen 2 (Fig. 8a) is from 41CC135. The specimen is whole and has a triangular body with slightly convex sides and small barbs. There is a slight alternate bevel to the right which may be the result of resharpening. The corner notching is steep and shallow, and the stem is expanding with a concave base. The specimen is of gray-brown chert with some light gray cortical mottling on one side of the base. Length, 4.3 cm; thickness, 0.6 cm; width, 2.6 cm; haft length, 1.1 cm; neck width, 1.8 cm; base width, 2.6 cm; base depth, +0.4 cm.

Specimen 3 (Fig. 8b) is from Area 4 of 41RN3/103. The point is nearly complete but is missing the distal tip. The body is triangular with straight sides, serrated edges, and pronounced shoulders. The base has shallow side notching forming a short, wide expanding stem. The base is slightly convex with a deep basal notch. The specimen is of a gray-brown chert with light gray mottling and reddish discoloration at the base which is indicative of heat treatment. Estimated length, 5.3 cm; thickness, 0.6 cm; width, 2.7 cm; haft length, 0.8 cm; neck width, 1.9 cm; base width, 2.6 cm; base depth, +0.5 cm.

Frio dart points are associated with the Uvalde Phase (300 B.C. - A.D. 200) of the late Archaic period (Prewitt 1981:76, Fig. 4).

#### GOWER

One specimen is classified as a Gower dart point (Turner and Hester 1985:105). Gower is characterized by crude workmanship, a short parallel-edged stem, a short body, and a basal concavity produced by removing a flake from one side.

The single specimen (Fig. 8c) is from Area 1A of 41RN107. This fragmentary point is missing both shoulders, a basal corner, and the distal tip. The body is triangular with straight sides and an alternate bevel to the right. The stem is slightly expanding, and the basal corners are rounded. The specimen is of gray chert with flecks of brown and black and appears to have been heat treated. Estimated length, 3.8 cm; thickness, 0.6 cm; estimated width, 2.6 cm; haft length, 1.3 cm; neck width, 1.5 cm; estimated base width, 1.7 cm; base depth, +0.3 cm.

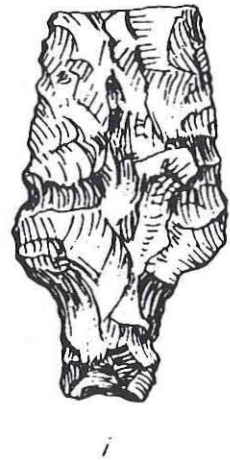
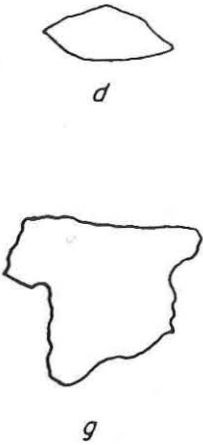
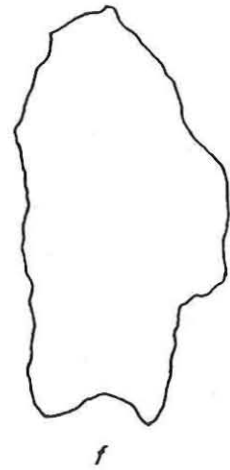
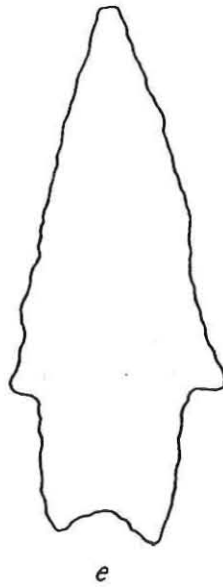
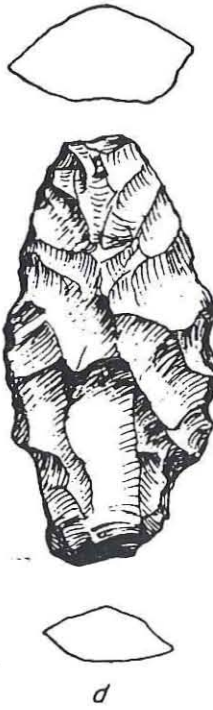
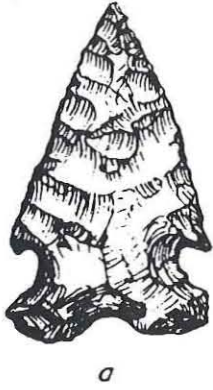
Gower dart points are associated with the San Geronimo Phase (ca. 5050-4050 B.C.) of the early Archaic period (Prewitt 1981:78).

## Figure 8. Dart Points

- a. Frio dart point, 41CC135.
- b. Frio dart point, 41RN3/103, Area 4.
- c. Gower dart point, 41RN107, Area 1A.
- d. Pandale dart point, isolated find in Survey Area 5.
- e. Pedernales dart point, 41RN3/103, Area 4.
- f. Pedernales dart point, 41RN3/103, Area 2.
- g. Pedernales dart point, 41RN3/103, Area 2.
- h. Plainview dart point, 41RN108, Area 3.
- i. Travis dart point, 41CN212.

All artifacts are illustrated actual size.

Figure 8





## PANDALE

One specimen is tentatively classified as a Pandale dart point (Turner and Hester 1985:135). Pandale is characterized chiefly by alternate beveling on the body and the stem which gives the point a "corkscrew" twist.

The single specimen (Fig. 8d) was collected as an isolated find within Survey Area 5. The point is nearly complete, lacking only a small part of the distal tip. The body is roughly triangular with convex sides, distinct shoulders, and an alternate bevel to the left. The stem is contracting with a convex base and an alternate bevel to the right. There is some crushing and grinding on one side of the stem. The damage to the distal end seems to be the result of impact fracturing. The specimen is of a mottled gray and brown chert with a large patch of darker brown cortical material on one side. Estimated length, 5.9 cm; thickness, 1.2 cm; width, 2.7 cm; haft length, 1.4 cm; neck width, 1.9 cm; base width, 1.0 cm; base depth, -0.2 cm. This point is only tentatively classified as a Pandale point due to its wide contracting stem and concave base.

Pandale dart points are associated with occupations late in the early Archaic period (4000-2500 B.C.) (Alexander 1970:2, 19; Turner and Hester 1985:135).

## PEDERNALES

Three specimens are classified as Pedernales dart points (Turner and Hester 1985:139). Pedernales is characterized by a bifurcated stem with a deep concavity in the base that is often thinned by a broad, flutelike flake. All three specimens are from 41RN3/103.

Specimen 1 (Fig. 8e) is from Area 4 of 41RN3/103. The point is whole and has a triangular body with one straight side and one slightly convex-recurved side. The shoulders are strongly pronounced, almost forming short barbs. The stem is slightly contracting with a broad basal concavity. There is also a very small fragment missing from the distal tip. The specimen is of light gray-brown chert with lighter gray-brown mottles. Length, 6.9 cm; thickness, 0.4 cm; width, 2.9 cm; haft length, 1.8 cm; neck width, 1.9 cm; base width, 1.8 cm; base depth, +0.4 cm.

Specimen 2 (Fig. 8f) is from Area 2 of 41RN3/103. It is fragmentary, missing a shoulder and the distal end. The damage appears to be the result of impact fracturing and subsequent battering. The remaining shoulder is nearly rectangular and fairly well formed. The stem is rectangular and has a base thinned by a single flake removed from either side. The specimen is of gray-brown chert with white flecks. One side is slightly patinated through weathering. Estimated length, 8.4 cm; thickness, 0.8 cm; estimated width, 3.3 cm; haft length, 1.6 cm; neck width, 2.0 cm; base width, 2.0 cm; base depth, +0.4 cm.

Specimen 3 (Fig. 8g) is also from Area 2 of 41RN3/103. This fragmentary specimen is missing a basal corner, most of the body, and portions of the

shoulders. The piece has been burned, as evidenced by heat crazing, potlidding, and thermal fracturing. The stem is rectangular, and the base is thinned by a single flake removed from either side. The most complete shoulder indicates that the specimen was barbed. The body is estimated to be triangular with straight sides. The specimen is of a pinkish gray chert, with the discoloration undoubtedly due to the burning mentioned above. Estimated length, 4.0 cm; thickness, 0.6 cm; estimated width, 3.0 cm; haft length, 1.5 cm; neck width, 1.6 cm; estimated base width, 1.7 cm; base depth, +0.3 cm.

Pedernales dart points are associated with the Round Rock Phase (ca. 1450-650 B.C.) of the middle Archaic period (Prewitt 1981:80).

#### PLAINVIEW

One specimen is classified as a Plainview dart point fragment (Turner and Hester 1985:141-142). Plainview is characterized by a lanceolate body with straight basal edges and a straight to concave base. Both the basal edges and the base are ground.

The single specimen (Fig. 8h) is from Area 3 of 41RN108. It is a basal fragment which is missing a basal corner and part of one lateral edge. The edges are straight, the base is deeply concave, and both are very well ground. The base has been thinned by long vertical flakes on both sides. The specimen is of light gray-brown chert with white flecks, grading to a darker brown chert with gray-brown mottles toward the distal end. Length, unknown; thickness, 0.7 cm; width, 2.0 cm; estimated hafted length, 3.3 cm; neck width, 2.0 cm; base width, 2.0 cm; base depth, +0.8 cm.

It should be noted that while this specimen has the straight sides of Plainview, it has an uncharacteristically deep basal notch, resembling that of Barber points (Kelly 1983:10-11). The width, straight edges, and basal thinning are more consistent with those of Plainview points (Kelly 1982:2-7). One specimen classified as Plainview from Bonfire Shelter (Dibble and Lorrain 1968:34-36) exhibits a similarly deep basal concavity. Plainview is a Paleoindian Stage projectile point type (Turner and Hester 1985:141-142).

#### TRAVIS

Two specimens strongly resemble Travis dart points (Turner and Hester 1986:153). Travis is characterized by a triangular body with rounded shoulders and a rectangular stem. The specimens described below closely resemble Travis points, but their stems are unusually narrow for this type. Both are from the surface of 41CN212.

Specimen 1 (Fig. 8i) is nearly complete, lacking only the distal end. The body is triangular with straight edges and prominent rounded shoulders. The narrow stem is rectangular with a slightly concave base. The specimen is of light pinkish-gray chert with white flecks and mottling, as well as some quartz impurities. The point may well have been heat treated, but this is not

certain. Estimated length, 7.8 cm; thickness, 0.8 cm; width, 2.7 cm; haft length, 1.4 cm; neck width, 1.2 cm; base width, 1.2 cm; base depth, +0.1 cm.

Specimen 2 (Fig. 9a) is also fragmentary. It is missing more of its body than Specimen 1, however, as well as a small portion of a basal corner. The body is triangular with slightly convex sides and one prominent rounded shoulder. The other shoulder is also rounded but much less prominent. The stem is primarily rectangular but expands slightly at the base on one side. The base is irregularly straight. The specimen is of a very dark brownish gray (nearly black) chert with lighter gray mottles and white flecks. One side has a white patina through weathering. Estimated length, unknown; thickness, 0.6 cm; estimated width, 2.5 cm; haft length, 1.0 cm; neck width, 1.5 cm; base width, 1.2 cm; base depth, 0.

Travis dart points are associated with the Clear Fork Phase (ca. 2650-2050 B.C.) of the middle Archaic period (Prewitt 1981:79).

#### ZEPHYR

Six specimens have been classified as Zephyr dart points (Prewitt 1977:35; Turner and Hester 1985:84). Zephyr is characterized by a long, narrow, triangular body with beveled edges. The beveling is steeper than that of Mahomet (Turner and Hester 1985:84). Edges are often serrated. The stems are somewhat expanding with slightly concave bases.

Specimen 1 (Fig. 9b) is from Area 1 of 41RN3/103. The point is nearly complete but lacks a basal corner and a small part of the proximal tip. The body is triangular with straight sides, serrated edges, and an alternate bevel to the right. The shoulders are distinct. The stem is expanding and flares out toward the base to form spurlike basal corners. The base itself is concave. Both the base and the stem exhibit grinding. The specimen is of light gray-brown chert which has been heat treated to a light pink with red-brown mottles and white flecks. Estimated length, 6.4 cm; thickness, 0.6 cm; width, 2.0 cm; haft length, 1.3 cm; neck width, 0.9 cm; estimated base width, 1.7 cm; base depth, +0.4 cm.

Specimen 2 (Fig. 9c) is from 41CN213. It is nearly complete but lacks a basal corner and part of the tip. The body is triangular with straight, irregular sides (due to subsequent battering) and an alternate bevel to the right. The stem is expanding, and the basal concavity is fairly deep and narrow, giving the base a notched appearance. There is no basal grinding. The specimen is of dark gray-brown chert which has weathered to a light gray on one side. Estimated length, 4.7 cm; thickness, 0.6 cm; width, 1.8 cm; haft length, 1.0 cm; neck width, 1.2 cm; estimated base width, 1.7 cm; base depth, +0.4 cm.

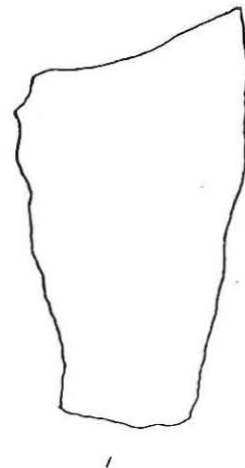
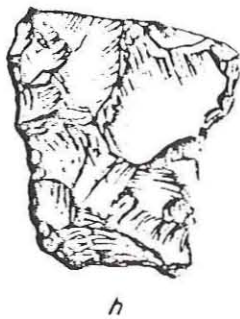
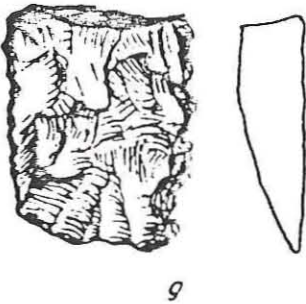
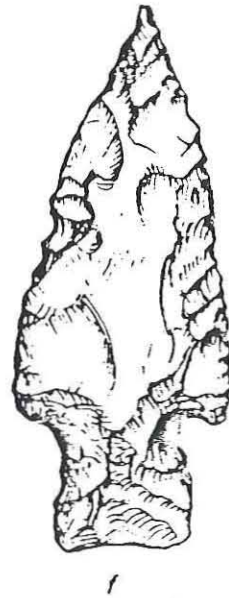
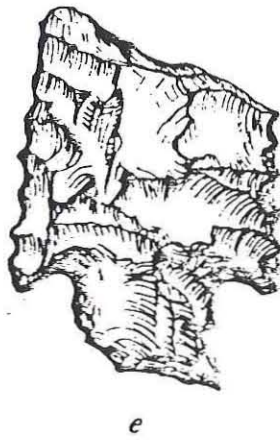
Specimen 3 (Fig. 9d) is from 41CN63. This fragmentary point is missing small portions of its basal corners, part of a shoulder, and the distal tip. The body is triangular with bell-shaped (recurved) sides and an alternate bevel to the right. The stem is only slightly expanding and has a concave

## Figure 9. Dart Points

- a. Travis dart point, 41CN212.
- b. Zephyr dart point, 41RN3/103, Area 1.
- c. Zephyr dart point, 41CN213.
- d. Zephyr dart point, 41CN63.
- e. Zephyr dart point, 41CC131.
- f. Untyped expanding-stem dart point, 41RN108, Area 4.
- g. Untyped lanceolate dart point, 41CN212.
- h. Untyped lanceolate dart point, 41CN212.
- i. Untyped lanceolate dart point, 41RN3/103, Area 3.

All artifacts are illustrated actual size.

Figure 9



base. No basal grinding is indicated. The specimen is of white chert with numerous quartz inclusions. Estimated length, 4.2 cm; thickness, 0.5 cm; estimated width, 1.7 cm; estimated haft length, 1.0 cm; neck width, 1.6 cm; estimated base width, 1.7 cm; estimated base depth, +0.3 cm.

Specimen 4 (Fig. 9e) is from 41CC131. This fragmentary point is missing a basal corner and as much as half of the body. The body is triangular with slightly convex sides and serrated edges. The stem is slightly expanding, flaring out at the base to form small spurlike basal corners. The base is concave, and both the base and the stem exhibit grinding. The point is of a gray chert with a few brown mottles and white flecks. It should be noted that this point is extraordinarily long for a Zephyr point and does not have the characteristic beveling. It is included in this type category on the basis of its stem characteristics. Estimated length, 8.2 cm; thickness, 0.6 cm; width, 1.9 cm; haft length, 1.3 cm; neck width, 2.0 cm; estimated base width, 2.3 cm; base depth, +0.2 cm.

Specimen 5 is from 41RN169. This fragmentary point is missing a basal corner and most of its body. The body is estimated to be triangular, possibly with slightly convex sides. There is indication of an alternate bevel to the right. The stem is slightly expanding and has a deep basal concavity similar to that of Specimen 2. There is no basal grinding. The specimen is of light gray-brown chert with light gray flecks and red-brown mottles. The red-brown mottling may well be the result of heat treating. Estimated length, 4.1 cm; thickness, 0.6 cm; estimated width, 1.9 cm; haft length, 1.0 cm; neck width, 1.6 cm; estimated base width, 1.7 cm; base depth, +0.3 cm.

Specimen 6 is from Area 2 at 41RN108. This point is represented only by a base fragment and is tentatively classified as a Zephyr dart point fragment. The stem is expanding and has a slightly convex base. The base has been thinned so that the fragment is wedge-shaped in cross section. There is no evidence of grinding. The fragment is of a very light gray chert with red-brown mottles which may be the result of heat treating. Estimated neck width, 1.5 cm; base width, 2.0 cm; thickness, 0.5 cm.

Zephyr dart points are associated with the middle Archaic period (ca. 2500-1000 B.C.), although they are not attributed to any specific phase (Prewitt 1977:34).

#### MISCELLANEOUS EXPANDING STEM DART POINTS

Two specimens remain untyped but are grouped together by virtue of their stem characteristics. Both have slightly expanding stems and concave bases.

Specimen 1 (Fig. 9f) is from Area 4 of 41RN108. It is a whole dart point with a triangular body, slightly convex sides, and strongly pronounced shoulders, one of which is somewhat barbed. The stem is expanding with a concave base. The base has been thinned but does not have the wedge-shaped characteristic of Bulverde. The specimen is of brown-gray chert with mottles of darker and lighter gray as well as white flecks. There is a light gray speckled patina on one side through weathering. Length, 7.2 cm; thickness 0.8

cm; width, 3.0 cm; haft length, 1.7 cm; neck width, 1.6 cm; base width, 1.8 cm; basal depth, +0.1 cm.

Specimen 2 is from 41CC125. It is a proximal fragment of a dart point, with most of the body and part of one shoulder missing. The shoulders are pronounced and nearly square. The stem is slightly expanding and has a concave base which somewhat resembles that of Pedernales points. The sides of the stem exhibit grinding. The specimen is of gray chert with light brown mottles. The specimen also has potlidding and the "greasy luster" which indicates either heat treating or burning. Estimated length, 5.7 cm; thickness, 0.8 cm; width, 2.8 cm; haft length, 1.6 cm; neck width, 1.6 cm; base width, 1.7 cm; base depth, +0.3 cm.

These expanding-stem dart points are believed to be associated with the middle Archaic period (2500-1000 B.C.), although they are not attributed to any specific phase (Elton R. Prewitt, personal communication 1986).

#### MISCELLANEOUS LANCEOLATE DART POINTS

Five biface fragments are believed to represent lanceolate dart point forms. The common characteristic of this group is a rectangular, wedge-shaped base and/or parallel to convex lateral edges.

Specimen 1 (Fig. 9g) is from 41CN212. It is apparently the proximal fragment of a projectile point with a lanceolate body and a square base. The base has been thinned in such a fashion as to create a wedge-shaped cross section. Also, one face of the specimen is much less convex than the other. The fragment is of dark brown-gray chert which has a patchy white patina on both sides due to weathering. Distal width, 2.5 cm; proximal width, 2.1 cm; length (of fragment), 3.0 cm; thickness, 0.9 cm.

Specimen 2 (Fig. 9h) is also from 41CN212. It is a proximal fragment of a dart point with a probable lanceolate body and a single ill-defined shoulder. The stem is irregular with one straight side and one slightly convex side. The base is slightly concave. The specimen is of a gray chert with mottles of gray-brown and white. Length (of fragment), 3.4 cm; thickness, 0.8 cm; width, 2.9 cm; haft length, 2.0 cm; neck width, 2.3 cm; base width, 2.1 cm; base depth, +0.1 cm.

Specimen 3 (Fig. 9i) is from Area 3 of 41RN3/103. This is a proximal fragment of a lanceolate biface with a slightly convex base. It is not certain whether this is a fragment of a failed biface or a broken projectile point. The flaking on one side is quite fine, while the other side shows large and more-irregular flaking. There is some amount of grinding on both edges, so it is possible that this is, in fact, a broken projectile point. The specimen is of light brown-gray chert with bands or mottles of dark gray. Length (of fragment), 5.5 cm; thickness, 0.8 cm; width, 3.1 cm; base width, 1.8 cm; base depth, -0.2 cm.

Specimen 4 was collected as an isolated find within Survey Area 3. It is a medial fragment of a biface believed to be a dart point. One edge is

straight, while the other is slightly concave. The fragment is lenticular in cross section. The specimen is of light gray-brown chert with a dark gray and white patina on both sides due to weathering. Length (of fragment), 2.8 cm; thickness, 0.7 cm; width, 2.1 cm.

Specimen 5 is from Area 1 of 41RN107. It is a medial biface fragment which is possibly part of a projectile point. The sides are convex, and there are notches on either side which have been formed by alternate flake removals. In addition, the edges are ground smooth along the entire length of the fragment. The specimen is of light gray fossiliferous chert with mottles of brown, red, and white. This discoloration is most likely the result of heat treatment or burning. Length (of fragment), 3.8 cm; thickness, 0.8 cm; width, 2.4 cm; width of notches, 2.0 cm.

Lanceolate dart point forms are believed to be associated with the Paleoindian Stage (ca. 9200-6000 B.C.) (Turner and Hester 1985:47).

#### MISCELLANEOUS DART POINT FRAGMENTS

The following five specimens are too fragmentary to be classified as to type or grouped into morphological categories. Included in these is a retouched flake which is believed to have been used as a dart point.

Specimen 1 (Fig. 10a) is from Area 1 of 41RN3/103. It is a biface failure, apparently due to an overshot flake which removed a good portion of one of the lateral edges and possibly part of the opposite face. One end of the biface has been flaked to form an expanding stem with a convex base and two barbs. The base and the barbs are reminiscent of Castroville points. The specimen is of a light brown chert with a few mottles of light gray-brown. There is also a small patch of pink, which is possibly the result of heat treating, at one of the basal corners. Length (of fragment), 6.8 cm; thickness, 0.8 cm; width, 4.0 cm. Hafting element dimensions are: haft length, 1.6 cm; neck width, 2.2 cm; base width, 2.6 cm; base depth, -0.5 cm. Castroville dart points are associated with the Uvalde Phase (300 B.C. - A.D. 200) of the late Archaic period (Prewitt 1981:81).

Specimen 2 is from Area 6 of 41RN3/103. It is a proximal fragment of what may have been a Marshall point. It is missing a basal corner, a barb, and the majority of the body. The area of the missing barb has been reworked to form a weak shoulder. The stem is rectangular, and the base appears to have been slightly convex. The body is estimated to be triangular. The specimen is of light gray chert with light gray-brown mottles which has been weathered to a very light gray. There is a red tinge to the barb, which may be the result of heat treating. Length (of fragment), 2.8 cm; thickness, 0.7 cm; width (of fragment), 3.2 cm; haft length, 1.3 cm; neck width, 2.0 cm; base width, 2.0 cm; base depth, -0.1 cm. Marshall dart points are associated with the San Marcos Phase (ca. 650-300 B.C.) of the middle Archaic period (Prewitt 1981:80).

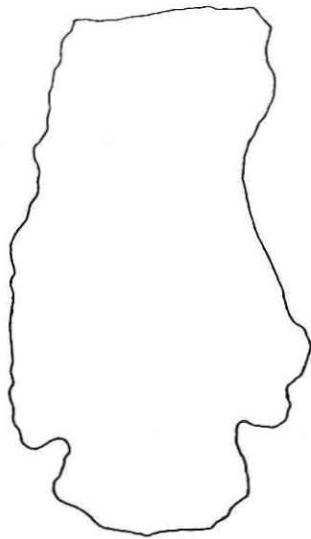


Figure 10. Dart Points, Arrow Points, Bifaces, and Unifaces

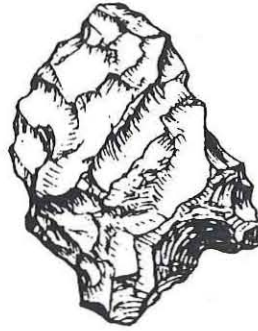
- a. Untyped dart point, 41RN3/103, Area 1.
- b. Untyped dart point, 41CN213, Area 1.
- c. Untyped dart point, 41RN108, Area 3.
- d. Fresno arrow point, 41RN3/103, Area 1.
- e. Lott arrow point, 41CC131.
- f. Scallorn arrow point, 41RN169.
- g. Untyped arrow point fragment, 41CN212.
- h. Hafted biface, 41RN108, Area 2.
- i. Uniface, 41RN107, Area 1.
- j. Uniface, 41RN108, Area 3.

All artifacts are illustrated actual size.

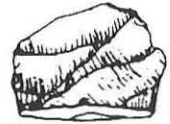
Figure 10



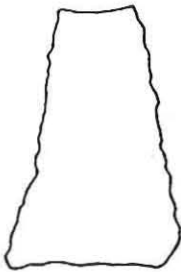
a



b



c



d



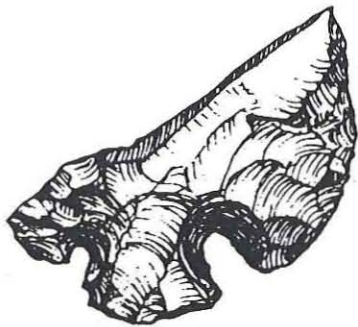
e



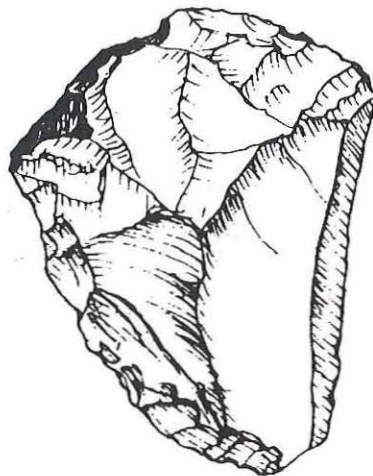
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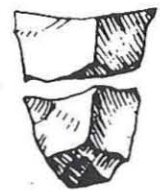
g



h



i



j

Specimen 3 (Fig. 10b) was collected as an isolated find within Survey Area 1. It is a largely complete point, but it is missing the base and most of the stem, as well as part of the edge and parts of both shoulders. The body is roughly triangular with convex sides and possible barbs. The flaking is collateral, and that, along with the general form of the point, indicate that this could be an early Archaic dart point similar to Gower. The specimen is of light gray-brown chert with white flecks which has been weathered to a dark gray. Length (of fragment), 4.2 cm; thickness, 0.8 cm; width (of fragment), 3.1 cm; neck width, 2.1 cm.

Specimen 4 (Fig. 10c) is from Area 3 of 41RN108. It is a medial fragment of a small, thin biface which resembles a Midland point (Turner and Hester 1985:124). The sides of the specimen are convex, and it is of light brown vitreous chert which has weathered to a white color with light brown mottles. The flaking is collateral. If this is, in fact, a Midland point fragment, it is probably from the distal end as there is none of the grinding which is characteristic of a Midland point base (Turner and Hester 1985:124). Length (of fragment), 1.5 cm; thickness, 0.3 cm; width, 2.0 cm. Midland dart points are associated with the Paleoindian period in Texas (Turner and Hester 1985:124).

Specimen 5 is from Area 4 of 41RN3/103. It is a flake which has been retouched to form a triangular point with a concave base. The flaking is alternately unifacial, giving the flake a beveled appearance. The base has been unifacially retouched to form a slight concavity. One of the basal corners still has the bulb and platform of the flake from which point was made. The specimen is of light gray chert with brown mottles and white flakes. Length, 5.1 cm; thickness, 0.4 cm; width, 3.0 cm.

#### Arrow Points

Five sites are represented by the sample of six fragmentary arrow points. All of these specimens were collected from the surface. They have been categorized and measured in the same manner as the dart points.

#### FRESNO

One specimen is classified as a Fresno arrow point fragment (Turner and Hester 1985: 179). Fresno is characterized by a stemless triangular body with slightly convex or concave edges and a convex or slightly concave base.

The single specimen (Fig. 10d) is from Area 1 of 41RN3/103. It is nearly complete but lacks a basal corner and the distal tip. It has slightly concave edges and a slightly concave base. The flaking is carefully done and oblique. The specimen is of light gray chert with light brown mottles. Estimated length, 4.1 cm; thickness, 0.4 cm; estimated width, 2.4 cm; estimated haft length, 1.5 cm; estimated neck width, 1.5 cm; estimated base width, 2.4 cm; base depth, +0.1 cm.

Fresno points are associated with Late Prehistoric occupations between A.D. 800-1800 (Mallouf and Zavaleta 1979:19; Turner and Hester 1985:174).

#### LOTT

One specimen is classified as a Lott arrow point (Turner and Hester 1985:182). Lott is characterized by a triangular body with an expanding stem and a basal notch. Barbs or shoulders are formed by trimming the lateral edges.

The single specimen (Fig. 10e) is from 41CC131. It is a fragmentary point which is missing roughly half of the body. The body is estimated to be triangular with slightly convex sides, serrated edges, and pronounced shoulders. The stem is expanding and has the typical notched base. The specimen is of a light gray-brown chert. Estimated length, 2.4 cm; thickness, 0.3 cm; estimated width, 1.3 cm; haft length, 0.8 cm; neck width, 0.8 cm; base width, 1.2 cm; base depth, +0.3 cm.

Lott arrow points are associated with the Garza Phase (A.D. 1390-1500) of the Late Prehistoric period (Johnson et al. 1977:84; Turner and Hester 1985:182).

#### SCALLORN

Two specimens are classified as Scallorn arrow points (Turner and Hester 1985:189). Scallorn is characterized by a triangular body with straight to convex sides which are often serrated and well-barbed shoulders formed by corner notching. The stem is expanding with a base that can be straight, convex, or concave.

Specimen 1 (Fig. 10f) is from 41RN169. It is nearly complete, lacking only the distal tip. The body is triangular with one convex side and one concave side and has small, barbed shoulders. The stem is short and expanding and has a convex base. The specimen is of light brown-gray chert. Estimated length, 3.0 cm; thickness, 0.3 cm; estimated width, 1.4 cm; haft length, 0.7 cm; neck width, 0.6 cm; estimated base width, 0.7 cm; base depth, +0.3 cm.

Specimen 2 is from Area 1A of 41RN107. It is fragmentary and lacks part of a shoulder, a basal corner, and the distal tip. The body is triangular with slightly concave sides and well-formed barbs. The stem is narrow and slightly expanding and has a slightly concave base. The specimen is of dark gray-brown vitreous chert. Estimated length, 1.9 cm; thickness, 0.3 cm; estimated width, 1.4 cm; haft length, 0.7 cm; neck width, 0.6 cm; estimated base width, 0.7 cm; base depth, +0.1 cm.

Scallorn arrow points are associated with the Austin Phase (A.D. 700-1200) of the Late Prehistoric period (Hester and Collins 1969:270; Turner and Hester 1985:184).

## UNTYPED FRAGMENTS

Two specimens are distal fragments and cannot be classified to any specific type. Specimen 1 (Fig. 10g) is from 41CN212. It is a medial fragment which represents most of the body of the point. It has a triangular body with straight sides and finely serrated edges. The shoulders are short and barbed. The specimen is of pinkish gray chert with a light brown band running diagonally through it. Length (of fragment), 3.4 cm; thickness, 0.3 cm; width, 1.3 cm; neck width, 0.8 cm.

Specimen 2 is from Area 1 of 41RN3/103. It is a distal fragment with slightly convex sides and collateral flaking. It is quite thin and has regular edges. The specimen is of light gray chert with darker gray mottling. Length (of fragment), 3.1 cm; thickness, 0.3 cm; width, 1.6 cm.

## Bifaces

The five bifaces are from three sites and have been divided into three groups: 2 lanceolate bifaces, 2 rectangular bifaces, and 1 hafted biface.

## LANCEOLATE BIFACES

Specimen 1 is from 41CC87. It is complete, with one slightly convex (almost straight) side and the other more strongly convex. The sides converge to form a convex base and a narrow triangular tip. The specimen is of gray chert with white flecks and is decorticate. It is 10.1 cm long, 2.9 cm wide, and 1.1 cm thick.

Specimen 2 is from Area 2 of 41RN108. It is also complete but is much smaller than Specimen 1. It has irregularly convex sides and is rather crudely flaked. The sides converge to form a convex base and a slightly pointed tip. The base still retains a patch of reddish brown cortex. The specimen is 7.1 cm long, 2.1 cm wide, and 1.0 cm thick.

## RECTANGULAR BIFACES

Specimen 1 is from Area 2 of 41RN108. It is a biface fragment with three bifacially flaked edges and one broken one, and it is probably the proximal end of a biface. The "base" and the two lateral edges are slightly convex. The specimen is of light gray-brown chert with brown mottles. The base and one edge have patches of brown cortex still present on one side. The specimen is 2.8 cm long, 3.6 cm long, and 0.8 cm thick.

Specimen 2 is from the surface of 41CN212. Like Specimen 1, it is also probably a proximal fragment of a biface. The "base" is irregularly straight, with one slightly convex lateral edge and the other slightly concave. The specimen is of gray chert with darker gray flecks and is decorticate. There is a patchy white patina on one side due to weathering. The specimen is 3.1 cm long, 4.0 cm wide, and 0.7 cm thick.

## HAFTED BIFACE

The single hafted biface (Fig. 10h) is from Area 2 of 41RN108. It is possibly the basal fragment of a corner-tanged biface. There are two notches forming an expanding stem with a convex base. The other two extant edges are also convex. The specimen is of a black fossiliferous chert and is decorticate. The chert is quite similar to that of Miscellaneous Lanceolate Dart Point Specimen 5. With the specimen oriented stem downwards, it is 3.9 cm long, 4.5 cm wide, and 1.0 cm thick. Corner-tanged knives (bifaces) are associated with various occupations within the late Archaic period (Hall 1981; Mitchell et al. 1984:35-36).

## Unifaces

The two unifaces are from 41RN107 and 41RN108. Both are scrapers, and both are made of chert.

Specimen 1 (Fig. 10i) is from the surface of 41RN107, Area 1. It is a large, thick, triangular secondary flake. There has been some irregular vertical retouch on one lateral edge of the flake, and the distal edge has been unifacially flaked to form a 60° edge angle. The specimen is of gray chert with brown mottles and has been weathered to a white patina over its entire surface. Subsequent surface shatter has left flake scars exposing the unweathered interior. The specimen is 5.9 cm long, 4.9 cm wide, and 2.2 cm thick.

Specimen 2 (Fig. 10j) is from Area 3 of 41RN108. It consists of two fragments of a small end scraper on the end of a prismatic blade. Unifacial retouch is present on the distal edge of the flake on the dorsal surface, forming an edge angle of ca. 50°. The specimen is of a light gray chert and has either been burned or heat treated, judging from the heat crazing and thermal fracturing evident on the two fragments. When fitted together, the specimen is 1.9 cm long, 1.8 cm wide, and 0.5 cm thick.

## Modified Flakes

The two modified flakes are both from 41RN107. This artifact class includes those flakes which have been modified but cannot be clearly identified as any specific type of tool.

Specimen 1 is from Area 1 of 41RN107. It is a large tertiary chert flake which has been irregularly flaked on the ventral surface of its distal edge. There also has been some subsequent battering, as seen by the fresh flake scars. No definite working edge has been formed. The specimen is of gray-brown chert with black flecks and has a heavy patina of very light gray. The specimen is 5.3 cm long (from the platform to the termination), 6.8 cm wide, and 1.8 cm thick.

Specimen 2 is from Area 1A of 41RN107. It is a flake that has been retouched to form a small lanceolate biface. The sides and base are slightly

convex, with a nearly square basal corner. The distal tip and the other basal corner are missing. The specimen is of brown chert with a light gray patina from weathering present on both sides. This patina has been partially removed by the retouching so a reasonable amount of time is represented between the time the flake was originally struck and the time of its modification. It is suggested that the specimen is possibly a Clovis or Folsom fluting flake which was subsequently reworked by a later aboriginal occupant of the site. The specimen is 2.8 cm long, 1.7 cm wide, and 0.3 cm thick.

#### Unmodified Debitage

This category consists of six pieces of debitage collected from 41RN107. These flakes were collected from this site to demonstrate the variety and quality of the materials being utilized at the site, as well as the apparent age of the site. Of the six specimens, two are of dark gray chert, two are of a gray-brown chert with a heavy yellow-brown patina, one is of a heavily patinated light brown chert, and one is of a heavily patinated brown chert. All of these specimens are decorticate, and all are of high-quality materials, which indicate that there was some selection for such quality materials by the aboriginal inhabitants. In addition, the four patinated specimens indicate to some extent the age of the site.

#### Historic Artifact

This category consists of a single artifact found in Area 1 of 41RN3/103. It is a fragment of a leg from a porcelain doll. It has white, unpainted, molded corrugations forming a stocking, with a brown-glazed molded shoe. The specimen is 3.4 cm long and 1.2 cm wide (at "calf"), with a 1.6-cm-long shoe.

## CHAPTER 9

### ASSESSMENTS AND RECOMMENDATIONS

Five newly and 11 previously discovered sites partly or wholly within the five recreation tracts surveyed are herein assessed for their significance. Beyond the usual issues of archeological potential are questions regarding the statuses of these sites with regard to an existing National Register District.

The previous (1980) archeological survey was confined to the conservation pool of the proposed reservoir, below the 1,551.5-ft elevation. The present (1986) survey examined five tracts on high ground adjacent to the proposed lake. The 1,551.5-ft contour line forms the boundary between the previously surveyed area and each of the five newly surveyed tracts. Sixteen archeological sites found during the previous survey touched on these boundaries and were reconsidered in the course of this survey. Five of the 16 (41CC119, 41CC133, 41CN149, 41RN123, and 41RN154) were found to extend upslope beyond the site boundaries as mapped in 1980. An additional 6 (41CC130, 41CC228, 41CC232, 41CN87, 41CN90, and 41CN103) of these 16 had already been mapped as extending upslope beyond the 1,551.5-ft contour.

Thus, in the five survey areas, all or parts of three categories of sites are present: (1) five newly recorded sites; (2) five previously recorded sites with modified boundaries and sizes; and (3) six previously recorded sites with boundaries as they were established during the 1980 survey. A National Register of Historic Places District, the Stacy Archeological District, was established by a concurrence determination in March of 1982 to include all sites found during the 1980 survey. The boundary of the District is defined as the 1,551.5-ft contour, but the concurrence determination documents reference the 1980 site survey forms, including the 11 sites whose boundaries extend beyond the District as presently defined. Hence, parts of six sites originally defined as extending beyond the District boundary and parts of five sites with boundaries recently modified as extending beyond the District boundaries are present in the five surveyed tracts. By virtue of the archeological characteristics of these 11 listed sites in the newly surveyed areas (above the 1,551.5-ft contour), none is deemed eligible for listing on the National Register of Historic Places on the basis of available information. When all of these factors are considered, the National Register status of these 11 sites is unclear; it is recommended that clarification be sought.

Of the five newly recorded sites, only 41CC213 and 41CC237 are considered to be potentially eligible for inclusion on the National Register of Historic Places. Their potential eligibility derives from the presence of a single possible burial cairn on each site. Given the importance of human burial features and the sensitivity of the burial issue, special consideration must be given to these sites. In addition, since these sites are located in areas which are designated for recreational use, the potential for adverse negative impact to the rock features is high. It is recommended, therefore, that additional work be conducted to determine the identity of the rock cairns. It may not be practical to test these features, given their small size, due to the high level of disturbance that would occur. Therefore, complete excavation and documentation is recommended. The rock cairn feature



investigations at 41CC213 and 41CC237 should be completed before recreation survey Areas 1 and 4 are developed and/or opened for public use.

The remainder of the sites in the upland areas are diffuse, ephemeral archeological manifestations that have been subjected to disturbances (i.e., primarily roads and brush clearing) and to selective collecting by relic hunters. The potential of such sites to contribute significantly to archeological knowledge in the area appears, on the basis of currently available data, to be very low. These are one historic (41CC239) and two prehistoric sites (41CC238 and 41CN212).

In summary, available data indicate that two newly discovered sites (41CC213 and 41CC237) are potentially eligible for inclusion on the National Register of Historic Places and that three newly discovered sites (41CC238, 41CC239 and 41CN212) are not eligible. The status of 11 previously recorded sites with regard to the Stacy Archeological District is unclear. It is recommended that the cairns at sites 41CC213 and 41CC237 be excavated and that clarification of the status of the 11 previously recorded sites be sought.

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