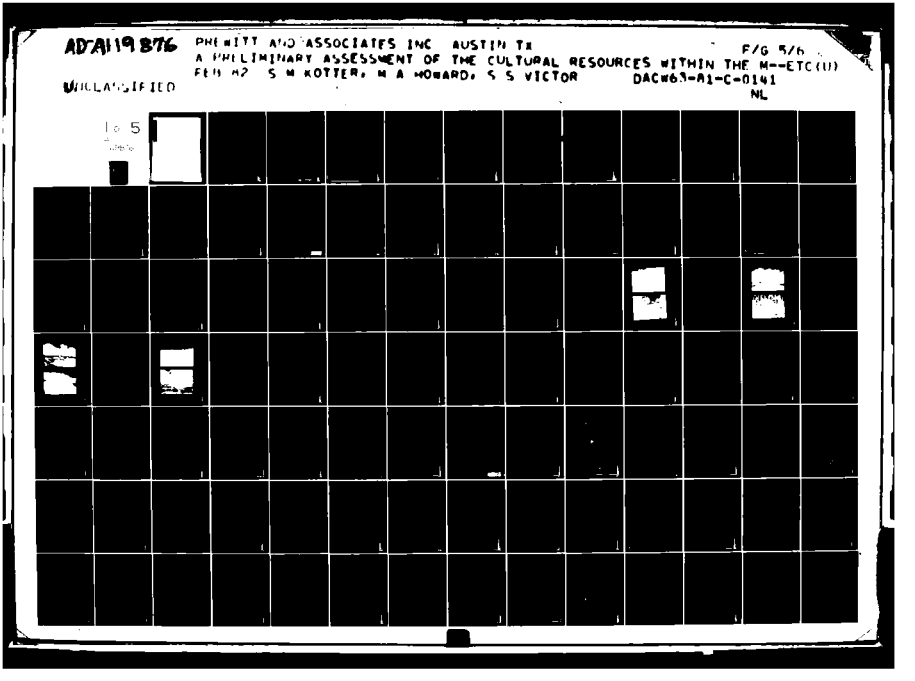
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Archeological investigations for the Millican Project were conducted by Prewitt and Associates, Inc. during August and September 1981 under terms of a contract with the Fort Worth District, Corps of Engineers. Four transect areas were surveyed which sample the cultural resources within portions of the Navasota River valley in Brazos, Grimes, Leon, Madison and Robertson counties, Texas. The archeological investigations were designed to provide data necessary for assessment of the adverse effects to significant cultural resources of four

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The patterns of site distributions are used to assess the relative impact of each reservoir and recommend specific alternatives. Additional recommendations are presented to mitigate the loss of significant cultural information, to limit and/or regulate land use, to preserve and/or protect significant cultural information, to limit and/or regulate land use, to preserve and/or protect significant cultural resources, and to increase the efficiency of future archeological investigations.

The patterns of site distributions are also used to discuss prehistoric and historic adaptations and other cultural characteristics. The distribution of prehistoric sites indicates that major differences exist between northern and southern portions of the project area. Both areas are characterized and related to the cultural resources of surrounding areas.

A PRELIMINARY ASSESSMENT OF THE CULTURAL RESOURCES WITHIN THE MILLICAN PROJECT, NAVASOTA RIVER BASIN, BRAZOS, GRIMES, LEON, MADISON AND ROBERTSON COUNTIES, TEXAS

by

Steven M. Kotter

with contributions by

Margaret Ann Howard

and

Sally S. Victor

PRINCIPAL INVESTIGATOR: Elton R. Prewitt

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REPORTS OF INVESTIGATIONS, NUMBER 19

Prewitt and Associates, Inc.
Consulting Archeologists
Austin, Texas

February 1982

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ABSTRACT

Archeological investigations for the Millican Project were conducted by Prewitt and Associates, Inc. during August and September 1981 under terms of a contract with the Fort Worth District, Corps of Engineers. Four transect areas were surveyed which sample the cultural resources within portions of the Navasota River valley in Brazos, Grimes, Leon, Madison and Robertson counties, Texas. The archeological investigations were designed to provide data necessary for assessment of the adverse effects to significant cultural resources of four proposed reservoir alternatives so that this information could contribute to the selection of the final reservoir location.

The survey identified 122 archeological sites which represent 109 prehistoric and 22 historic components. Each identified site is assessed on its own merits relative to a number of defined characteristics. The resulting assessments of information yield potential indicate that the selection of each of the proposed reservoir alternatives will result in adverse effects on significant cultural resources and/or information. The means are provided to predict the densities and distributions of various kinds of prehistoric and historic sites and of a number of information yield potential categories.

The patterns of site distributions are used to assess the relative impact of each reservoir and recommend specific alternatives. Additional recommendations are presented to mitigate the loss of signficant cultural information, to limit and/or regulate land use, to preserve and/or protect significant cultural resources, and to increase the efficiency of future archeological investigations.

The patterns of site distributions are also used to discuss prehistoric and historic adaptations and other cultural characteristics. The distribution of prehistoric sites indicates that major differences exist between northern and southern portions of the project area. Both areas are characterized and related to the cultural resources of surrounding areas.

FOREWORD

A tremendous quantity of information has been gathered by Mr. Kotter in the compilation of this report. His attention to detail and recognition of the significance of the variety of data in the survey areas are evident throughout his treatment of the Millican Project.

The archeology of the Navasota River Basin is difficult to deal with. Foremost among the problems is the characterization of the internal cultural developments evidenced by the archeological record. An absence of an established chronology in the region hinders the recognition of time-specific developments and adaptations. Although general chronological trends are recognizable, these are of limited use for interpretation. In this report, the emphasis is on functional variations of sites rather than chronology. Sites are characterized by material culture assemblage, physiography and environment. Interpretations and assessments of site potential are based on information which can be studied regardless of temporal variations, and, in the event that specific periodicity can be established during future investigations, the types of data emphasized here will assume even greater importance in interpreting human adaptations within the Navasota River Basin.

The data collected are also presented in terms of potential conflicts which can be predicted for each reservoir alternative. This should prove to be an invaluable tool for the Corps of Engineers in evaluating the merits of the proposed alternatives. The development of a sound predictive base has been of overriding importance during the course of this project, and we feel this primary objective has been accomplished.

As with any study of this nature, the interpretive potential is limited. Mr. Kotter has restrained his treatment of the data to reasonable limits of interpretation and prediction of site occurrence. We are pleased to include his report in our Reports of Investigations series.

Elton R. Prewitt
Principal Investigator

ACKNOWLEDGMENTS

The cooperation and assistance of many people were necessary for the successful completion of this project. Foremost among these are the field crews who provided the primary archeological documentation and maintained professional conduct during sometimes adverse field conditions. The cooperation of numerous landowners is greatly appreciated. The graciousness of their assistance was a welcome pleasure. Although these landowners are too numerous to list individually, I wish to thank them for helping us to complete this project. Mr. Bink Manning of North Zulch, Texas, deserves special thanks for the wealth of information he shared with us.

Susan Hazen and others within the Environmental Planning Section of the Fort Worth District, Corps of Engineers, provided valuable assistance.

Personnel with Prewitt and Associates, Inc. were both helpful and understanding. Linda Nance and Jean Richmond assisted in editing the report. Linda Nance typed the drafts and prepared the final copy for printing; Linda also served as administrative assistant and saw to the prompt attention given to the myriad details required for the project. Sandra Hannum-Price and Kerza Prewitt drafted the maps and other figures. Linda Battles-Herron prepared the artifact illustrations. Elton R. Prewitt served as Principal Investigator.

Steven M. Kotter was Project Archeologist and prepared the body of the report and Appendix III. Sally S. Victor was Project Historian and is responsible for Appendix I. Margaret Ann Howard authored Appendix II.

PART I

PROJECT BACKGROUND

INTRODUCTION

An archeological survey and assessment for the proposed Millican Project was conducted by personnel of Prewitt and Associates, Inc. during August and September 1981. The investigations represent a preliminary examination of areas which could be adversely affected by construction of a reservoir on the Navasota River in Brazos, Grimes, Leon, Madison and Robertson counties, Texas. The archeological work was sponsored by the U.S. Army Corps of Engineers, Fort Worth District under Contract No. DACW63-81-C-0141, and supervised by Susan Hazen of the Corps of Engineers Environmental Resources Section. The work conforms to the guidelines established by the Department of the Interior 36 CFR 800, 36 CFR 66, 36 CFR 60 and the Department of Defense 33 CFR 305.

The fieldwork was completed by Steven M. Kotter, Project Archeologist, with Sally Victor, Project Historian, and four field crews consisting of Logan McNatt, Andrew Cloud and Denise Steele (Millican Transect Area); Henry Bruno and Diane Young (Ferguson #3 Transect Area); Susan Lisk and Margaret Howard (Bundic Crossing Transect Area); and Vance Langley and Elizabeth Day (Clear Creek Transect Area). Elton R. Prewitt was the Principal Investigator.

The Millican Project is a proposed reservoir within the Lower Navasota River Basin which was authorized in 1968 for the purposes of flood control, water supply, and recreation as well as fish and wildlife habitat. As originally proposed, the damsite was to be located at rivermile 24.1, southeastern Brazos and west-central Grimes counties, Texas. During post-authorization studies, large quantities of lignite and other mineral resources were discovered within the project area. As a result, a reformulation study was initiated during which nine alternative damsite locations have been investigated. Four of these alternative damsite locations (Fig. 1) were selected for in-depth study--the Millican Damsite location as originally proposed; the proposed Panther Creek Damsite which is located at rivermile 36.0, southeastern Brazos and west-central Grimes counties; the proposed Ferguson #3 Damsite which is located at rivermile 41.5, east-central Brazos and west-central Grimes counties; and the proposed Bundic Crossing Damsite which is located at rivermile 73.0, northeastern Brazos and west-central Madison counties.

At the time of the award of contract, these four damsites constituted the basis of the current Millican Project. However, during the course of the project, certain changes were made based on data other than that pertaining to the nature of the cultural resources present. The proposed Ferguson #3 Damsite was removed from consideration and an alternative site, a secondary smaller reservoir area to be flooded by the proposed Panther Creek Damsite, was proposed. The area to be affected by each of the other reservoir alternatives was also reduced.

Archeological investigations conducted by Prewitt and Associates, Inc. provide data necessary to enable project managers and planners to evaluate the effects of each proposed reservoir alternative upon the cultural resources within the project area. The current investigation

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represents a preliminary evaluation only, and the resulting research report is recommended as a decision-making tool preceding an in-depth investigation of the final project area. Within the limitations of the scope of work, the evaluation was to include recommendations for future scientific research, mitigation of adverse effects to significant cultural resources, limitation of land uses, applicable Native American associations or concerns, and site-specific preservation actions.

Additionally, the evaluation was to include new and previously recorded historic and prehistoric cultural resources, both terrestrial and submergent. Each archeological site identified was to be assessed for eligibility to the National Register of Historic Places.

The land survey portion of the Millican Project consisted of four 1-mile-wide transects which provided a sample of the large area that could be affected by the various project alternatives. Transect locations were arbitrarily selected by the Corps of Engineers and, although they do not represent a statistical sample, they do provide a sampling of the Navasota River Basin from near Lake Limestone southward to the Brazos River confluence.

The four transect areas selected (Fig. 1) include two proposed damsites -- the Millican and Bundic Crossing damsites, and the Ferguson #3 Damsite, which is no longer a viable alternative -- and a transect at the confluence of Clear Creek and the Navasota River, east-central Robertson and west-central Leon counties, which was selected in order to sample the northern end of the project area. The four transect areas provide new archeological data for the Millican Project and are described in detail within Part II of this report.

METHODS

Archeological investigations conducted for the Millican Project were completed in three phases -- (1) prefield preparations and literature review; (2) pedestrian survey; and (3) analysis and report preparation. The survey strategy and methods employed during the current project are particularly important. Details of the work are included both here and in Part II of this report.

PREFIELD PHASE

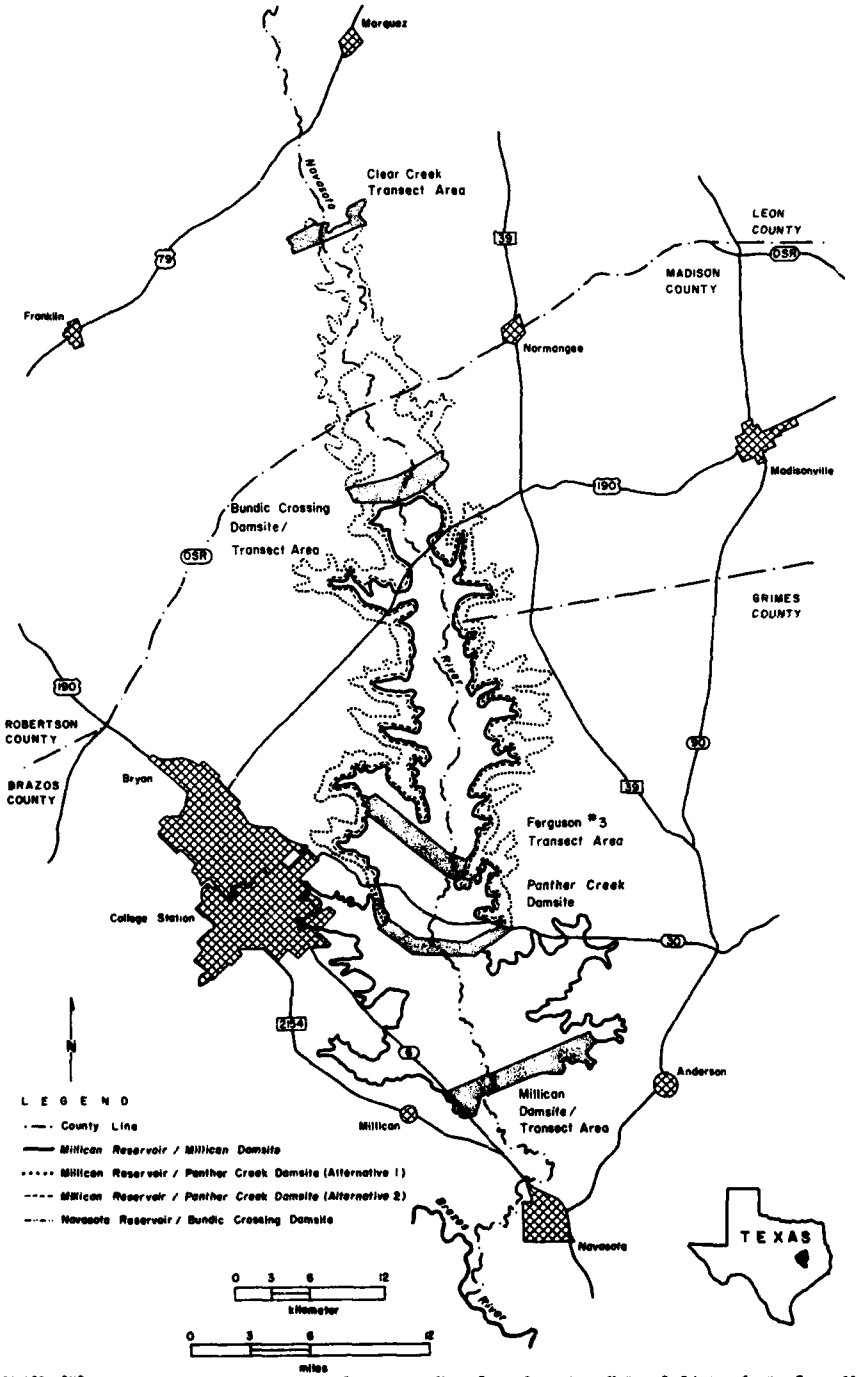
Prior to the initiation of the fieldwork, the boundaries of the four transect areas were plotted on appropriate USGS 7.5' topographic sheets. The field crews, Project Historian and Project Archeologist were provided with sets of pertinent maps for the field phase; an additional complete set of maps was maintained as a permanent record. A review of the records housed at the Texas Archeological Research Laboratory, The University of Texas at Austin was conducted, and known sites within or near the transect areas were plotted on the field maps. Photocopies of pertinent site forms were made and reviewed during the reinvestigation of previously known sites.

Figure 1

MILLICAN PROJECT

BRAZOS, GRIMES, LEON, MADISON & ROBERTSON COUNTIES, TEXAS

PROJECT LOCATION MAP



PBAI / BE / SHP

Adapted From General Highway Maps, Brazos, Grimes, Leon, Madison & Robertson Counties, Texas, 1980

In addition to maps and copies of site forms, each crew was provided with photocopies of pertinent portions of the Millican Project Technical Proposal and Research Report (Kotter and Victor 1981). Photocopies of the transect area maps were provided which divided each area into major topographic units and indicated certain areas which might provide data concerning site topographic setting, stream hydrology and history. Each crew was provided with the forms and equipment necessary to conduct the survey and document the results.

FIELD PHASE

Review of Survey Methods

The identification and assessment of archeological sites within the project area was limited by a number of factors. The sites are generally small, thinly distributed and buried. Adequate visibility is often limited by agents of exposure including bioturbation, minor erosion or modern land-use activities, making site identification and assessment difficult. Dense vegetation limits archeological visibility even in those areas where exposure is greatest and may totally obscure major portions of stream floodplains and various landforms. Seasonal flooding and alluvial deposition further limit visibility, particularly within the Navasota River floodplain. Such factors have influenced the nature and results of the archeological investigations.

A majority of the archeological work within the project area represents surveys of specific impact areas. Many archeological surveys in the past have been related to reservoir projects; however, within the last few years research has been in response to a proliferating number of energy-related activities. Most archeological projects in the vicinity include areas of 1000 acres or more. The completeness and intensity of the survey coverage of these projects has varied considerably. Earlier investigations of reservoirs usually were preliminary reconnaissance surveys which did not require highly systematic or intensive coverage. On the other hand, investigations at Lake Limestone and more recent energy-related projects represent intensive surveys of 100 percent of an impact area. Systematic surveys, which include all areas within a particular tract, have been accomplished (Prewitt 1974; Bond 1977). In actuality, however, complete intensive coverage for a project in the Millican Project vicinity has never been achieved due to the density of surface vegetation and the other limiting factors.

One project (Good and Turpin 1980) provided a statistical archeological sample of a large tract. The survey demonstrated the need for detailed stratified sampling if the results of the sampling are to be meaningful and indicated that, in general, statistical sampling may be a valid predictive and management tool.

A number of strategies have been employed in pedestrian surveys. The majority of the strategies use specific topographic features as survey coverage units and employ some manner of systematic transects

within these units. Purely systematic coverage, which ignores topography and other features, is difficult to accomplish and has not been widely used (the most systematic is reported by Wooldridge [1979]). The differential coverage of portions of project areas (i.e., upland versus floodplain), although mentioned specifically only by Duffield (1960), is usually an innate part of any survey conducted within the area.

The majority of earlier surveys in the project area attempted to identify archeological sites by surface examinations only; however, both selectively placed shovel probes (Pliska, Nightengale and Jackson 1980; Turpin and Kluge 1980) and machine testing (Fletcher 1979) have been attempted. Surface examination has demonstrated the need for selective testing. Testing has shown the usefulness of shovel probes in locating sites in areas of high site probability and the inefficiency of testing as a systematic tool in areas of low site probability.

Known sites have been tested using selectively placed shovel probes (Prewitt and Grombacher 1974), hand-excavated units (Prewitt 1975; Ippolito 1979; Mallouf 1979) and machine testing (Dibble 1979). Generally, controlled hand-excavated units provided the most useful data.

Survey Procedures

The current survey was accomplished by four crews of two persons each under the supervision of the Project Archeologist. Each crew was initially assigned a specific transect area to ensure continuity in survey coverage and documentation. However, due to differences in the extent of each transect area and problems with land access, several crews assisted in the coverage of the Millican Transect Area. Three crews were based in Bryan, Texas and consulted with the Project Archeologist daily. The fourth crew, based in Franklin, Texas, was consulted by telephone. The Project Archeologist spent approximately 65 percent of the field phase with the various crews.

The field phase of the Millican Project was terminated prior to the completion of the planned terrain survey due to the reluctance of several landowners to grant permission for specific area access. Although the Clear Creek Transect Area was totally surveyed, each of the other transect areas contain major areas which were not surveyed (Figs. 7, 10, 13, and 16, Part II). It was determined that the nature of all cultural resources within the area which might be affected by the Millican Project could be inferred from results of the totally surveyed portions of the project area.

Survey Methods

The completed pedestrian survey consisted of a surface examination of 100 percent of that portion of each transect area where survey access was permitted. A continuity of field survey methods between the four transect areas was sought although some differences were inevitable because of variables in terrain and personnel in each area. Specific descriptions of survey methods for each transect area are provided in Part II of this report; a more general description follows.

The property boundaries of landowners within the transect area provided limits for the primary units of survey coverage. The majority of these arbitrary survey units were further divided into major topographic units, i.e., ridgecrests, slopes and modern floodplains. Some of these topographic units were further subdivided into areas presenting specific survey difficulties and requiring special coverage techniques; these include areas of unusually dense vegetation, standing water, etc. Other subdivisions isolated specific areas for intensive examination, particularly areas of high site probability such as the Long Hollow-Duck Lake relict river channel system, within areas of generally low surface visibility and/or site locational probability.

The actual pedestrian survey method used within a particular areal unit varied with the conditions encountered within the area. It was felt that judgmental sampling and flexibility of method provide more complete and meaningful results than strict adherance to a preestablished and more rigorously systematic coverage. Therefore, four main survey methods were employed during the present survey: (1) systematic transects; (2) transects designed to locate specific areas of high archeological visibility, which were intensively examined; (3) intensive examination of specific physiographic features; and (4) exploratory transects.

The goal of the pedestrian survey was to cover all areas as intensively as possible and to identify as large a sample as possible of exposed archeological sites. The use of a variety of survey methods best served both of these objectives. Within homogeneous areas of good archeological visibility, systematic transects are most efficient and effective. Systematic transects are also best used in areas of generally low archeological visibility which contain randomly distributed areas of good visibility. In this instance transects are used to locate disturbances which can be intensively examined. Areas of generally low archeological visibility which contain specific, readily recognizable physiographic features are more effectively surveyed using exploratory transects which sample the portion of the area with low visibility and locate any physiographic features with relatively greater visibility. An intensive examination of the located features can then be made. Exploratory transects were used in areas of uniformly low archeological visibility to determine possible ineffectiveness of further surface examinations. Areas of impenetrable brush and standing water were not surveyed. Such areas were sufficiently investigated to ensure that pedestrian coverage was indeed impossible or nonproductive.

Recording Procedures

Each identified site was located and plotted on USGS 7.5' topographic sheets and a site survey form was completed. In addition to the locational data of UTM coordinates and a written description, the completed form contains a detailed description of the physical characteristics of the site. A sketch map of each site shows site boundaries and setting, locations of any features, burned rock or other concentrations, and locations of collected and other artifacts.

The definition of a site used during the current survey includes any evidence of past human activity. The inclusion of "isolated finds" is particularly important within the project area since routine artifact collections were not made and poor archeological visibility and limited exposure do not always provide an accurate indication of the density or distribution of cultural materials. Clusters of exposures were generally recorded as a single site only if the topographic situation or artifact distribution indicated that the exposures represented a specific occupational area or episode.

In addition to the site forms, a daily record of notes taken while in the field as well as a daily work summary in journal form was maintained by each crew. Field notes described the areas surveyed, the method and intensity of area coverage, the sites located each day, problems of access, areas the crews considered high and low for site location probability, percentage of ground visibility and general observations about cultural and natural resources.

Collecting Procedures

Artifact collection was not a routine survey procedure. Prior to initiation of the field phase, the stated collection strategy included:

(1) aboriginal ceramics: considered particularly sensitive indicators of cultural interaction and exchange and generally too complex for field analysis;

(2) projectile points and other tools: when field identification was inconclusive or if specimens exhibited unusual and/or culturally significant characteristics; and

(3) emergency situations: when survey conditions precluded field identification or adequate recording procedures.

As a viable alternative to collection, artifacts were drawn to scale, described and plotted on site maps.

The actual collection procedures utilized during the survey varied from the stated procedures in that nearly all of the projectile points noted were collected due to the fragmentary nature of the artifacts and difficulties in field identification. Several artifacts were collected which could not be identified with certainty as being of cultural origin (primarily petrified wood unifacial tools).

ENVIRONMENTAL BACKGROUND

The Millican Project Area is within the West Gulf Coastal Plain physiographic province as defined by Fenneman (1938). The area includes a portion of the Navasota River Basin from just south of the Kisatchie Escarpment north to immediately south of the Nacogdoches Escarpment.

The project area is a portion of a larger physiographic and environmental region which is centered on the Navasota River. The eastern edge of the Black Prairie marks the western boundary of the region, and the western edge of the Eastern Timbers and southwestern edge of the Sandy Hills mark the eastern boundary (Arbingast et al. 1973). The southern area boundary is the Fayette and Coastal Prairies. The northern boundary is indistinct, grading into the physiographic features characteristic of Northeast Texas. The project area is within the Post Oak Belt geographic region as defined by Arbingast et al. (1973) and within the Texan biotic province as defined by Blair (1950).

SURFACE GEOLOGY

Surficially exposed geologic units within the project area consist of late Eocene and Oligocene bedrock strata and Quaternary stream deposits. The majority of the bedrock units outcrop in narrow belts which run northeast to southwest and dip beneath younger strata toward the southeast and the Gulf of Mexico. The remaining deposits are outlying portions of strata which dominate the East Texas Syncline. Table 1, which is adapted from Sellards et al. (1966), summarizes the classification and stratigraphic relationship of the bedrock units which occur within the project area. The following descriptions of both bedrock and surface units which occur within the transect areas are presented oldest to youngest. Data concerning the bedrock units are from Sellards et al. (1966), while data concerning the surface units are from the Geologic Atlas of Texas, Austin Sheet (Bureau of Economic Geology 1974) and field observations.

Queen City Formation

The Queen City Formation is a lower component of the Claiborne Group of late Eocene strata. The formation is composed of 70 percent sand, 22 percent sandy clay or shale. Surface exposures occur primarily within the trough of the East Texas Syncline and result in a gently rolling, mature topography. Light grayish brown sandy soils support forests of pine and oak.

The Queen City Formation consists of continental fluviatile sediments deposited by meandering streams within a flat coastal plain following the elevation of land at the end of the Reklaw epoch. Seaward, these primarily sandy deposits merge with the marsh, bay and deltaic sediments which contain abundant plant materials.

Cook Mountain Subgroup

The term Cook Mountain is used by the U.S. Geological Survey (Bureau of Economic Geology 1974) to differentiate those strata overlying the Weches Formation and overlain by the Yegua Formation. These strata include the late Eocene Crockett and Sparta formations.

The Sparta Formation is composed of sand and sandy clay or shale, constituting 70 percent and 25 percent of the formation, respectively.

TABLE 1

CLASSIFICATION OF STRATIGRAPHIC DIVISIONS
WITHIN THE MILLICAN PROJECT AREA

Age	Group		Formation	Members
Oligocene(?)	Gueydan		Catahoula	Onalaska Chita
Oligocene			Subsurface strata	Discorbis zone Heterostegina zone Marginulina zone
			Frio	Absent east of Brazos
			Subsurface strata	Undivided
Eocene	Jackson		Fayette	Whitsett McElroy Caddell
	Clai-borne		Yegua	Undivided
		Cook Mt.	Crockett	Undivided
			Sparta	Undivided
		Mt. Sel-man	Weches	Undivided
			Queen City	Undivided
			Reklaw	Undivided
			Carrizo	Undivided

The sands are primarily unconsolidated; clays are more abundant within the upper portion of the formation. In East Texas the Sparta Formation occurs on high ridges and stream divides within the East Texas Syncline. The formation occurs in Central Texas as a belt of moderate relief with sandy soils which support post oak woodlands. The unconsolidated nature of the sand component erodes easily to produce rounded uneven slopes.

The Sparta Formation is primarily of continental origin. The basal portion consists of sands deposited on beaches and the coastal plain by recession of the Weches Sea; the middle portion consists primarily of fluviatile sediments deposited over a wide area of flat terrain. The upper portion was deposited during fluctuations in the sea level prior to the major marine period which formed the Crockett Formation.

The Crockett Formation consists of 90 percent fine sediments (soft clays, shale and sandy shale) and 9 percent unconsolidated sand. These sediments weather to form a reddish soil and a more or less featureless, slightly rolling topography. The formation outcrops along a narrow belt from the Sabine River southwest to the Rio Grande and dips southeast beneath younger strata.

The basal portion of the formation consists of shallow-water sediments deposited under alternating continental, beach and littoral conditions. The middle portion was deposited under deeper water conditions; above the middle strata there is a gradual transition in the upper portion to palustrine and continental deposits.

Yegua Formation

The Yegua Formation includes the uppermost portion of the Claiborne Group of late Eocene deposits. The formation is composed of a heterogeneous complex of layers of sand (50 percent), sandy clay (26 percent), compacted clay (22 percent), lignite and carbonaceous clay lentils. Individual layers cannot be traced for long distances, and the formation has not been subdivided. The Yegua Formation occupies forested, gently rolling terrain with sandy soils within East and Central Texas. The formation, which dips to the southeast beneath younger strata, outcrops in a narrow belt from the Sabine River to Zapata County near the Rio Grande.

The Yegua Formation was deposited during the recession of the Claiborne Sea as a series of fluviatile sands, palustrine peats and lacustrine clays. The formation represents the coalescence of a great number of small sedimentary lentils deposited under piedmont and coastal conditions. Levee and deltaic sediments of two major river systems and a number of smaller streams are also represented. The formation was deposited under warm conditions when vegetation, particularly palms, palmettos and figs, was luxuriant.

Whitsett Member, Fayette Formation

The Whitsett Member is the upper portion of the Fayette Formation, which is part of the Jackson Group of late Eocene strata. The Whitsett

is composed of greenish gray and yellow clay, dark-colored waxey, carbonaceous clays and sandy clays interbedded with gray, yellow and white sand. The sand component, which makes up 40 percent of the Whitsett, is light colored, fine textured and loosely consolidated. Clays, which also constitute 40 percent of the Whitsett, may contain opalized wood and chalcedony gravels and spherical concretions.

The Fayette Formation developed under littoral, shallow-water and near-shore conditions as the sea advanced over Yegua Formation deposits. Sea recessions during the middle and upper portions of the Fayette Formation, which include the Whitsett Member, deposited continental and beach sediments between marine episodes. Volcanic ash is an important component of the depositional sediments.

Catahoula Formation

The Catahoula Formation is late Oligocene, or possibly Miocene, in age and is the upper portion of the Gueydan Group. In East Texas the formation is composed of hard sandstone interbedded with ash layers; significant argillaceous clay and conglomerate components are also represented. Pyroclastic material and clays are predominant within the upper portion of the formation and sandstone within the lower portion. In the project area the formation is exposed along a narrow belt of rugged, rocky, tree-covered terrain. The strata represent continental sand, clay and ash interbedded with fluviatile sediments.

Quaternary Stream Deposits

Stream-related deposition associated with the Navasota River and its principal lateral tributaries is divided into two major systems for mapping purposes (Bureau of Economic Geology 1974). Quaternary fluviatile terrace deposits, which are designated as either Qhg or Qt, include the more elevated deposits. These eroding deposits, which are Pleistocene or earlier in age, consist of sandy surface layers and gravelly and/or clayey subsoils. Low-lying stream terrace deposits and modern floodplains of area streams are included as Quaternary alluvium, designated as Qal. A more detailed discussion of these deposits is included within the Environmental Background and Transect Area Description sections of this report.

AREA STREAMS

The Millican Project is centered on the Navasota River, the primary tributary of the lower Brazos River, which drains a watershed between the middle portions of the Brazos and Trinity river watersheds. Perennial major lateral tributaries, many of which are augmented by springwater, enter both banks of the river the entire length of the project area. Portions of the Navasota River valley were included in each of the transect areas; and portions of the major tributary streams Millican, Rocky, Wickson and Clear creeks were included in three of the four transect areas.

The Navasota River

The Navasota River has its headwaters in southeastern Hill County, Texas, and flows in a south-southeasterly direction through Limestone County. Below Limestone County the river forms the boundaries between Robertson and Leon counties and between Brazos and Madison and Grimes counties. The Navasota River's confluence with the Brazos River forms a portion of the northern boundary of Washington County. The watershed includes most of Limestone County, eastern Robertson and Brazos counties, and western Leon, Madison and Grimes counties.

Within the project area the Navasota River exhibits a wide floodplain composed principally of sands, silts and clays. Although at one time gravel movement and deposition were apparently major components of river hydrology, modern alluvium contains few gravels. The distribution and sorting of alluvial particles is primarily related to widespread uniform deposition of silts and clays by seasonal overbank flooding. Natural levees with sandy surface layers were noted; however, they are primarily associated with major relict channel systems. Quaternary fluviatile terrace deposits consisting of sandy surface layers and sandy or gravelly clay subsoils are common throughout the project area. Such occasionally extensive terraces apparently predate most or all human occupation of the area. Similar terraces composed of Quaternary alluvium and containing evidence of human occupation are few in number.

The modern floodplain of the Navasota River contains numerous modern and relict stream features which have developed as a result of the flow and dynamics of the river. Since the riverbed is composed primarily of unconsolidated, small-particle alluvium, the river meanders freely and forms loops, oxbow lakes and other features. The course of the river is also subject to radical changes in course which are the result of past periodic great storms, beaver activity or other build-up of debris, or, less probably, a change of climate. Such changes isolate previous river courses as relict channel systems. Minor changes in river course produce relict or overflow channels which parallel the main channels of both the modern and major relict streambeds, usually for short distances. hanges in river course also isolate portions of the lower valley · · ithin the floodplain.

Major Lateral Tributaries

Most of the major lateral tributaries of the Navasota River exhibit similar, although less developed, flow and depositional characteristics. Rocky Creek, which constitutes a major portion of the Millican Transect Area, is the one exception included within the sample of the project area surveyed. This perennial stream has incised the hard sandstone of the Catahoula Formation and exhibits characteristics which are a combination of both bedrock and alluvial controlled streams.

TOPOGRAPHY

Although in general much of the project area can be described as having ". . . a more or less featureless, slightly rolling topography . . ." (Sellards et al. 1966:657), local relief and definable landforms are present. Area topography is primarily the result of interplay between surface geologic strata and development of the Navasota River watershed. Relatively resistant bedrock units form the major cuestas which represent the areas of greatest relative relief within the project area. The composition of these units and the intervening formations influence the development of topographic features and surficial exposures of specific types of strata which are responsible for minor variations in topographic expression. Stream downcutting and lateral tributary development provide local relief and a variety of landforms as a result of slope dissection and alluvial deposition. Structural geologic features within the project area are limited to minor faulting and do not play a major role in landform development.

Geologic Features

The southern boundary of the project area is near the Kisatchie Cuesta which is formed by surface exposures of the Catahoula and Citronelle formations (Fenneman 1938). The cuesta marks the point at which the final descent to the sea begins and separates the physiographic region under study from the coastal prairies. The effects of the Kisatchie Cuesta within the project area are minimal since cuestas influence topographic expression primarily on their seaward side.

The Nacogdoches Cuesta at the northern boundary of the project does influence area topography (Fenneman 1938). This cuesta consists of a well-developed scarp slope, a broad hilly summit and a rolling to gently undulating dip slope composed of clays of the Yegua Formation.

The majority of the geologic bedrock units which outcrop within the project area are composed principally of sands and clays. Exposures of these materials, which are generally unconsolidated and easily eroded, result in the low to moderate relief terrain which dominates the area. Exceptions are resistant bedrock units which dominate the Catahoula Formation and occur sporadically within other strata and result in rugged rocky terrain.

Stream Features

The highest (greatest relative elevation) landform in a generalized topographic profile between two rivers is the upland summit which includes the main divide between the rivers as well as upland areas which divide their major lateral tributaries. The upland summit is generally flat to slightly rolling or undulating and contains few recognizable major landform features. In general, the summit is that portion of the area isolated, but relatively unaffected, by stream downcutting and development.

Each river and major lateral tributary has a developed stream valley which consists of the valley wall and valley floor. The valley wall, which includes the major portion of the slope between the upland summit and the valley floor, is composed of exposed geologic bedrock strata and more elevated fluviatile deposits. A variety of landforms can generally be identified within the valley wall which have resulted from slope development and dissection and are heavily influenced by the composition of specific geologic strata. Fluviatile deposits which are included within the valley wall are Pleistocene and earlier in age and include dissected terraces and thin veneers deposited over bedrock units.

The valley floor includes the modern floodplain and low-lying terraces of each stream as well as portions of the valley wall isolated by stream dissection and alluvial deposition.

Transect Area Specifics

The Millican Project, by its nature, is confined to the courses of the Navasota River and its major lateral tributaries. The range of topographic features examined during the pedestrian survey is therefore restricted and does not include significant portions of the upland summit. Although the margin between the summit and the valley wall was included in some instances, those features intensively examined are limited to stream valleys. The restricted nature of the project also resulted in a basic similarity of type and nature of the topographic features present among the transect areas investigated. In other words, although the transect areas are widely spaced, the portions of the valley wall examined are more similar to one another than to other topographic features within the same transect area.

SOILS

Data concerning soils within the project area are limited by inconsistencies in nomenclature between counties and by a general absence of up-to-date published descriptions. Although descriptions of general soil groups and certain specific series are available, detailed soils data are not used as a major environmental variable. Instead, descriptions which are based on observation made during the pedestrian survey are used and discussed within the Transect Area Descriptions portion of the report.

In general, soils within the project area include those of the East Texas Timberlands and Black Prairie (Arbingast et al. 1973). Upland soils within the timberlands group are light-colored, acid, sandy loams and sands (some red soils are also present); bottoms soils are light brown to dark gray, acid, sandy loams, clay loams and, to a lesser degree, clays. Upland soils of the prairie group are primarily dark-colored calcareous clays, although some grayish brown, acid sandy loams and clay loams occur at the edges of and interspersed between prairies (Arbingast et al. 1973). Bottoms soils are dark gray to reddish brown calcareous clay loams and clays. The following descriptions of specific

soil associations and series are representative of the range of soils which occur within the transect areas included within the current survey. Descriptions are from the General Soil Map, Brazos County, Texas (U.S. Department of Agriculture, Soil Conservation Service 1978).

Upland Soils

Lufkin-Edge soils are nearly level to strongly sloping, deep, slightly to strongly acid, loams. Lufkin soils consist of a dark gray fine sandy loam surface with a bleached layer immediately above a dark grayish brown strongly acid clayey subsoil. Edge soils consist of a grayish brown, hard fine sandy loam surface approximately 20 centimeters in thickness over a strongly acid reddish, clayey subsoil with yellow and gray mottles.

Lakeland soils are nearly level to gently sloping, deep, strongly acid, sandy soils. These soils consist of a pale brown sandy surface layer 120 centimeters in thickness over a mottled gray, red and yellow strongly acid sandy clay loam subsoil.

Bottoms Soils

Navasota soils, which are nearly level, deep, strongly acid, clayey soils, consist of a thin very dark gray clay surface over a brownish gray, strongly acid, clayey subsoil. Gowen-Ochlochonee soils are nearly level, deep, neutral, loamy to sandy soils. Gowen soils consist of a dark grayish brown clay loam surface approximately 60 centimeters in thickness over a grayish brown neutral clay loam subsoil. Ochlochonee soils consist of a dark brown fine sandy loam surface approximately 25 centimeters in thickness over stratified colors of sandy texture, medium acid subsoil.

SPRINGS

Seep springs occur throughout the project area primarily associated with bedrock and alluvial sands. Sands of the Wilcox Group and the Carrizo Formation represent a major freshwater aquifer and sands of the Queen City and Sparta formations minor aquifers (Arbingast et al. 1973). Surface exposures of these sands include the major portion of the project area. Water quality is highly variable and, although generally potable, in many instances has a high mineral content.

Springs occur within the valley walls and modern floodplains of the Navasota River and its major lateral tributaries. Within floodplains, the presence of seep springs is indicated by low-lying marshy areas containing spring-fed lakes and, to a lesser degree, by isolated springs and flowing wells. Within valley walls, springs form perennial and seasonal slope drainages which augment the flow of major streams.

Two historically important seep springs are known within or immediately outside of the project area. Piedmont Springs, which is located immediately north of the Millican Transect Area, was a stop on the old

Bahia Road and then a health resort during the 1850s. Kellum Springs, which is located 5 miles northeast of Carlos, Texas, was also a health and pleasure resort during the 1850s (Brune 1975).

CLIMATE

Climate within the project area can be characterized as humid subtropical. The mean annual temperature varies from 66° to 70° F with a mean seasonal high of approximately 85° and a mean seasonal low of 45° (Espey, Huston & Associates, Inc. 1980). There are approximately 275 days between the mean date of the late frost in the spring between February 14 and March 1 and the mean date of December 16 for the first fall frost. The mean possible sunshine varies between 60 and 65 percent. The project area, which has a mean annual precipitation rate of between 36 and 44 inches and a mean evaporation rate of approximately 20 inches, shows a significant water surplus. Morning mean relative humidity is approximately 85 percent with an evening mean of 55 percent (Arbingast et al. 1973).

FLORA AND FAUNA

Flora

Early descriptions of the flora surrounding the Navasota River include that of Nicolas de LaFora between 1766 and 1768 (Kinnaird 1958). From the Old San Antonio Road, de LaFora noted open areas crossed by belts of dense oak woodlands and that the Navasota River course was followed by a quarter of a league of woods. This early description generally corresponds with the vegetation types and distributions recognized at the present time. In general, regional vegetation is characterized as an oak-hickory forest composed of hickory and post and blackjack oak interspersed with prairies (Arbingast et al. 1973). Areas along the Navasota River and portions of its major lateral tributaries support a mixed hardwood forest. More specific data may be found in Figure 2 which is adapted from information provided by the U.S. Army Corps of Engineers and summarizes the major vegetative cover types which occur within a generalized profile across the Navasota River Watershed.

Fauna

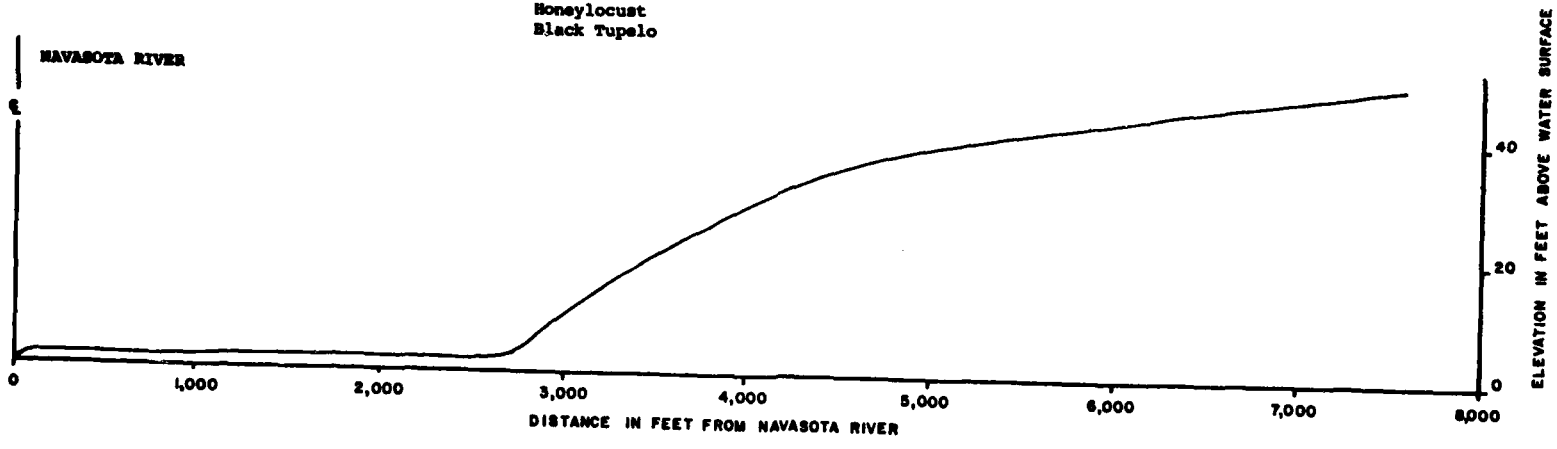
The variety of species in the faunal inventory for the project area is primarily because the area is a transitional zone between the eastern woodlands and the western grasslands and deserts. No true desert species occur. The contributions of both northern and southern areas are minor (Blair 1950; Davis 1974). All species are dependent on water availability.

The primary faunal habitats include prairie, oak woodland, and hardwood forest, as well as aquatic habitats. The distribution of these habitats and the presence and nature of various microhabitats is the result of interplay between a number of environmental factors which

FIGURE 2

GENERALIZATION OF VEGETATIVE COVER TYPES

PALUSTRINE FORESTED WETLAND			TRANSITION/ BOTTOM LAND		UPLAND WOODED
Stream-River Margins	Ephemerial Lakes and Stream Bottoms	Low Riverbottom Flats	High Riverbottom Flats	Basal Slopes	Upper Slopes and Flats
BLACK WILLOW Overcup Oak Bitter pecan	WATER ELM SWAMP-PRIVET Bitter pecan Overcup Oak Buttonbush Black Tupelo	CEDAR ELM OVERCUP OAK WILLOW OAK Green Ash Hackberry Honeylocust Black Tupelo	CEDAR ELM WILLOW OAK PECAN WATER OAK Green Ash American Elm Hackberry Honeylocust Black Tupelo	WINGED ELM POST OAK Water Oak Green Ash Red Mulberry American Elm	POST OAK BLACK HICKORY Blackjack Oak Winged Elm



NOTE: CAPITALIZED NAMES ARE MAJOR DOMINANTS WHILE LOWER CASE REPRESENTS SECONDARY IMPORTANCE

include the surficially exposed geologic type, degree of slope and location relative to the major topographic divisions of the land profile.

Summary

The importance of biotic data relative to the characterization and assessment of the cultural resources within the project area is that the major vegetative cover types and faunal habitats correspond to the environment l stratification used during the survey and analysis. Correlations between site location and specific historic species or groups of species is not felt to be important at the survey level due primarily to changes brought about by modern land-use activities and the limited sample of cultural materials available during surface examinations. Instead, each of the recognized environmental strata is defined and/or characterized by specific types of vegetation and faunal species which, with a number of other environmental factors, are believed to be influencing factors for the occupation and use of a specific stratum. The terminology used within this report is descriptive in nature. The project area is arbitrarily divided into areas dominated by hardwood forests, woodlands and grasslands, and mixed communities. These divisions correspond to those outlined in Figure 2 except that no upland woodland communities are included within the survey areas. Woodlands, as used in this report, correspond to the transitional zone.

ENVIRONMENTAL STRATIFICATION

Although the area included within the Millican Project is geographically widespread, the extent within a particular portion of the area is restricted. This necessitates two kinds of environmental stratification; one isolates each of the transect areas, and the other subdivides each transect area.

The locations of the transects were arbitrarily selected and do not represent samples of specific areal environmental units. However, each transect is viewed as a separate areal environmental unit and is described in detail. The transects exhibit differences in exposed geologic strata and other environmental variables. Therefore, they serve as environmental divisions which are spaced at intervals to sample a major portion of the Lower Navasota River Basin and provide some indication of the environmental variability within the project area.

Within any specific portion of the project area, the primary environmental stratification is made on the basis of stream ranking which isolates the Navasota River valley from those of its major lateral tributaries. Except for slope drainages, no streams below the ranking of major lateral tributary were included within the transect areas. Previous investigations within the project vicinity (Prewitt 1974) have demonstrated that significant differences exist between the prehistoric use of the river valley proper and those of its tributaries. These differences are apparently the result of the relatively greater abundance and diversity of plant and animal species, as well as other key

resources, within areas associated with the river. No apparent difference in the availability of key resources has been noted which would result in a preference for areas associated with tributary streams. The specific land use and subsistence strategies involved in the apparent preference for river resource areas and the applicability to areas within the project area have not been determined, although this environmental stratification appears justified by the results of previous investigations. The use of this stratification within this report will provide data concerning these more detailed questions.

The river and tributary stream valleys are further divided into environmental strata which correspond to the major physiographic divisions of the valley profile; these are: (1) the valley floor, (2) the valley walls, and (3) upland ridgecrests and stream divides. Each of these environmental strata has a characteristic and distinct resource base, and may reflect real differences in a number of culturally significant environmental variables. Probably the most critical differences are in vegetation community and association, animal habitat and the availability of potable water, although differences in the availability of lithic materials were also noted.

Extensive areas within stream valley floors which are dominated by seep springs and isolated springs were noted during the survey. Seep springs and spring-fed lakes represent a water source independent of, and possibly of better quality than, surface waters, and the association of archeological sites with seep springs is potentially culturally meaningful.

Ecotonal environmental situations are recognized for all environmental strata within each transect area. Areas above the confluences of each tributary stream and the Navasota River represent dual stream associations and generally represent areas of relatively greater abundance of resources. Within the stream profile, ecotonal variations exist at the boundary between both the valley floor and valley wall and the valley wall and upland areas. On this basis, it is felt that archeological sites situated within the upper portion of the valley wall, although primarily oriented toward resources within the valley wall, are oriented more toward upland rather than riverine resources. Conversely, those within the lower portion of the valley wall are oriented more toward riverine than upland resources.

The valley floor is also subdivided into two environmental strata, the modern floodplain and low terraces which are composed of Quaternary alluvium. Low terraces which occur at the interface between the valley floor and wall are isolated due to their ecotonal situation and implied dual resource orientation. Archeological sites located near the floodplain margins, regardless of their association with either the modern floodplain or low terraces, are felt to represent a secondary orientation toward valley wall resources.

An indication of the kinds of topography and vegetation within the defined environmental strata is provided by the photographs in Figures 3 through 6.

Figure 3. Environmental photos

a. Topography and vegetation near Duck Lake, a relict river channel segment. The wooded area in the background is a low terrace of the Navasota River and the location of prehistoric site 41MA5. Note dense grass and palmetto in foreground.

b. A dry slough within the modern floodplain of the Navasota River. The slough represents a meander loop or overflow channel associated with a major relict channel and has exposed prehistoric site 41MA19. Note forest tree species and open areas dominated by grasses and forbs.

Figure 3



a



b

Figure 4. Environmental photos

a. The west bank of the present channel of the Navasota River. Note the steepness of the bank and mixture of forest and shrub vegetation in background. In general, no prehistoric cultural materials were noted along the banks of the river.

b. Topography and forest vegetation within featureless portions of the modern floodplain of the Navasota River. Note the presence of vines and dense leaf litter and the absence of shrubs.

Figure 4



a



b

Figure 5. Environmental photos

a. The eroded lower margin of the left valley wall of Rocky Creek and the location of prehistoric site 41GM100. Note the sandy surface soil layer and wooded slopes in background.

b. A wooded isolated knoll which is the location of prehistoric site 41GM88 within the modern floodplain of Rocky Creek. Note the dense ground cover of grasses and forbs within the floodplain of the creek.

Figure 5



a



b

Figure 6. Environmental photos

a. Undulating topography and dense grass vegetation of a more upland portion of the valley wall of Rocky Creek. Prehistoric site 41GM98 is exposed in the unimproved road in the foreground. The trees in the background are remnants of the woodland which dominated the area prior to land clearing during modern times.

b. Hard sandstone exposed within the upper portion of the valley wall of Millican Creek. Grass- and tree-covered areas in the foreground and background are composed of sandy surface layers and a gravelly subsoil. Note gravels littering the surface of the sandstone outcrop which comprise prehistoric site 41BZ47.

Figure 6



a



b

ARCHEOLOGICAL BACKGROUND

The archeological background for the Millican Project is drawn from a large region which surrounds the project area. Portions of Leon, Limestone, Robertson, Freestone, Anderson, Milam, Brazos, Madison, Grimes, southern Navarro and Henderson counties, Texas, form a geographic and environmental unit which exibits traits that differ from nearby areas and cannot be classified as belonging to any of the presently defined adjacent cultural expressions. The Neches River east of Anderson County serves as the dividing line for the eastern margin, the Brazos River serves as the approximate western division, southern Navarro and Hill counties are the northern division, and southern Grimes and Brazos counties represent the southern division of this region. This area falls within the Brazos River Basin but crosses the boundaries of the Central and Southern Brazos River Basin areas defined by Thoms and Montgomery (1977:Map 1); however, their division is admittedly arbitrary and is not based on cultural homogeneity (1977:6).

A cultural history of the defined area synthesizes the data gathered during previous investigations within and adjacent to the area. Summaries of specific investigations within the defined area include: (1) the Lower Navasota River Basin (Sorrow and Cox 1973), (2) the Upper Navasota River Basin (Bryan 1936; Prewitt 1974; Prewitt 1975; Prewitt and Mallouf 1977; Mallouf 1979); (3) Gibbons Creek, a tributary of the Navasota River (Bond 1977; Ippolito 1979; Fletcher 1979; Bond 1981); (4) Robertson County along tributaries of the Brazos and Navasota rivers (Prewitt and Grombacher 1974; Turpin and Kluge 1980; Good and Turpin 1980; Moncure 1980); and (5) areas to the north and east, primarily along tributaries of the Trinity River (Wooldridge 1979; Pliska, Nightengale and Jackson 1980; Espey, Huston and Associates, Inc. 1980).

Previous archeological investigations in Somerville Reservoir (Honea 1961; Peterson 1965) and Navarro Mills Reservoir (Duffield 1960, 1963) define the southern and northern boundaries of the area respectively. Results of these investigations are included in the discussion of cultural history since they help define both the limits of and potential variability within the defined cultural area.

CULTURAL HISTORY

The prehistory presented here is strongly oriented toward economy and social organization following Willey and Phillips (1958). Four kinds of economic pursuits and/or lifeways are recognized; these include: Paleoindian (or Lithic), Archaic, Formative and Historic. Within the study area the lifeways follow one another sequentially from oldest to youngest. The presence of Formative groups of people is questioned by many authors. When integrated within a temporal framework, the lifeways represent major cultural periods. The Archaic period is often subdivided into early, middle and late Archaic and Neoarchaic periods.

Paleoindian

Cultural materials indicative of the Paleoindian tradition (Clovis and Folsom type projectile points) have been reported from the Somerville Reservoir area (Honea 1961) and noted in apparent context at Navarro Mills Reservoir (Duffield 1960). Similar artifacts and sites are probably present within other portions of the area but have not been reported. The association of Plainview type projectile points within the project area with either Paleoindian or Archaic economies has not been established. The continuity of lithic technology of the Plainview type and earlier forms is obvious. This early occupation is very poorly documented, however, and an understanding of the transition from Paleoindian to Archaic lifeways must await further research.

Early Archaic

The early Archaic period within the defined area is better understood. Two sequential divisions are apparently represented: an earlier occupational phase, which is characterized by Angostura and possibly other types of projectile points, and a later occupational phase characterized by a variety of projectile point types, Waco sinkers and Clear Fork gouges (Prewitt and Mallouf 1977).

Angostura type projectile points have been reported within the Navasota River Basin (Sorrow and Cox 1973; Prewitt 1975; Prewitt and Mallouf 1977; Mallouf 1979) and adjacent areas by Pliska, Nightengale and Jackson (1980) and Honea (1961). Although most of these materials occur as single finds, apparent occupation sites have been reported within the Lake Limestone area (Prewitt and Mallouf 1977; Mallouf 1979).

Later phase early Archaic cultural materials have been reported by a number of authors but generally in limited numbers. A characterization of the early Archaic period in the Upper Navasota River Basin has been proposed by Prewitt (1974) and by Prewitt and Mallouf (1977). A tentative cultural sequence was developed after the survey by Prewitt (1974) which lists Gower, Hoxie (Darl) and Axtell type projectile points as the period indicators. The sequence was later refined by testing (Prewitt and Mallouf 1977) to include Waco sinkers, Clear Fork gouges and Carrollton, Dawson, Trinity and Wells type projectile points.

The early Archaic period is apparently characterized by a broad-based subsistence strategy. The earlier Archaic phase apparently represents a transitional period in which groups of people employing Paleoindian lithic technology were practicing an Archaic economy. This assumption is based on evidence of both isolated finds and recognized archeological sites in a variety of environmental settings, including ecotonal situations, and on the apparent absence of projectile points or other early Archaic materials in association with the remains of big game (Prewitt 1974). The later early Archaic phase may be placed within an Archaic economy as it includes such traits as diversification of stemmed projectile point types and tool types which are considered characteristic of the early Archaic period as evidenced by research in other areas of Texas.

Throughout the early Archaic period there appear to be close affinities with cultural areas to the west (Central Texas) and to the north (North-central Texas). An early attempt to quantify this relationship for the later phase (Prewitt 1974) recognized diagnostic tool similarities only with Central Texas materials. Subsequent excavations showed this to be an oversimplification (Prewitt and Mallouf 1976).

Later phase early Archaic archeological sites are more numerous in the northern portion of the study area and along mainstream river channels (rather than along lateral tributary streams). Whether the difference is only apparent or reflects actual cultural use is not known.

Middle Archaic

The middle Archaic period appears to coincide with what Johnson (1962) proposed as the early Archaic phase of the La Harpe Aspect. The primary characteristic recognized by Johnson is the prevalence of expanding stem dart points, particularly the Yarbrough type. This is expanded by Prewitt and Mallouf (1977) to include the Neches River and Pedernales types although it should be noted that the latter artifacts occur infrequently. Johnson further notes the probable inclusion of Morrill points within this period, and, based on the aggregate of the findings at Lake Limestone, it is probable that the Dawson points should be considered as middle Archaic period style rather than an early Archaic style.

The project area is situated on the western edge of the geographic extent of the broadly distributed La Harpe Aspect as defined by Johnson (1962). The morphological tendency of the resident tool types is comparable to that of the East Texas region and thus may lend some credence to the validity of the La Harpe Aspect as a generalized adaptive system during the middle Archaic. The basic exploitive strategies for the middle Archaic period do not appear to differ significantly from those noted during the early Archaic.

Late Archaic

The late Archaic period apparently represents a fairly homogeneous occupation characterized by contracting stem projectile points, primarily the Gary type. Period markers for the late Archaic period as suggested by Prewitt (1974) include Gary, Godley and Woden type projectile points; Bristol bifaces, Bronson knives, Perkin pikes and Erath bifaces (chipped stone axes). Ensor and Kent type projectile points are reported by Sorrow and Cox (1973) and Kent, Refugio and a variety of Central Texas projectile point types were recovered in the Somerville Reservoir area by Honea (1961). Gary and Edgewood type projectile points characterize the later Archaic occupations at the northern end of the project area (Duffield 1960).

Apparent changes in subsistence orientation and an increase in the intensity of influence from other cultural areas also characterize the late Archaic period within the defined area. The range of resource exploitation is extended to include many major river tributaries and

other areas away from the mainstream river channels (Bond 1977; Ippolito 1979; Prewitt and Grombacher 1974; Turpin and Kluge 1980). Prewitt and Grombacher (1974) note that the use of tributary streams may not involve semipermanent camps and subsequently may represent only sporadic or seasonal areal exploitation. Cultural materials have affiliation primarily to the east (Prewitt 1974; Bond 1977) and to the north and east (Duffield 1960).

An association of Gary type projectile points with sandy paste ceramics is generally presumed within the area (e.g., Johnson 1962; Prewitt and Mallouf 1977).

Neoarchaic

The Neoarchaic period is marked by the use of arrow points and ceramics by groups of people pursuing an Archaic economy. The apparent association of ceramics with Gary type dart points strengthens the argument that few changes in subsistence orientation are involved. No direct evidence of horticulture has been reported from within the project area. The Neoarchaic period probably extends up to the time of historic contact.

Two Late Prehistoric periods (early and late Ceramic periods) are recognized by Bond (1977). However, his early Ceramic period is equatable with the late Archaic period described above, and only the late Ceramic period is included in the Neoarchaic period here.

Neoarchaic cultural materials have been reported by numerous authors within the defined area (Sorrow and Cox 1973; Bond 1977; Prewitt 1974; Honea 1961; Duffield 1960) but are included within a variety of period names (Late Prehistoric, Neoamerican, etc.). Specific period indicators are numerous and vary widely with geographical situation and will not be elaborated on herein.

During the Neoarchaic period, the project area shows affinities with cultural areas to the east (Prewitt 1974; Bond 1977). Data from the Upper Navasota River Basin (Mallouf 1979) indicate that apparently the relationship between these areas included both trade and cultural borrowing. This assumption is based on the presence of locally manufactured ceramics which show eastern affinities. The cultural dynamics involving the indigenous population in trade with eastern groups of people during excursions into the area, however, is not clearly defined.

The Neoarchaic occupations within the area exhibit great variety which generally correlates with the different cultural areas adjacent to a particular area. The northern portion of the study area shows affinities with the Wylie Focus defined for North-central Texas (Duffield 1960). Caddoan materials are reported by Duffield (1960) and from the Lake Limestone area (Prewitt 1974; Mallouf 1979). The southern portion of the area contains cultural materials which are similar to Southeastern and Coastal Texas rather than the Caddoan tradition.

The exploitation of both mainstream river and tributary environments, which was discussed for the late Archaic period, apparently continues through the Neoarchaic (Prewitt and Grombacher 1974; Bond 1977; Ippolito 1979; Wooldridge 1979).

Formative

No evidence of a Formative Stage has been reported from within the area, although Sorrow and Cox (1973) considered the possibility due to the large number of sites within their project area which contained ceramics. A better indication of a shift to a Formative economy is the identification of mound and village sites or other evidence of changes in social and economic organization which accompany a dependence on agriculture. Research indicates that if agriculture was practiced in the project area, it was never intensive or widespread.

Historic

Evidence of historic aboriginal occupation (Poyner Engraved ceramics) is reported by Mallouf (1979), and the possibe presence of metal arrow points is mentioned by Duffield (1960). Archeological sites which exhibit evidence of historic contact may exist in all portions of the defined area. The scarcity of such sites is attributed to the short time span of occupation and the limited sample of cultural materials available from surface examinations.

SUMMARIES OF PREVIOUS INVESTIGATIONS

Lower Navasota River Basin

Previous investigations within the lower portion of the Navasota River Basin include those for the various phases of the Millican Project. During 1971 R. T. Ray and Alton Briggs conducted preliminary investigations for the Texas Historical Commission and Water Development Board within the authorized damsite for the Millican Reservoir. A number of prehistoric sites were identified during the survey, but, to date, results remain unpublished.

In the spring of 1973 the Texas Archeological Survey conducted a more extensive preliminary reconnaissance of the proposed Millican Lake, Brazos and Grimes counties, Texas. The area surveyed extends from the proposed damsite, which is 7 miles north of the town of Navasota, northward for approximately 25 linear miles. Sorrow and Cox (1973) recorded 53 sites in the area and re-examined a number of previously known sites during their investigation.

The majority of the 48 prehistoric sites identified by Sorrow and Cox (1973) consist of thinly distributed lithic materials exposed in rodent spoil piles. A few sites were located in areas disturbed by gullying, road construction or gravel quarrying, and one deeply buried site was exposed in an area of major disturbance. Approximately half of the prehistoric sites examined consist solely of lithic debitage flakes.

Twenty of the remaining sites contain materials which are potentially diagnostic in either a temporal or a cultural sense, although in most instances the temporal distinctions which can be made are general in nature (i.e., dart points or arrow points; ceramic or nonceramic). Sixteen prehistoric sites contain lithic tools which include bifaces and modified flakes. Only three of the sites contain subsistence evidence in the form of mussel shells and grinding stones.

Ages of diagnostic artifacts collected during the survey range from the early Archaic through the Late Prehistoric periods. An Angostura projectile point, traditionally included within the Lithic or Paleoindian tradition, is apparently associated with an Archaic subsistence strategy. The majority of the sites investigated were classified as Archaic. The frequent incidence of Late Prehistoric materials is cited as a possible indication that a transition to a Formative subsistence base is represented although no direct evidence of agriculture was noted. Certain of the diagnostic materials, most notably Ensor dart points which are characteristic of the Central Texas late Archaic period and Kent dart points which are characteristic of the East Texas late Archaic period, provide possible evidence of influences which are derived from outside of the project vicinity.

The survey by Sorrow and Cox was useful in that it demonstrated that large numbers of prehistoric sites exist in an area previously thought to contain few cultural resources. However, frequent rains prior to and during their survey flooded major portions of the Navasota River floodplain and limited access to more remote upland areas. Heavy vegetation obscured much of the ground surface, which severely limited archeological visibility and necessitated the intensive examination of rodent spoil piles and other disturbances. No subsurface testing was conducted. Deficiencies in the data base, which include a skewed sample of sites and cultural materials noted at particular sites, are noted and cited as an indication that selective subsurface testing would be necessary to achieve a complete sample for either of these variables.

Upper Navasota River Basin

Previous investigations within the Upper Navasota River Basin include those by Bryan (1936) and those for Lake Limestone, Leon and Robertson counties, Texas, conducted by the Texas Archeological Survey. During the 1930s, Frank Bryan conducted archeological surveys within a major portion of Central Texas and adjoining areas. These investigations included the upper reaches of the Navasota River which is dominated by blackland prairies (Bryan 1936). Bryan's primary goal was the location of the main village of the historic Tehuacana tribe noted in the Stephen F. Austin papers. During his search, Bryan recorded a number of prehistoric archeological sites, principally near Delia, Texas, in northern Limestone County.

The initial survey and assessment for Lake Limestone (Prewitt 1974) of approximately 14,200 acres was accomplished during June and July 1974, and was followed by assessment testing beginning in 1975 (Prewitt

1975; Prewitt and Mallouf 1977). Final project mitigation was undertaken in late 1977 (Mallouf 1979), and the project area was inundated by the waters of Lake Limestone in 1978.

Fifty-two prehistoric sites were identified during the survey of Lake Limestone, sixteen of which were recommended for further investigation (Prewitt 1974). Although no single site appeared to be worthy of nomination to the National Register of Historic Places, as an aggregate the prehistoric sites appear to be worthy of nomination.

Prehistoric sites appeared to be fairly evenly distributed along the valley of the Navasota River. Thirty-seven of the fifty-two sites are situated on the crests and slopes of the eroded valley margin. The remaining sites are situated within the floodplain of the river, primarily on natural rises and other elevated features. Prewitt considers the floodplain proper to be generally unsuitable for habitation and cites this and the rapidly changing course of the river as primary limiting factors for site identification within the floodplain (Elton R. Prewitt, personal communication, 1981). The scarcity of archeological sites along the major tributaries of the Navasota River may be attributed to the absence of desirable resources along the tributaries, or, more likely, such resources were abundant and more readily available along the river.

No distinct change through time in preference between the valley margin and the floodplain is apparent within the data collected during the project survey. Archaic and Neoarchaic sites are located within the floodplain and on the valley margins. An explanation of this distribution may be that the Navasota River and its environs remained a stable resource area and, regardless of any cultural changes, the basic exploitive strategies remained unchanged. It is possible that the frequent river flooding necessitated repeated evacuation to the valley margin.

The preponderance of sites identified by Prewitt (1974) are contained within up to 40 centimeters of sandy soil which overlies culturally sterile Eocene-age clays. A few sites consist of deeper deposits but these are similar in cultural fill. Most of the sites, which exhibit evidence of extensive rodent burrowing, are located in areas which have been cleared for modern land use. Consequently, most sites are considered fragile. No vertical separation of artifacts within the sites was noted during the survey.

The temporally diagnostic artifacts noted during the survey are used to define a tentative cultural sequence which includes the early, middle and late Archaic and Neoarchaic periods. Sites which represent the Lithic or Paleoindian tradition and historic aboriginal sites are not included within the cultural resources identified.

Prewitt considers the Upper Navasota River Basin to be of substantial importance in the study of interaction between Central and East Texas cultures. The area is "subject to influences generated by variations within more dynamic cultures which developed in immediately adjacent areas" and "can be viewed as a buffer zone reflecting variations in

intensity of influences of these other cultures through time" (Prewitt 1974:11). An analysis of selected artifacts collected during the survey appears to indicate a clear relationship with Central Texas during the early Archaic followed by more intensive influence from East Texas during the late Archaic and Neoarchaic periods.

During the initial phase of assessment testing of the Upper Navasota River Basin, the Texas Archeological Survey conducted test excavations at two prehistoric sites within the area to be affected by the construction of the proposed damsite (Prewitt 1975). The Barkley Site (41LN20) is situated on three distinct erosional levels within the valley wall of the Navasota River and is near the mouth of a major tributary stream. A sandy surface layer up to 80 centimeters in thickness which contains a variety of lithic artifacts and a possible hearth overlies culturally sterile basal clay. The Louie Sadler Site (41RT2), which is situated on a low knoll within the floodplain of the Navasota River and near the mouth of a major tributary stream, is similar to the Barkley Site except that the sandy surface layer varies in thickness from 20 to 100 centimeters.

Area A of the Barkley Site contained a concentration of dart points, other bifaces, unifacial tools, hammerstones, grinding stones and lithic debitage which probably accumulated through the use of the area as a seasonal camp by groups of Archaic food collectors. Two Plainview type projectile points indicate that the site may have been occupied as early as 8,000 to 9,000 years B.P.; the entire span of the Archaic La Harpe Aspect is also represented. Throughout this time the site apparently maintained a relatively stable surface since no vertical separation of artifacts was noted. The small sample of artifacts recovered from the Barkley Site may indicate sporadic rather than regular use of this area.

Area B of the Barkley Site and Area A of the Louie Sadler Site are predominantly Neoarchaic in age. Arrow points and ceramics are present, but there is no apparent change in the subsistence base as represented by the other artifact categories recovered. The number of lithic debitage flakes and miscellaneous lithic tools, however, are fewer than in the preceding period.

A favorable comparison between artifacts from the Upper Navasota River Basin and a number of studies within the La Harpe Aspect is noted; these studies include McGee Bend Reservoir, Lake Livingston, Navarro Mills Reservoir, Bardwell Reservoir and Cedar Creek Reservoir.

The second phase of assessment testing investigated eleven sites within the area to be inundated by Lake Limestone (Prewitt and Mallouf 1977). The sample of sites tested includes ten sites which were felt to contain the highest research potential of the sites identified during the survey; and one site, which was thought to be badly disturbed, was included as a check of the field assessments. Three of the sites tested contained diffuse materials which were badly disturbed; the remaining eight sites demonstrated a positive research potential. Sites range in age from early Archaic to Neoarchaic and vary in size from small to

rather extensive. Although vertical stratigraphy was not readily apparent, in some instances it was possible to isolate temporally specific assemblages on a horizontal basis.

Evidence of Paleoindian and or early Archaic occupation was recovered at three of the sites (41LT17, 41LT32 and 41LT35). A striking resemblance with the Circleville Phase defined for Central Texas, characterized by a broad-based subsistence strategy, is noted. The consistent lack of association with large mammals and site location within resource ecotones are cited as evidence. The materials recovered during testing include Angostura, Angostura-like, Plainview and Plainview-like projectile points; no tools other than these projectiles could be definitely associated with the Paleoindian occupations. Early Archaic adaptations within the Upper Navasota River Basin were also better defined during the testing program. Defined period markers, which include Waco sinkers, Clear Fork gouges and Carrollton, Dawson, Gower, Trinity and Wells type projectile points, show both Central and North-central Texas affiliations.

Three classes of exotic materials, including an obsidian flake and a biface made of chert from west of the Balcones Escarpment, demonstrate as yet undefined contact with areas outside of the region.

The vertical mixing of artifacts at the tested sites and the definition of the system of prehistoric use operating within the region are cited as major investigative problems.

During October, November and December 1977, the Texas Archeological Survey conducted investigations which represent the final mitigation of the cultural resources to be affected by the construction and inundation of Lake Limestone (Mallouf 1979). Summaries of the more significant tested sites follow.

Site 41LT12 is situated on a series of sand-covered rises within the modern floodplain of the Navasota River, which apparently represents a highly desirable site location. The site contains evidence of middle Archaic (expanding stem projectile points), late Archaic (contracting stem projectile points), Neoarchaic (arrow points and ceramics) and Protohistoric (Poyner Engraved ceramics) occupations. Intact sandstone hearths were identified within the lower portion of the cultural fill and definable stratigraphy was noted in some areas. A variety of lithic tools were well represented at the site. No apparent change in lithic technology, which is characterized by flake reduction, was noted between the Archaic and Neoarchaic materials. A high frequency of burned rocks was recovered from all levels. Ceramics are generally related to the Caddoan tradition; however, the presence of a fired clay ribbon coil may indicate that a substantial portion of the ceramics recovered are local. A high percentage of fire-smudged sherds also suggests their use as cooking vessels. An analysis of the faunal remains indicates that deer was the primary large mammal exploited; turtle remains are present in small quantities and bovid remains are present in the upper levels. Mussel shells are conspicuous by their absence. The presence of a human burial at the site has been reported but not verified.

The Carl Sadler Site (41LT17) is situated on a sandy knoll within the floodplain of the Navasota River. The site was apparently occupied intermittently from the Paleoindian through the Neoarchaic periods, and cultural materials are generally similar to site 41LT12. A concentration of burned rocks which may represent a hearth was recorded. Faunal materials identified include deer (64.4%), turtle (14.3%), jackrabbit (14.3%) and an unidentified large bird (7%). The Paleoindian materials recovered from the site are apparently too numerous to be described as a hunting loss and an actual occupation is indicated.

Site 41LN21, which is situated on a sandy terrace remnant adjacent to the Navasota River, was contained within 45 to 100 centimeters of dark brown sand with no visible cultural stratigraphy. The cultural materials, which are functionally similar to site 41LT12, indicate occupations during the middle Archaic, late Archaic and Neoarchaic periods. A number of cultural features were identified, including: lithic concentrations, hearths and pebble concentrations which may represent discarded stones which were used for pot boiling.

Site 41LT44 is associated with an old meander channel of the Navasota River near the confluence of a major tributary stream. The materials recovered are predominantly from the middle and late Archaic periods. As single-stage sites are rare in the Upper Navasota River Basin, the site has important comparative value. Differences in the relative frequency of certain debitage categories were noted between this site and the other three sites tested.

In summary, Mallouf (1979) states that the Upper Navasota River Basin appears to have been intermittently occupied from Paleoindian into Protohistoric times. The repeated use of favorable site locations, which has resulted in considerable mixing at these sites, is noted. Further mixing has resulted from various agents of bioturbation. In situ features identified at certain sites are cited as evidence of a relatively high rate of deposition as opposed to the existence of stable surfaces.

A variety of on-site activities are indicated by various tool types; stone hearth construction was apparently a common activity. Pottery may have been used for cooking purposes and includes both locally made and imported vessels, all of which are within the Caddoan tradition. Little change was apparent in lithic technology, which includes the use of both flakes and cores. No evidence of bipolar reduction (Caddoan affinities) was noted.

The apparent preference for high sandy knolls within the floodplains of streams is discussed on the basis of a paleoenvironmental reconstruction. Knolls were well drained and supported various vegetation species useful to both humans and the animal prey species such as deer. Abundant rye and barley grass, year-round water supply and associated riparian environments and lithic resources also contributed to the selection of these areas.

Small groups of hunting and gathering peoples who may have moved periodically within a defined territory (and may conform to the "Restricted Wandering" or "Central Based Wandering" models) are seen as occupying the Upper Navasota River Basin throughout the Archaic and post-Archaic periods. No evidence was noted to indicate seasonal concentrations of these small groups. Excursions may have been made outside of the region for bison or for chert.

Gibbons Creek

Archeological investigations within the Gibbons Creek watershed which have been conducted primarily by the Texas A&M Anthropological Research Laboratory include the Gibbons Creek Steam Electric Station area, associated reservoirs and areas for proposed lignite mining and distribution and other facilities. The initial survey of the generating plant site and reservoir areas which is reported by Bond (1977) was followed by additional surveys and assessment testing conducted by Ippolito (1979), Fletcher (1979) and Bond (1981). Final project mitigation has not been completed.

Forty-four archeological sites were identified during the initial survey, primarily on sandy ridges and knolls which are usually situated above the 260-foot contour (Bond 1977). The sites date generally to the late Archaic and Neoarchaic periods although the nature of the period markers makes both association and interarea comparisons tenuous. No apparent changes in the orientation of the subsistence strategy through time were noted.

Bond states that the survey should not be considered a complete inventory of the cultural resources contained within the project area, but it does accurately reflect the range of resources and is useful as a basis for mitigation and preservation recommendations. Problems which limited the completeness of the survey include: (1) dense surface vegetation, (2) changes in construction details, and (3) land access. Bond suggests the following six recommendations for completing the resource inventory and determining a problem-oriented research strategy: (1) additional surface reconnaissance, (2) subsurface testing of areas of high site location probability, (3) additional surface collection of known sites (although positive results would be limited by dense ground vegetation), (4) problem-oriented subsurface testing of known sites, (5) site preservation, and (6) on-site monitoring (Bond 1977:69-72).

No additional prehistoric archeological sites were identified during the survey portion of subsequent investigations conducted by Ippolito (1979).

The two prehistoric sites tested, sites 41GM68 and 41GM71, contained thinly distributed lithic debitage, a few lithic artifacts, and sandy paste ceramic sherds. Both sites apparently represent late single component occupations. Site 41GM68 is an open lithic scatter situated on a ridgecrest overlooking Gibbons Creek. Cultural materials which were contained within 50 to 100 centimeters of sandy soil lacked any apparent stratigraphic integrity. Time-diagnostic materials, which

include ceramics and Alba-like and Gary type projectile points, date to the late Archaic and Neoarchaic periods. No functionally diagnostic artifacts (except those related to lithic reduction) or features were noted. No further work was recommended at the site. Site 41GM71 which is situated on a low ridgecrest above Hog Creek is similar to site 41GM68. The occupation of the site, however, was probably limited to the late Archaic.

Research conducted by Ippolito along Gibbons Creek generally demonstrates the low site density within portions of the study area and provides an indication of the nature and context of prehistoric archeological sites. In a summary statement, Ippolito concludes that southeastern cultural groups apparently predominate within Grimes County, although influence from Central Texas is also evident. The area is viewed as transitional in both an environmental and cultural sense. Two hypotheses are presented which might account for the known cultural characteristics of the region. The area may contain "satellite extraction camps" used by groups from East and Central Texas. Sites indicative of this model would be small, randomly distributed, and generally indistinct refuse areas. Impetus for this exploitive strategy may have been the presence of resources not available within the core areas, or, more likely, involved internal pressures within the "home" areas. This model does not account for the absence of more permanent camps. The second hypothesis proposes that the sites are not representative of systematic exploitation of the area but are the result of necessary activities during rapid movement across the area between East and Central Texas.

Investigations of an additional 5,000-6,000-acre tract along Gibbons Creek in 1979 included a proposed 5-year mining area (Fletcher 1979). No prehistoric archeological sites were identified during the surface examination. The excavation of seven selectively placed backhoe trenches resulted in the identification of one site on the basis of a Gary type dart point and a chert flake.

The criteria involved in choosing the locations of the selectively placed machine tests made during the course of the project are not provided. The results of the surface survey are difficult to assess although they appear to indicate that certain portions of the Gibbons Creek watershed contain few identifiable prehistoric sites. The results of the machine tests generally show the inefficiency of backhoe trenching as a tool for site identification within the study area.

It is difficult to properly assess this project conducted by Texas A&M Anthropological Research Laboratory. The credibility of a 5,000-acre survey where no sites are identified by surface examination is open to question. Several other surveys within the study area, however, have obtained either negative results (Ippolito 1979; Moncure 1980) or very low site densities (Wooldridge 1979), and the results of the survey by Fletcher (1979) should not be dismissed without thought. Unfortunately, the area involved would need to be resurveyed in order to validate or refute the results.

Additional testing which included three prehistoric archeological sites, 41GM37, 41GM70 and 41GM76, identified during the initial survey of the cooling reservoir (Bond 1977) are reported by Bond (1981). Site 41GM37 is situated on a ridgecrest above Hog Creek, a lateral tributary of Gibbons Creek. Surface examinations and subsurface probing at the site identified an artifact concentration which is approximately 12 meters in diameter and occurs on a small rise. Although subsequent hand-excavated units revealed that the soil cover which overlies hard bedrock is shallow (averaging 15-20 centimeters) and contains identifiable soil zones, no cultural features or stratigraphic separations were recognized. Recent rodent burrows and evidence of previous burrowing were observed throughout the excavated area. Temporally diagnostic artifacts recovered during the investigations indicate that site 41GM37 was occupied during the late Archaic and Neoarchaic periods.

Sites 41GM70, which is situated on a ridgecrest above the confluence of Gibbons and Cedar creeks, and 41GM76, located on a ridgecrest above the confluence of Gibbons and Cat creeks, are similar to site 41GM37. Both sites, however, contain more thinly distributed cultural materials which apparently are limited to the Neoarchaic period. None of the sites are assessed as having a high research potential due primarily to the absence of in situ features and recognizable cultural stratigraphy, the low density and undiagnostic nature of the cultural materials present, the very disturbed nature of these materials and the shallowness of the surface soil layer. The only positive factor is the limited span of occupation represented at sites 41GM70 and 41GM76 which is negated by the other factors.

Tributary Streams, Robertson County

Previous investigations along tributary streams of the Brazos and Navasota rivers in Robertson County include those for the Twin Oak and Oak Knoll power generating plants and a number of lignite prospects. The initial survey of the plant facility and reservoir for the Twin Oak and Oak Knoll project (Prewitt and Grombacher 1974) was followed by additional survey and assessment testing reported by Turpin and Kluge (1980). Survey and assessments of the Calvert and Cole Creek and Diamond No. 1 lignite prospects are provided respectively by Good and Turpin (1980) and Moncure (1980).

The archeological reconnaissance for the Twin Oak and Oak Knoll projects resulted in the identification of 16 prehistoric sites (Prewitt and Grombacher 1974). All of the sites are contained within a thin sandy layer which overlies dense basal clay. Disturbance which tends to obscure the relative context of the cultural materials was common to all sites. The cultural resources identified within the project area are considered to be only of local importance, and prehistoric use of the area does not appear to be intensive.

Temporally diagnostic cultural materials indicate occupation primarily during the latter portion of the Archaic-age La Harpe Aspect. The limited span of use, which is not consistent with the results obtained from the nearby Lake Limestone area, may reflect actual

prehistoric occupation. These sites probably represent limited use of specific resources and resource areas and do not reflect the entire range of regional prehistoric adaptations.

Cultural materials collected during the Twin Oak-Oak Knoll surveys include a Gary type dart point, several utilized flakes, cores, flint flakes, a plain sandy paste potsherd, an incised grog-tempered potsherd, and two unidentified bone fragments.

Additional investigations for the Twin Oak project included a 5,000-acre survey and testing of two sites recorded by Prewitt and Grombacher (1974). Twenty prehistoric archeological sites which consist of small, thinly distributed scatters of lithics and burned rocks were recorded during the survey (Turpin and Kluge 1980). Chert is notably scarce. Only three temporally diagnostic artifacts, all arrow points, were noted by Turpin and Kluge (1980), although ceramics are reported for the area. All of the sites show an apparent association with sources of permanent water.

Nine of the sites are situated on secondary terraces and nine are on upland sand-covered knolls; within these situations, four sites are associated with springs (Turpin and Kluge 1980). Of the remaining two sites, one is situated on a sandy knoll within the floodplain of Gnats Creek and one is on an interbasin slope between two small tributary streams. None of these sites exhibit apparent depositional contexts--a result of the nature of the cultural fill (unconsolidated sand) and disturbance associated with modern land use and rodent burrowing and root growth. Soils are generally acidic and, consequently, organic preservation is poor. Six of the twenty sites recorded were identified by selectively placed shovel probes. Eight of the sites are recommended for evaluative subsurface testing.

One of the tested sites, 41RT10, which is situated on a knoll between two small tributaries of Duck Creek, contained projectile points indicative of middle Archaic through Neoarchaic occupations. The features identified include circular and oval stains, an area of burned clay and clusters of petrified wood. Site 41RT11 contained similar materials but was highly disturbed (Turpin and Kluge 1980).

The Calvert and Cole Creek project which consisted of a 75,000-acre lignite prospect was sampled by stratifying the project area into upland and lowland environmental units and randomly selecting sample transects within these units (Good and Turpin 1980). A total of 61 prehistoric sites was identified during the survey. The majority of the sites were within areas defined as lowlands; actual site densities for both units vary from one site for each 30-52 acres surveyed. The environmental units are considered too general in nature to usefully describe site distributions.

Eleven of the sites examined by Good and Turpin (1980) contain temporally diagnostic artifacts which range in age from Paleoindian (Plainview) to the Late Prehistoric. Most numerous are those characteristic of the Archaic period (Yarbrough, Bulverde, Wells and Dawson type

dart points) and the Late Prehistoric (ceramics, Scallorn and Perdiz type arrow points, and Friday and Covington knives).

The majority of the prehistoric sites which have been identified are small (less than 500 square meters), thinly distributed lithic scatters situated on sandy rises and low ridgecrests along tributaries of the Brazos River. These sites are interpreted as camps or possibly special use areas. Other larger sites (500 to 1800 square meters) are situated in similar topographic locations within the floodplains of the Brazos and Navasota rivers, and contain the preponderance of lithic tools. The presence of burned rocks, bones and mussel shells at these sites may indicate semipermanent habitation sites. Few sites were identified in upland areas (Good and Turpin 1980).

The results of the survey of the 918-acre Diamond No. 1 Lignite Prospect were negative (Moncure 1980). No archeological sites were identified during the survey although nine isolated finds of lithic materials were recorded. The absence of sites in this particular area is attributed to the lack of permanent water within the survey area, the presence of water immediately adjacent to this area, and to modern land modifications resulting from extensive, long-term use.

Tributary Streams, Freestone County

Archeological investigations conducted primarily along tributaries of the Trinity River in Freestone County, Texas include the initial survey of the Big Brown Lignite Prospect (Wooldridge 1979) and additional survey and assessment testing reported by Pliska, Nightengale and Jackson (1980). The results of a survey for the Limestone Electric Generating Station are provided by Espey, Huston and Associates, Inc. (1980). During July and August 1979 the Texas Archeological Survey conducted a survey of a 4,000-acre lignite prospect in Freestone County, Texas. The area included two small spring-fed tributaries of the Trinity River.

The initial investigation for the Big Brown Lignite Prospect (Wooldridge 1979) consisted of an extensive surface inspection with personnel spaced at 10-meter intervals. Due to the dense ground cover, special attention was paid to erosional areas, rodent burrows and other disturbances. Frequent shovel probes were used to test for the presence of buried cultural materials.

Six prehistoric sites were identified by Wooldridge (1979) during the survey, four of which are situated on the east terrace of Pin Oak Creek clustered around several seep springs. One prehistoric site is situated on a terrace directly across the creek, and a severely disturbed site was identified on a high terrace above the creek. The uneven distribution of the sites within the southern portion of the project area may be a result of preferred site locations or of extensive land modifications within the northern portion of the project area. All of the prehistoric sites, except site 41FT48, are too severely disturbed to warrant additional work. Site 41FT48, recommended for further investigation, was machine tested with negative results by Dibble (1979).

Temporally diagnostic materials (Bonham and Cliffton type arrow points and a Wells type dart point) were scarce. Tools other than projectile points were few in number; ceramics were absent. A few features identified during subsurface testing consisted of simple hearth-sized concentrations of burned sandstone.

A later survey of the North Tract of the project was accomplished following topographic features (Pliska, Nightengale and Jackson 1980). Dense surface vegetation limited archeological visibility, and subsurface probes were used to test areas of high site locational probability. Rodent spoil piles and other disturbances were intensively examined for cultural debris.

Nineteen prehistoric sites and seven isolated finds were recorded as a result of the survey. Four of the sites were situated in upland areas, fourteen on the valley margin, one on a terrace above Tehuacana Creek, and one within the creek's floodplain. Two prehistoric sites were identified by subsurface probes and the others from surface indications. All of the sites are characterized as light lithic scatters and burned rocks. Recognized projectile point types collected include Plainview-like, Williams-like, Dawson-like, Gary-like and Wells-like dart points and a Steiner arrow point. An end scraper, several bifacial tools and a grinding/pitted stone were also recovered (Pliska, Nightengale and Jackson 1980).

The majority of the prehistoric sites are situated in what appears to represent a highly favorable location along the margins of Tehuacana Creek near the confluences of major tributaries. The suitability of these sand-covered topographic features as campsites and the availability of a wide variety of resources are suggested as contributing factors to this distribution. Smaller sites, situated within the floodplain of the creek and within upland areas surrounding its major tributaries, may represent exploitation activities of riparian and post oak woodland environments.

It is suggested (Pliska, Nightengale and Jackson 1980) that dense surface vegetation and the effects of modern land use have reduced the identifiable sample of archeological sites. The nature of depositional environments for the various area streams also may have affected the known site distribution. Ten prehistoric sites are recommended for further work, primarily stratigraphic testing. A sampling of sites from each environmental zone was used to determine the nature and extent of sites with limited surficial materials and to assess the context of sites which appear to have been disturbed by natural or human activity (Pliska, Nightengale and Jackson 1980).

The archeological investigations of 3,000 of the 3,500 acres to be affected by the Limestone Electric Generating Station resulted in the identification of 38 sites (Espey, Huston and Associates, Inc. 1980). The 16 prehistoric archeological sites which were identified occur within modern stream floodplains and low-lying terraces and upland margins. Of the three sites situated on the upland margin, two appear to represent lithic resource procurement and processing activity and one may

represent a temporary campsite. The single site identified within an active floodplain is thinly distributed but may represent a campsite.

The remains of 12 prehistoric sites are situated along stream terrace margins which are viewed as ecotonal or transitional environmental features. Although the majority of these sites appear to represent short-term campsites or limited activity areas, two of the sites may be large villages. The use of these sites by agriculturally based cultural groups is presented as a testable hypothesis (Espey, Huston and Associates, Inc. 1980).

PART II

TRANSECT AREA DESCRIPTIONS AND SURVEY RESULTS

MILLICAN TRANSECT AREA

The Millican Transect Area, located at rivermile 24.1, southeastern Brazos and west-central Grimes counties, Texas, is 13.4 kilometers (8.4 miles) in length and 2.25 kilometers (1.4 miles) in maximum width with a northeast to southwest orientation. The approximately 4500 acres included within the Millican Transect Area boundaries have a maximum elevation of 290 feet MSL. Only 3400 acres were actually included in the terrain survey due to a lack of access. Those portions of the Transect Area not surveyed are indicated in Figure 7.

Figures for the Millican Transect Area include:

(1) Figure 7, a detailed topographic map with the locations of sites investigated during the survey;

(2) Figure 8, a summary of exposed geologic units adapted from the Geologic Atlas of Texas, Austin Sheet (Bureau of Economic Geology 1974); and

(3) Figure 9 which outlines the environmental strata and descriptive areas recognized within the transect area.

PREVIOUS INVESTIGATIONS

Portions of the area within and surrounding the Millican Transect Area were included in the survey for the Millican Project by the Texas Historical Commission in 1971 (Texas Archeological Research Laboratory, County Files) and the Texas Archeological Survey (Sorrow and Cox 1973). These investigations resulted in the identification of a number of prehistoric and historic cultural resources. Those resources located within the area boundaries were reinvestigated during the present survey. Although these sites were relocated, no additional data concerning their nature was gathered due primarily to the intensive surface collection conducted at these sites during the initial investigations. Relic hunting within the transect area is apparently limited to incidental collecting of surficially exposed artifacts. One area landowner has an extensive collection of such artifacts which are described by Sorrow. These artifact descriptions are in the County Files at the Texas Archeological Research Laboratory.

ENVIRONMENTAL SETTING

The Millican Transect Area includes portions of the stream valleys of the Navasota River and Millican and Rocky creeks in Brazos and Grimes counties, Texas.

Surface Geology and Soils

Geologic bedrock units exposed within the transect area include the Eocene-age Whitsett Member of the Fayette Formation and the Miocene-age

PRECEDING PAGE

Catahoula Formation. Strata of the Whitsett Member dominate portions of the right valley wall of Millican Creek (Areas E and F, Fig. 9) and the lower portion of the left valley wall of Rocky Creek (Areas, I, J, K and L, Fig. 9). These strata consist primarily of interbedded clays and sands. Strata of the Catahoula Formation which consists primarily of hard sandstone, ash layers, clay and conglomerate occur within portions of the right valley wall of Millican Creek (Area E) and the upper portion of the right valley wall of Rocky Creek (Areas I, J, K and L).

Field observations made within the Millican Transect Area, however, indicate a more complex pattern of geologic exposures. Outcrops of hard sandstone, which are apparently part of the Catahoula Formation, were noted at the lowest point in the topographic profile at the lower margin of the left valley wall of the Navasota River (Area C, Fig. 9); Millican Creek (Area E); and at the base of isolated knolls within the valley floor of Rocky Creek and the creek's present channel (Area H, Fig. 9). Other exposures of hard sandstone occur in more elevated areas including the area south of and above the confluence of Rocky Creek and the Navasota River (Area I) and the upper portion of the right valley wall above Millican Creek (Area E).

Sandy soil surface layers occur throughout much of the survey area which are dominated by exposures of geologic bedrock units, regardless of the location relative to their mapped distributions (Areas E, F, I, K and L). Subsoils associated with sandy surface layers, however, exhibit considerable diversity. Sandy clay, gravelly clay and hard sandstone were all noted within the Rocky Creek valley (Areas I, K and L) while profiles noted within the valley wall of Millican Creek (Area E) revealed a gravelly subsoil overlying hard sandstone. Clayey surface layers which may be part of the Whitsett Member of the Fayette Formation dominate portions of the left valley wall of Rocky Creek (Area J) and occur as minor exposures elsewhere (Area L).

Geologic surface units include both Quaternary alluvium and fluviatile terrace deposits. Quaternary alluvium (Qal) occurs within the valley floors of the Navasota River and Millican and Rocky creeks which are dominated by their respective modern floodplains (Areas A, D and H, Fig. 9). No low terraces were recognized during the present survey. Surface soil layers, generally of unknown depth, vary from clayey to sandy loam with clayey soils more common within the Navasota and Millican valleys. Surface layers associated with Rocky Creek have the highest sand content and can be as much as 7 meters in thickness (Area H).

Quaternary fluviatile terrace deposits (Qt) form portions of the valley walls of the Navasota River (Areas B and C), the left valley wall of Millican Creek (Area G, Fig. 9) and the upper margin of the right valley wall of Rocky Creek (Area I). In these areas loosely consolidated sandy soils overlie sandy clay which, in some instances, has a minor gravel component.

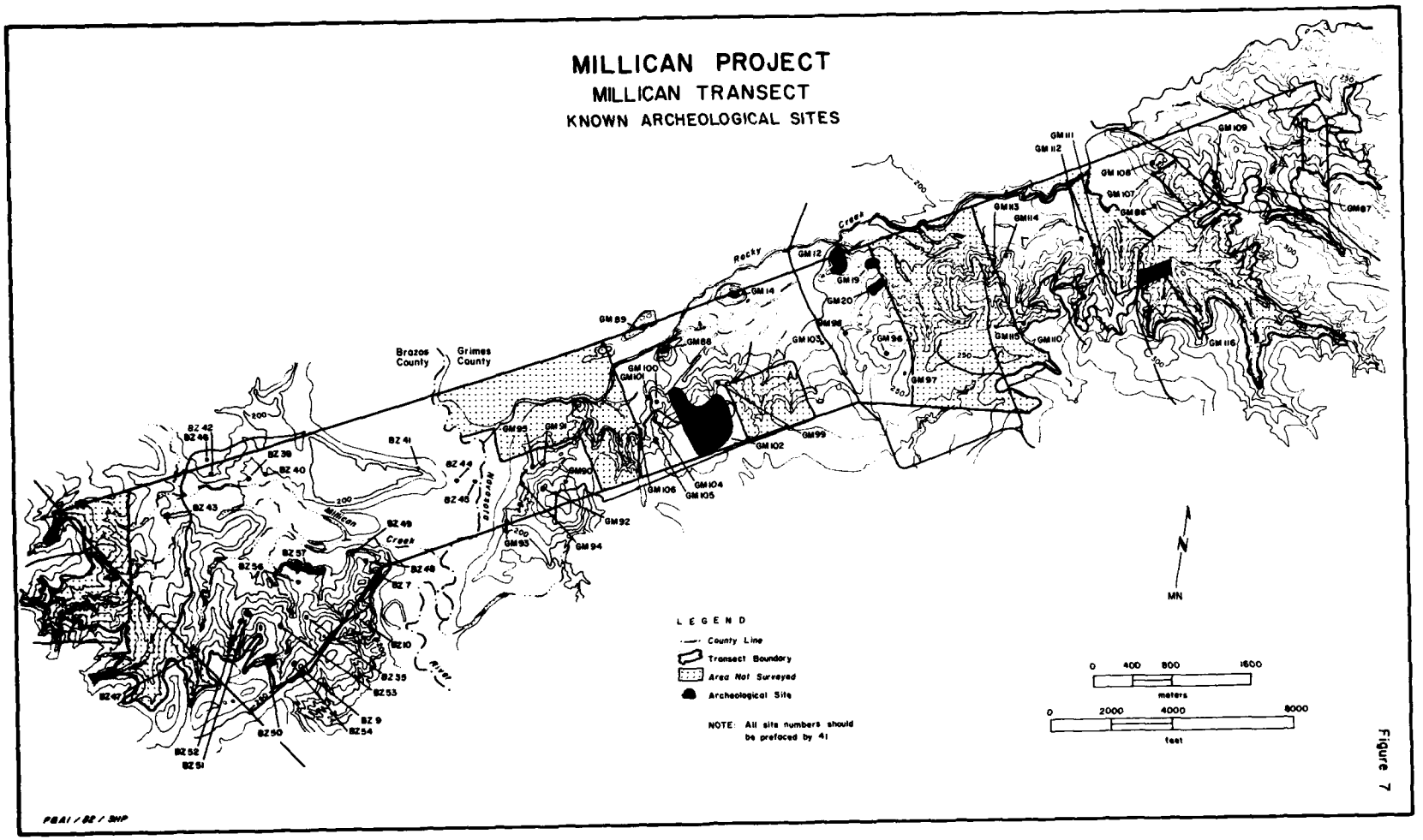

MILLICAN PROJECT
MILLICAN TRANSECT
KNOWN ARCHEOLOGICAL SITES
Brazos County
Grimes County
Rocky Creek
Millican Creek
Navasota River
LEGEND
County Line
Transect Boundary
Area Not Surveyed
Archeological Site
NOTE: All site numbers should be prefaced by 41
MN
0 400 800 1600
meters
0 2000 4000 8000
feet
PBAI / 82 / SHP

Figure 7

Area Streams

Streams within the Millican Transect Area include the Navasota River and Millican and Rocky creeks. No definable relict channel system can be recognized from the features mapped on the USGS 7.5' Millican, Texas, topographic sheet. The majority of the river valley floor is essentially featureless modern floodplain, although relict channels were noted throughout much of the area. In most instances these channels occur as isolated segments located away from the present river channel or as meander loops closely associated with the present channel. The isolated channel segments, together with cut features of the lower valley walls of the river, provide some evidence to use as the basis for prehistoric river reconstruction. A single small relict channel segment was noted within the left valley floor. River channel movement within this area is apparently limited. The presence of several relict features within the right valley floor and the configuration of the fluviatile terrace deposits which form a portion of the right valley wall of the river (Area B), however, indicate that at one time the river channel was west of its present location. This assumption is strengthened by the identification of prehistoric archeological sites in association with two of the relict channel segments observed during the survey.

Changes in the course of Millican Creek are more apparent on the USGS 7.5' Millican, Texas, topographic sheet and more easily defined by field observations. The present creek channel is near the right valley wall; however, the presence of relict features and the configuration of the southern margin of the high terrace deposits which form Area B indicate that at one time the creek followed the left valley wall.

Rocky Creek is unique among the streams investigated during the survey in that it is partially controlled by hard bedrock. This control, however, is not sufficient to eliminate changes in course which are characteristic of streams meandering within alluvial valley floors. Clearly defined relict channel systems and very recent changes in stream course which differ from that mapped on the USGS 7.5' Carlos and Navasota, Texas, topographic sheets were both noted within the Rocky Creek valley. The presence of isolated bedrock knolls within the valley floor and the nature of certain margins of the valley wall provide additional evidence of past creek movement.

Topography

The Millican Transect Area includes portions of the valley floors of the Navasota River and Millican and Rocky creeks, both valley walls of the river and Millican Creek, the upland margins of Millican Creek, and the left valley wall of Rocky Creek. The major portion of each valley floor is apparently a generally featureless modern floodplain (Areas A, D and H). This absence of relief is significantly altered only within the Rocky Creek valley where the presence of isolated bedrock knolls and relict features present a gently undulating topography. No low alluvial terraces in association with any of the area streams were noted during the survey.

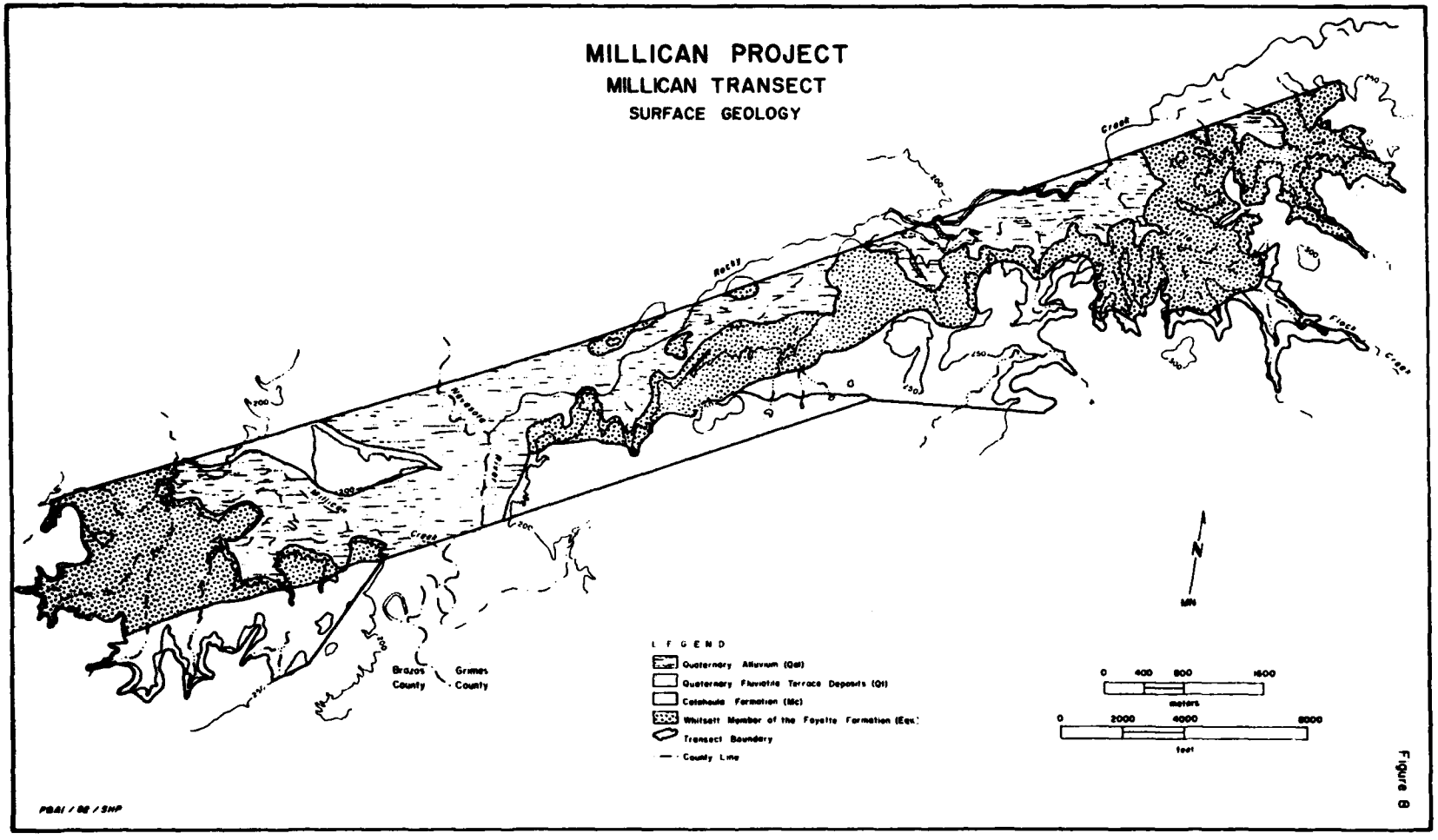

MILLICAN PROJECT
MILLICAN TRANSECT
SURFACE GEOLOGY
Brazos County
Grimes County
LEGEND
Quaternary Alluvium (Qal)
Quaternary Fluviatile Terrace Deposits (Qt)
Catahoula Formation (Tc)
Whitsett Member of the Fayette Formation (Eqw)
Transect Boundary
County Line
MN
0 400 800 1600
meters
0 2000 4000 8000
feet
PBAI / BB / SHP

Figure 8

Valley walls of the streams provide the greatest relative relief within the transect area. Quaternary fluviatile terrace deposits which dominate portions of the right valley wall of the Navasota River (Area B), the left valley wall of Millican Creek (Area G), and a portion of the upper valley wall of Rocky Creek (Area I) form broad, relatively flat landforms. Similar deposits within the left valley wall of the Navasota River (Area C) are dissected to form small rises and ridgecrests in moderately sloping terrain. Bedrock strata dominate the valley wall of Rocky Creek and result in gently sloping terrain characterized by relatively broad ridgecrests at the upper levels and low-lying rises, knolls and small ridgecrests at lower elevations. Similar geologic strata above the floor of Millican Creek are more dissected and exhibit a relatively greater slope. Here, narrow but rather extensive ridgecrests dominate the entire profile of the valley wall. Small rises, the result of area dissection and slope drainage development, occur on the majority of these ridgecrests.

Springs

No active springs or evidence of past spring activity were noted during the Millican Transect Area survey, and none are mapped on the available USGS 7.5' topographic sheets.

Environmental Stratification

The environmental strata recognized within the Millican Transect Area and their relationship to the descriptive areas used for this report are summarized in Table 2.

TABLE 2

ENVIRONMENTAL STRATA, MILLICAN TRANSECT AREA

Navasota River, valley floor	
undifferentiated	Area A
Navasota River, valley wall	
Quaternary fluviatile terrace deposits	Areas B and C
Millican Creek, valley floor	
undifferentiated	Area D
Millican Creek, valley wall	
Quaternary fluviatile terrace deposits	Area G
bedrock	Areas E and F
Rocky Creek, valley floor	
undifferentiated	Area H
Rocky Creek, valley wall	
mixed	Area I
bedrock	Areas J, K and L

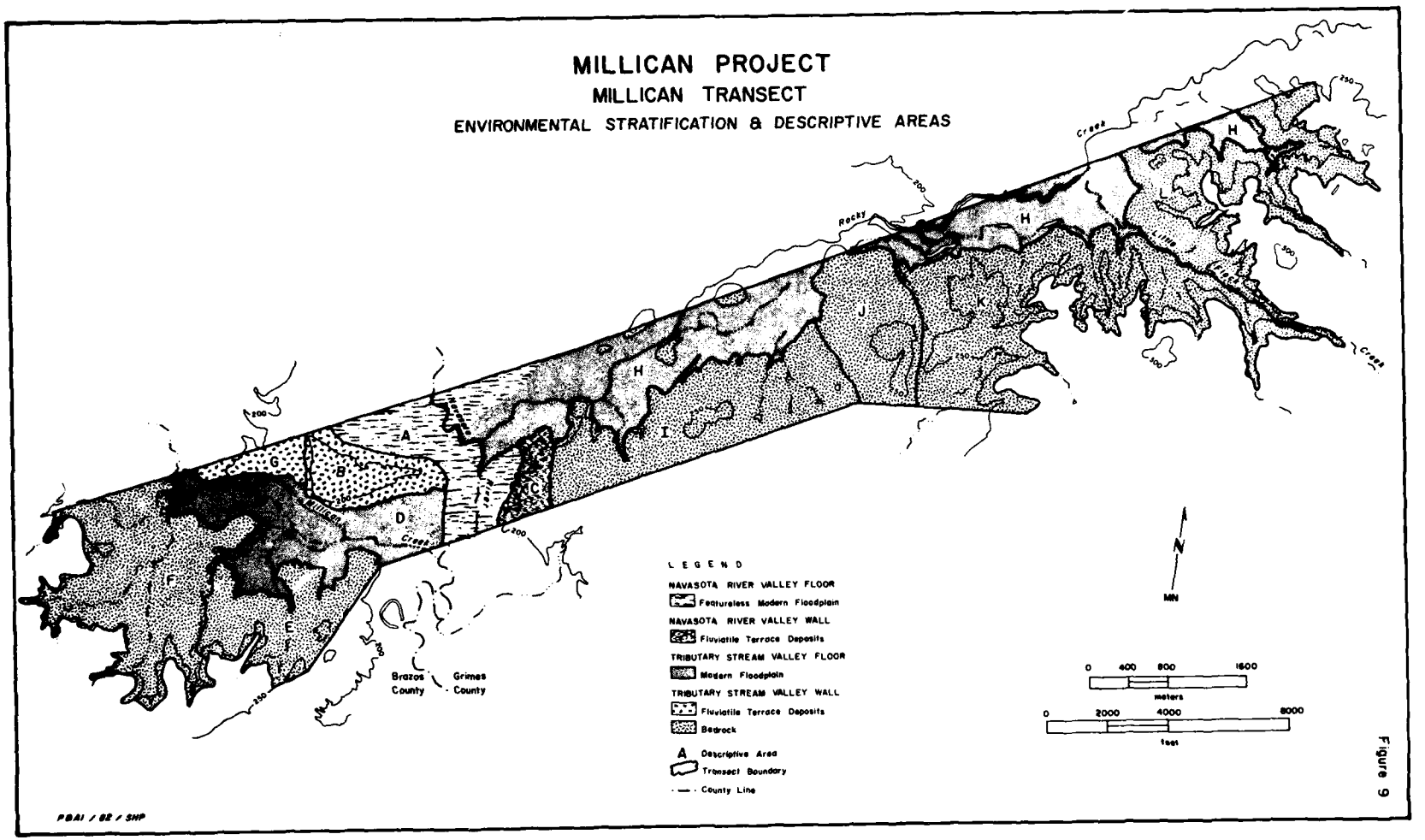

MILLICAN PROJECT
MILLICAN TRANSECT
ENVIRONMENTAL STRATIFICATION & DESCRIPTIVE AREAS
Rocky Creek
Millican Creek
Brazos County
Grimes County
LEGEND
NAVASOTA RIVER VALLEY FLOOR
Featureless Modern Floodplain
NAVASOTA RIVER VALLEY WALL
Fluviatile Terrace Deposits
TRIBUTARY STREAM VALLEY FLOOR
Modern Floodplain
TRIBUTARY STREAM VALLEY WALL
Fluviatile Terrace Deposits
Bedrock
A Descriptive Area
Transect Boundary
County Line
MN
0 400 800 1600
meters
0 2000 4000 8000
feet
PBAI / BE / SHP

Figure 9

AREA DESCRIPTIONS

Area A

Area A of the Millican Project Area is a portion of the modern Navasota River floodplain. The divisions between this area and the floodplains of Rocky and Millican creeks are arbitrary and are not drawn on the basis of any observable differences. Although relict river features are present within the modern floodplain, these features are not confined within an area which can be isolated on the basis of features mapped on USGS 7.5' topographic sheets.

The major portion of the right modern floodplain of the Navasota River has never been cleared. Vegetation consists of a hardwood forest which generally has a dense understory of shrubs and vines. Cleared areas which occur primarily near the present river channel support dense ground covers of grasses and forbs. That portion of the left modern floodplain south of Rocky Creek is cleared. Vegetation consists of scattered oak trees and a dense ground cover of low grasses. The portion of the left modern floodplain which is north of Rocky Creek was not surveyed due to lack of access. With the exception of cleared areas, adverse effects from modern land use appear to be limited to minor unimproved road and pipeline construction. Area soils are generally too clayey to support subsurface rodent habitation and natural disturbances are limited to tree root bioturbation and minor bank erosion.

The pedestrian survey of Area A included systematic transects, exploratory transects and the intensive examination of specific physiographic features and disturbances. The portion of the left floodplain included within the coverage was walked using systematic transects spaced at intervals of from 50 to 100 meters. The transect intervals were widened when it became apparent that the density of the ground cover precluded the identification of archeological remains. The right modern floodplain was surveyed using exploratory transects which determined that, in general, visibility within this area was not sufficient to justify more intensive coverage and which located specific archeological features for more intensive examination. The banks of the present and relict channels of the river and the route of a recently constructed pipeline were intensively examined.

Two prehistoric sites, 41BZ44 and 41BZ45, were identified within Area A of the Millican Transect Area. The sites, which represent areas of exposure rather than of actual occupation, are situated along the banks of relict channels of the Navasota River. The sites are small (maximum dimensions of 50 meters) and contain thinly distributed cultural materials which are contained within loamy soil of an unknown depth and which are exposed by minor bank erosion. The sites appear to be intact except for tree root bioturbation and minor bank erosion. Cultural materials noted include both cortex and interior flakes in addition to a thin biface fragment and grinding slab noted at site 41BZ44 and a projectile point collected from site 41BZ45.

The sites are felt to represent multiple activity areas which at the time of their occupation were closely associated with the channel of the Navasota River. A riverine resource orientation is suggested for both sites. A probable late Archaic occupation is indicated at site 41BZ45.

Area B

Area B is a low-lying portion of the right valley wall of the Navasota River which is composed of Quaternary fluviatile terrace deposits and forms a divide between the river and Millican Creek. The area is separated from other fluviatile terrace deposits which comprise portions of the left valley wall of Millican Creek (Area G) on the basis of stream associations and a noted difference in topography. Other area boundaries (Areas A and D) are real and generally distinct.

The major portion of Area B has apparently never been cleared, and vegetation consists of woodland tree species and a very dense understory of shrubs and vines. The effects of modern land-use activities are limited to construction of a single unimproved road. Adverse effects from natural processes are apparently limited to tree root bioturbation. The lower margins of the area have been cleared and adversely affected by unimproved road construction and erosion appears to be severe.

Area B of the Millican Transect Area was surveyed using exploratory transects and intensive examination of specific physiographic features and disturbances. Initial attempts to use systematic transects within the wooded portion of the area were discontinued due to the density of the brushy understory and the presence of leaf litter which obscured the ground surface. Those areas where archeological visibility was good, including the eroded margins of the area and the unimproved roadbed, were intensively examined.

A single prehistoric site, 41BZ141, was identified during the survey. The site is small (10x10 meters) and thinly distributed. Cultural materials, surficial or very shallowly buried, were noted along the eroded margin of the area immediately above the modern floodplain of the Navasota River. Road construction and erosion have severely disturbed the sandy surface layer which contains the cultural materials that comprise the site and overlies a culturally sterile gravelly subsoil. The cultural materials noted are limited to debitage flakes and a possible petrified wood tool. Site 41BZ141 is felt to represent a limited activity area associated with the Navasota River, and both valley wall and riverine resource orientations are suggested.

Area C

Area C includes a portion of the left valley wall of the Navasota River south of Rocky Creek and is composed of Quaternary fluviatile terrace deposits. The boundary with the left valley wall of Rocky Creek (Area I) is drawn on the basis of mapped differences in surficially exposed geologic units and arbitrarily determined stream associations

rather than observable physiography or environmental differences. Boundaries with other areas (Areas A and H) are real and generally distinct.

Vegetation within Area C consists of a mixed grassland/woodland, the upper margin of which, along with other flat areas, has been cleared of trees and shrubs. More sloping portions of the area support woodland tree species and a dense understory of shrubs. Adverse effects due to modern land use are apparently limited to clearing activities. The effects of natural factors include those from tree root bioturbation, minor erosion and rodent activity.

Area coverage consisted primarily of systematic transects spaced at 50-meter intervals. Archeological visibility was generally good due to the rodent activity and minor erosion. Flat exposures of hard sandstone were intensively examined because of the identification of sites on similar features. Within such areas, archeological visibility was excellent and the entire area of a site could be seen.

A total of five archeological sites were identified within Area C of the Millican Transect Area, prehistoric sites 41GM91 and 41GM93 through 41GM95, as well as site 41GM92 which contains both prehistoric and historic components. Sites 41GM91 and 41GM95 are small (maximum dimensions of 20 meters) and contain thinly distributed and buried cultural materials. The sites are situated along a slope drainage within the left valley wall of the Navasota River. Cultural materials are contained within an unknown depth of unconsolidated sandy soil which overlies culturally sterile sandy clay. Site 41GM91 has been exposed by bulldozing and site 41GM95 by rodent activity. Both sites appear to be relatively intact except for these noted effects. The remains noted at the sites are limited to flake debitage, and the sites are felt to represent limited activity areas associated with a slope drainage and the Navasota River. Both valley wall and riverine resource orientations are suggested.

Area D

Area D consists of the valley floor of Millican Creek which consists solely of the modern floodplain. Except for the arbitrary boundary with the modern floodplain of the Navasota River, all boundaries are real and distinct.

Area D has been cleared and supports a dense ground cover of grasses and forbs, except in the courses of area streams and the floodplain's margin with that of the river. Cleared portions of the area have apparently been subject to intensive modern land use including cultivation as well as unimproved road and fence construction. Vegetation elsewhere consists primarily of forest tree species, and the adverse effects to forested areas appear to be limited to the recent placement of an underground pipeline.

The survey of this area was accomplished using systematic transects spaced at 50- to 100-meter intervals, with the intensity of coverage dependent upon disturbances in the otherwise very dense grass ground

cover. Forested portions of the area were surveyed using the wider transect interval due to the presence of recent alluvium which obscured the ground surface. The channel of Millican Creek and the right-of-way of a recently placed pipeline where the absence of vegetation provided areas of good archeological visibility were intensively examined.

No archeological sites were identified within Area D.

Area E

Area E of the Millican Transect Area consists of a portion of the right valley wall of Millican Creek which is composed of bedrock strata of the Whitsett Member and the Catahoula Formation. The area is separated from other portions of the right valley wall of the creek on the basis of the presence of abundant archeological remains within Area E. Other area boundaries are real and generally distinct.

Although at one time vegetation within the area consisted solely of a woodland community, flatter portions of the area have been cleared and support ground covers of grasses and forbs. The density of the ground cover varies with more elevated portions of the area supporting a dense cover while more dissected areas along the lower margin support sparse to moderately dense covers. Wooded portions of the area consist of woodland tree species and a generally dense understory of shrubs. Except for land-clearing activities, adverse effects to the lower portion of the area which have resulted from modern land use are limited to unimproved road construction. The upper portion has apparently been subject to more intensive modern use. Tree root bioturbation, rodent activity and minor erosion are present in all areas.

Area E was surveyed using systematic transects spaced at 50- to 75-meter intervals. Ground surface visibility was generally good due to the presence of various disturbances of limited extent which occur throughout the area. The locations of previously known sites within the transect limits were intensively examined.

Eleven prehistoric sites, 41BZ47 through 41BZ57, were identified within Area E and two previously recorded prehistoric sites, 41BZ7 and 41BZ9, were reinvestigated. Site 41BZ7 is represented by a portion of the David Wilson Collection (Texas Archeological Research Laboratory, County Files), and no cultural materials were noted within the area designated by this site number.

Four of the sites are situated within the lower portion of the valley wall and immediately above the modern floodplain of Millican Creek. Sites 41BZ48, 41BZ49 and 41BZ56 are small to moderate in size (maximum dimensions of 40 to 60 meters) and contain thinly distributed, buried cultural materials. These materials are within an unknown, but probably shallow, depth of sandy soil and are exposed by rodent activity or minor erosion. The sites have also been affected by land-clearing activities and/or tree root bioturbation. The cultural materials present are limited to lithic debitage. These sites are felt to represent limited activity areas associated with Millican Creek and both valley wall and riverine resource areas.

Similarly situated, site 41BZ57 is large (dimensions of 300 by 30 meters) and contains thinly distributed cultural materials which are buried within an unknown, but probably shallow, depth of sandy soil. These materials, which include cortex and interior flake debitage, a unifacial tool and burned rocks, are exposed by minor erosion and modern land-use activities. The site area has also been adversely affected by land clearing. Site 41BZ57 is felt to represent a campsite associated with Millican Creek. Both valley wall and riverine resource orientations are suggested.

The middle portion of the valley wall contains four known site areas; these are 41BZ51 through 41BZ53 and 41BZ55. The sites are small to moderate in size (maximum dimensions of 15 to 65 meters), contain thinly distributed buried cultural materials, and are situated on the crests of small ridges and rises within gently sloping terrain. Cultural materials are contained within an unknown depth of sandy soil and, except for site 41BZ52, exposed primarily by rodent activity. Site 41BZ52 was exposed and partially destroyed by placement of an overhead powerline and underground pipeline. Other portions of site 41BZ52 and site 41BZ51 appear to be relatively unaffected by modern land use. Sites 41BZ53 and 41BZ55 have been adversely affected by land-clearing activities and use. In addition to burned rocks which were noted at both sites, site 41BZ51 contains interior flake debitage and site 41BZ53 contains cortex flake debitage and a utilized flake. Cultural materials from site 41BZ52 include lithic debitage flakes and cores and pebble and unifacial tools; those from site 41BZ55 include interior debitage flakes, a blade and a thin biface fragment.

Sites 41BZ51 and 41BZ53 are felt to represent campsites associated with Millican Creek. A similar association is apparent for sites 41BZ52 and 41BZ55, which are felt to represent multiple activity areas. Each of the sites appears to be situated for exploitation of resources which are available within the valley wall; however, a riverine resource orientation cannot be ruled out.

Three of the prehistoric sites identified within Area E of the Millican Transect Area, 41BZ47, 41BZ50 and 41BZ54, and previously known site 41BZ9 are included within the upper portion of the creek's valley wall. Sites 41BZ47 and 41BZ50 are small to moderate in size (dimensions of 30 to 75 meters) and contain thinly distributed surficial cultural materials. The sites occur at the heads of slope drainages where erosion has exposed concentrations of lithic gravels on underlying hard sandstone. Site 41BZ47 appears to be relatively intact; site 41BZ50 has been severely disturbed by erosional gullying and sheet washing. Both sites contain naturally occurring gravels and cores and tested cobbles. In addition, flake debitage and worked pieces of petrified wood were noted at site 41BZ47. These sites are believed to represent areas of lithic resource procurement and processing which are associated with Millican Creek. Only a valley wall resource orientation is indicated.

Sites 41BZ9 and 41BZ54 represent exposures which are small to moderate in size (dimensions of 25 to 100 meters) and contain thinly distributed cultural materials. The sites are situated respectively on the

crest and lower slopes of a ridge situated at the upper margin of the valley wall of Millican Creek. The exposures are separated by an area of low ground surface visibility and may be portions of the same occupation area. The cultural materials present are contained within a shallow depth of sandy soil and are exposed by rodent activity and unimproved road construction. The area containing the sites has been cleared and subject to intensive use during modern times. Site 41BZ9 consists solely of debitage flakes, and the activities represented are apparently limited in nature. Interior flakes and burned rocks were noted at site 41BZ54, which is felt to represent a campsite. Although these sites are discussed as being within the valley of Millican Creek, the Navasota River is equidistant from the locations. Valley wall and possibly upland resource orientations are suggested.

Area F

Area F consists of a portion of the right valley wall of Millican Creek which is composed of bedrock strata of the Whitsett Member. It is separated from other portions of the right valley wall (Area E) based on the sparsity of cultural resources identified within the area boundaries. Boundaries with other areas (Areas D and G) are real and generally distinct.

The eastern half of the area has been cleared of trees and shrubs. Remaining vegetation consists of introduced bermudagrass. This area has apparently been subject to intensive modern land use including cultivation and unimproved road, fence, powerline and building construction. The western half of the area supports woodland tree species and/or dense shrubs, and the adverse effects from modern land use are minor in nature and extent. Rodent activity and/or tree root bioturbation and minor erosion occur throughout the area.

Area F was surveyed using systematic transects spaced at 50- to 100-meter intervals. The wider interval was used within cleared portions of the area where the density of the grass ground cover severely limited archeological visibility. Visibility within wooded portions was fairly good due to minor erosion, although leaf litter obscured the ground surface in some instances.

A single prehistoric site, 41BZ43, was identified within Area F. The site is a small exposure (dimensions of 5 by 5 meters) of thinly distributed remains. The cultural materials present, which are limited to interior flakes, are apparently contained within an unknown depth of sandy soil. The site, situated on a low rise immediately above the valley floor of Millican Creek, is apparently intact except for the effects of land-clearing activities and the minor erosion previously noted. The site appears to represent a limited activity area associated with Millican Creek. Both valley wall and riverine resource orientations are suggested.

Area G

Area G of the Millican Transect Area is a portion of the left valley wall of Millican Creek which is composed of Quaternary fluviatile terrace deposits of the Navasota River. The boundary with other areas dominated by similar surface units (Area B) is formed by a slope drainage and a relatively elevated crest which runs along the western edge of Area B. Boundaries with other areas (Area D) are real and generally distinct.

This area has been cleared of most trees and shrubs, and vegetation consists of introduced bermudagrass. Area G has apparently been subject to intensive modern land use, and unimproved roads, fences and structures occur throughout the area. Rodent activity, which may be locally intensive, and minor erosion are also present.

Coverage within the area was accomplished using systematic transects spaced at 50-meter intervals. Ground surface visibility was generally poor due to the density of the grass cover. Rodent spoil piles and minor erosional disturbances were intensively examined.

Three prehistoric sites, 41BZ29, 41BZ40 and 41BZ42, were identified within Area G. An historic site, 41BZ46, was identified immediately outside of the transect area limits and is included within the area. The prehistoric sites are small to moderate in size (maximum dimensions of 30 to 75 meters) and contain thinly distributed, buried cultural materials. These materials are contained within an unknown depth of sandy soil and are exposed in rodent spoil piles. Except for the rodent effects and those of land-clearing activities, the sites appear to be relatively intact. Sites are situated on small rises which occur on a relatively flat landform (possibly a cut bench) which parallels Millican Creek within this area. The cultural materials present at site 41BZ39 are limited to cortex and interior flake debitage. A bone awl fragment and burned rocks were noted at site 41BZ40, and a core, unifacial tools and burned rocks were noted at site 41BZ42. The latter two sites are felt to represent campsites associated with Millican Creek; both valley wall and riverine resource orientations are suggested.

Historic site 41BZ46, which is 63 by 120 centimeters in size, is a well constructed from dry-laid unshaped sandstone blocks. No associated features or artifacts were noted, which, if once present, probably were removed during land-clearing activities. The well has been filled in and is protected by a wire fence.

Area H

Area H consists of the valley floor of Rocky Creek, a major lateral tributary of the Navasota River, and includes a number of knolls which are composed of hard sandstone and are isolated from the valley wall by portions of the creek's modern floodplain. Except for the arbitrary boundary with the modern floodplain of the Navasota River (Area A), boundaries with adjoining areas (Areas C, I, J, K, L) are real and generally distinct. Colluvial deposits from the valley wall have obscured the boundary in some instances.

The major portion of the valley floor of Rocky Creek which was examined during the present survey has been cleared of trees and shrubs, and vegetation consists of a dense ground cover of grasses and/or forbs. The area near the confluence with the Navasota River was not examined but probably supports a hardwood forest. Within the western portion of the area surveyed, forest species follow the drainage courses, and a mixed forest and woodland association dominates isolated knolls and the floodplain margin. The extent of forested and wooded areas increases toward the eastern end of the transect area, and species of both kinds are represented. In addition to land-clearing activities, much of Area H has been subject to land use with associated road and fence construction. Tree root bioturbation and minor erosion, which is confined to the banks of drainages, are present within the area; however, rodent disturbance is generally absent.

Area H was surveyed using both systematic transects and intensive examination of specific physiographic features. The modern floodplain was covered using systematic transects spaced at 50- to 100-meter intervals. Ground surface visibility was generally poor due to the density of the grass and forb ground cover which justified the wider transect intervals. The banks of Rocky Creek and other drainages and sloughs which were encountered during these transects were intensively examined. A number of isolated bedrock knolls, indicated on USGS 7.5' topographic sheets and readily identifiable in the field, were subjected to intensive examination. Archeological visibility, however, was very poor due to the density of shrubs and ground cover.

Three prehistoric sites, previously recorded site 41GM14 and newly identified sites 41GM88 and 41GM89, were investigated within Area H. These sites, which are situated on isolated knolls within the valley floor of Rocky Creek, represent exposures, and the entire knoll can probably be included within the actual area of occupation. The exposures are small to moderately extensive in size (isolated find to dimensions of 100 meters) and thinly distributed. Cultural materials exposed by rodent burrowing are contained within at least 20 centimeters of unconsolidated sandy soil which overlies hard sandstone bedrock. The sites appear to be fairly intact. Site 41GM14 and site 41GM89, which is an isolated find, contain only debitage flakes; site 41GM88 contains partially reduced bifaces in addition to flake debitage. Each of the sites is felt to represent a limited activity area associated with Rocky Creek. Both valley wall and riverine resource orientations are suggested.

Area I

Area I of the Millican Transect Area includes the portion of the left valley wall of Rocky Creek from near the Navasota River east to near FM 3090. The area is composed of both bedrock and fluviatile deposits and is separated from other portions of the left valley wall (Area J) by the presence of sandy surface layers and exposures of hard sandstone bedrock. The boundary with the left valley wall of the Navasota River is drawn on the basis of the orientation of the slope. The boundary with the valley floor of Rocky Creek is real but has been

obscured in some instances by colluvial deposition and railroad construction.

The major portion of Area I has been cleared, and vegetation consists of dense ground covers of grasses and forbs and/or thickets of shrubs. At present, the area is subject to intensive land use, and the distribution of areas of grasses and shrubs probably reflects various stages of current use and the abandonment of old pastures. All types of construction associated with ranch maintenance were observed as well as past railroad construction and recent effects of mineral prospecting and distribution. Evidence of large rodent populations and erosion within the lower portion of the area was also noted.

Area I was surveyed using systematic transects spaced at 50-meter intervals. Ground surface visibility was relatively good due to the rodent activity and other disturbances.

A total of nine archeological sites were identified within the area; these are prehistoric sites 41GM100, 41GM101 and 41GM104 through 41GM106 and historic sites 41GM90, 41GM99, 41GM102 and 41GM103. The five prehistoric sites occur along the margins of a broad ridgecrest immediately above the valley floor of Rocky Creek. Cultural materials are buried and contained within at least 20 centimeters of loosely consolidated sandy soil which overlies a culturally sterile gravelly subsoil. The sites are exposed in rodent spoil piles and other minor disturbances and appear to be relatively intact. Sites 41GM100 and 41GM101 contain cortex and interior debitage flakes, cores and unifacial tools which are relatively densely distributed in an area about 50 by 40 meters in size. In addition, a Wells type projectile point was collected from site 41GM100. Sites 41GM104 and 41GM106 are smaller (maximum dimension of 35 meters) than site 41GM100 and include significant evidence of lithic resource procurement and/or processing activities. Flake debitage, unifacial tools and tested and worked gravels were noted at site 41GM104, and debitage flakes, cores and a partially reduced biface at site 41GM106. Each of these sites apparently represents a multiple activity area associated with Rocky Creek and both valley wall and riverine resource areas. An early Archaic occupation for site 41GM100 is suggested by the Wells type projectile point; site 41GM105 consists of an isolated untyped projectile point possibly indicating a late Archaic use of this area.

Four historic sites (41GM90, 41GM99, 41GM102 and 41GM103) identified within Area I include possible housesites, structures and features which may be associated with an abandoned railroad grade which crosses Area I. Sites 41GM99 and 41GM102 contain a majority of the historic remains clustered within an area 500 by 500 meters in size. Although the relationship between the various historic remains is unknown, their proximity to one another and the abandoned railroad grade suggests a possible contemporaneity. Sites 41GM90 and 41GM103 apparently are isolated sites.

The majority of the features noted vary from partially intact to scattered foundation and chimney stones consisting primarily of unshaped

sandstone blocks. Also noted were the grave of a previous landowner, the abandoned railroad grade, and an intact structure which may represent a railroad section house (Bill Moody, personal communication, 1981). The majority of the artifactual materials, along with wire nails and sheet metal, are within site 41GM99. A single stoneware sherd was noted at site 41GM102. Features and artifacts appear to be primarily surficial in nature, although the possibility of shallowly buried remains cannot be eliminated. Site 41GM99 is relatively intact; however, site 41GM102 has been severely disturbed by land clearing and activities associated with modern land use. It is assumed the grave at site 41GM99 was placed near the housesite. Sites 41GM99 and 41GM102 are felt to represent ranching activities and possibly a support camp or community associated with railroad construction or maintenance. Both sites appear to date from the early to middle twentieth century.

Site 41GM90 consists of the remains of a housesite situated within the upper portion of the Rocky Creek valley wall and closer to the confluence with the Navasota River than the previously described sites. Site 41GM90 is small (10x10 meters) and primarily surficial in nature. Cultural materials present, including unshaped sandstone rubble, bottle glass, milkglass, porcelainlike ceramics, an iron kettle fragment, and a rim-fired cartridge casing, have been severely disturbed by land-clearing activities. The site is felt to represent a house and ranch complex associated with Rocky Creek and the valley wall resource area. An early-to-middle-twentieth-century occupation is suggested.

Site 41GM103 is an isolated well which probably represents the remains of a housesite, other portions of which were removed during land clearing. The site, located within the northeastern corner of Area I and immediately above the modern floodplain of Rocky Creek, is effectively totally destroyed. The well is faced with unshaped sandstone blocks enclosing an opening 80 centimeters in diameter.

Area J

Area J is the portion of the left valley wall of Rocky Creek surrounding and immediately east of FM 3090. This area is separated from other portions of the left valley wall (Areas I and K) by clayey surface soil layers which include patches of sandy soil situated primarily on the tips of ridgecrests. Boundaries with other areas (Area H) are real and generally distinct. The gentleness of the slope within the lower portion of the valley wall occasionally makes boundary distinctions difficult.

A majority of Area J has been cleared of trees and shrubs, and current vegetation consists of bermudagrass. The area is subject to intensive modern land use accompanied by improved road and fence construction. Sandy patches have been churned by abundant rodent activity. The southern portion of Area J has been cleared and recently plowed. At the time of the survey, vegetation was limited to a few large oak trees. The entire surface soil layer within this area has been disturbed.

The terrain survey was accomplished using systematic transects spaced at 50-meter intervals with intensive examination of specific physiographic features. Most of the area supports a dense grass ground cover, and systematic transects were used to sample areas of poor archeological visibility. The locations of three previously known sites as well as the areas of sandy soil previously mentioned were intensively examined. The intensive rodent activity improved archeological visibility within these areas.

A total of six archeological sites were investigated within Area J of the Millican Transect Area; these include previously recorded prehistoric sites 41GM12, 41GM19 and 41GM20, newly identified prehistoric sites 41GM96 and 41GM97, and newly identified site 41GM98 which contains both prehistoric and historic components. The previously recorded sites are moderate to extensive in size (maximum dimensions of 75 to over 200 meters) and consist of thinly distributed and buried cultural materials. These sites are situated on the sandy crests of ridges immediately above the valley floor of Rocky Creek. Cultural materials are contained within an unknown depth of unconsolidated sandy soil and are exposed in rodent spoil piles. Sites 41GM12 and 41GM19 have been severely disturbed by land clearing and other activities associated with intensive modern land use; site 41GM20 apparently is intact except for tree root bioturbation and rodent activity. The cultural materials noted at the sites are predominantly flake debitage, although utilized flakes, a unifacial tool and a projectile point were collected from site 41GM20. Sites 41GM12 and 41GM19 are felt to represent limited activity areas and site 41GM20 a multiple activity area. Each of the sites is associated with Rocky Creek, and suggested resource orientations include both valley wall and riverine environments.

The newly identified sites are situated within the upper portion of the left valley wall of Rocky Creek. Sites 41GM96 and 41GM97 are isolated finds observed in severely disturbed contexts. Data available are insufficient to characterize these remains. Site 41GM98, which includes both prehistoric and historic components, is moderate in size (dimensions of 50 by 30 meters) and contains thinly distributed and buried cultural materials. The site, situated on a sandy ridgecrest, has been severely disturbed by both rodent activity and land clearing associated with modern use. The prehistoric component, consisting of interior debitage flakes and an arrow point fragment, is felt to represent a limited activity area associated with Rocky Creek. A valley wall resource orientation and at least a Neoarchaic occupation of the site are suggested.

The historic component of site 41GM98 apparently represents a housesite although no intact structural features were noted. The presence of cut nails, sheet metal and scattered sandstone blocks which provide structural evidence were noted, as well as stoneware ceramics and manganese-bleached bottle glass. A valley wall resource orientation and a late-nineteenth-to-early-twentieth-century occupation are suggested.

Area K

Area K of the Millican Transect Area consists of a portion of the left valley wall of Rocky Creek which is composed of bedrock strata. The area is separated from portions of the valley wall to the east and to the west (Area J) by the presence of characteristic sandy soil surface layers. The eastern boundary is arbitrary and is made on the basis of the kinds of cultural resources present as well as to facilitate descriptions in this report. The boundary with the valley floor of Rocky Creek is real and generally distinct. Major portions of the area were not surveyed due to lack of access.

Most of the area surveyed within Area K has been cleared of trees and shrubs. Vegetation consists of a dense ground cover of grasses. Area K has apparently been subject to intensive modern land use including unimproved road, fence and building construction in addition to land clearing. Rodent activity and erosion, noted throughout the area, are locally intensive in some instances.

Area K was surveyed using systematic transects spaced at 50- to 100-meter intervals. Ground surface visibility was generally poor due to the density of the grass cover; however, a sufficient number of disturbed areas were noted during the transect coverage to provide an indication of the cultural resources present.

Six prehistoric archeological sites were identified within the area. In addition, an investigation of Little Flock Cemetery was conducted by the Project Historian (Appendix I). The prehistoric sites, which include 41GM110 through 41GM115, are small in size (maximum dimensions of 20 meters) and contain thinly distributed cultural materials. Except where disturbed, these materials are buried and are contained within unknown depths of sandy soil which overlie culturally sterile sandy clay. The sites represent exposures which occur at the margins of ridgecrests within the valley wall of Rocky Creek. Sites 41GM110, an isolated find, and 41GM113 are surficial in nature and apparently represent the remains of severely disturbed and/or deflated sites. Although portions of the remaining sites are severely disturbed by land clearing, road construction and erosion, portions of each site may be relatively intact. Site 41GM110 consists of an isolated retouched flake. Cultural materials noted at sites 41GM112 through 41GM114 are limited to debitage flakes. The cultural materials present at sites 41GM111 and 41GM115 include cores, thin biface fragments, burned rocks, and flake debitage.

Sites 41GM112 through 41GM114 represent limited activity areas associated with Rocky Creek. Their locations suggest both valley wall and riverine resource orientations. Sites 41GM111 and 41GM115 appear to represent campsites which are similarly associated with the creek but are more strongly oriented toward the valley wall resource area. The available data from site 41GM110, situated within the upper portion of the valley wall, are not sufficient to characterize the nature of the occupation.

Area L

The final descriptive area recognized within the Millican Transect Area includes the portion of the left valley wall of Rocky Creek which is at the far eastern end of the transect area. As noted above, the separation of Areas K and L is arbitrary. The boundary with the valley floor of Rocky Creek is real and generally distinct. Major portions of Area L were not included within the terrain survey.

Approximately half of Area L has been cleared of trees and shrubs. Vegetation consists of a dense ground cover of grasses. Uncleared areas support dense stands of woodland tree species and in most instances a dense understory of shrubs. Cleared portions of the area have also been subject to intensive modern land use which includes improved and unimproved road, fence, building and airstrip construction. Tree root bioturbation, rodent activity and erosion are widespread but only locally severe or intensive.

Area L was surveyed using systematic transects which were spaced at 20- to 50-meter intervals. Ground surface visibility was generally good due to the numerous disturbances noted during transect coverage.

Two prehistoric archeological sites, 41GM86 and 41GM87, and three historic sites, 41GM107 through 41GM109, were identified during the present survey. Prehistoric site 41GM86 is small (20x20 meters) and contains thinly distributed, buried cultural materials. The site, situated on a ridgecrest above the valley floor of Rocky Creek, is exposed in the bed of an unimproved road. Observed cultural materials are contained within a shallow depth of sandy soil and include debitage flakes, cores and pieces of worked petrified wood. The site has been adversely affected by land clearing, road construction, cattle movement and sheet erosion. This site is felt to represent a lithic resource procurement and processing area associated with Rocky Creek. A valley wall resource orientation is suggested. Prehistoric site 41GM87 consists of a single cortex flake noted in a questionable context.

Historic sites identified within Area L represent housesites. The sites are small (maximum dimensions of 5 to 60 meters) and primarily surficial in nature. Sites 41GM107 and 41GM108 have been severely disturbed by land-clearing activities and subsequent erosion. Unshaped sandstone blocks which apparently represent the remains of foundations and/or chimneys were noted in addition to manganese-bleached and other bottle glass, earthenware ceramics and (at site 41GM107) farm equipment. The surface features noted at site 41GM109, which appears to be relatively intact, include vertical wooden posts and tree stumps which formed the house foundation, chimney rubble, a well and flowerbeds. The artifactual materials include bottle glass, manganese-bleached pressed glass, a stoneware crock, a machinemade brick, sheet metal, a clothes iron (sad iron) and an enameled tin pot. These historic sites appear to represent house and ranching complexes associated with Rocky Creek. A valley wall resource orientation and an early-twentieth-century occupation are suggested.

PREHISTORIC SITE ASSESSMENTS AND RECOMMENDATIONS

Prehistoric sites identified within the Millican Transect Area can be divided into 13 groups on the basis of their location relative to the defined environmental stratification and the physical and cultural characteristics of the sites. Prehistoric Groups IV, V, VI and VII delineate sites within descriptive Area E on the basis of their situation relative to the divisions within the profile of the valley wall of Millican Creek and apparent site activities. All of the sites identified, however, form a definite geographic clustering of prehistoric remains.

Group I

Group I includes sites 41BZ44 and 41BZ45 situated within the modern floodplain of the Navasota River in association with relict channels. The sites are buried, and cultural materials are contained within an unknown depth of loamy soil. The area containing these sites has apparently never been cleared and effects from modern land use appear to be minor. Tree root bioturbation and bank erosion are present but generally not severe; rodent activity is slight to absent due to the clay content of the soil. Sites occur on rapidly alluviating surfaces, and the potential for both vertical and horizontal context determination is good. The cultural materials present, although thinly distributed, include temporally and culturally diagnostic artifacts.

In general, these sites appear to have a high information yield potential relative to the occupation and use of the riverine environment associated with the Navasota River. Group I sites also have the greatest potential for determining the area-specific cultural sequence and temporally specific artifact assemblages and resource strategies within the transect area. The realization of this potential is primarily dependent upon the presence of recognizable stratigraphic separation of occupational components. Sites 41BZ44 and 41BZ45 appear to represent multiple activity areas, and both appear to warrant testing to determine the nature and context of buried cultural materials.

Group II

Sites 41GM93 and 41GM94, situated on outcrops of hard sandstone within the lower portion of the left valley wall of the Navasota River, comprise Group II. These sites are small and appear entirely surficial in nature. Although lateral displacement of artifacts by sheet erosion has undoubtedly occurred, the sites appear to be relatively intact and horizontal context is good. The cultural materials are limited to flake debitage which seems to be derived primarily from bifacial tool reduction. Sites 41GM93 and 41GM94 have a moderately high information yield potential concerning bifacial tool reduction strategies. However, this information is not felt to be of critical importance, and further work at this time does not appear to be scientifically productive.

Group III

Other archeological sites (41BZ41, 41GM91, 41GM92 and 41GM95) situated along the valley walls of the Navasota River comprise Group III identified within the Millican Transect Area. The sites are buried, and cultural materials are contained within all or part of generally shallow unconsolidated sandy soils overlying culturally sterile sandy or gravelly clay. Site 41BZ41 has been severely disturbed by road construction and erosion, and site 41GM92 by land clearing and intensive use. Significant portions of site 41GM91 and 41GM95 appear to be intact except for intensive rodent activity and minor tree root bioturbation. The sites occur on relatively stable surfaces which are subject to minor erosion and/or colluvial deposition. Vertical displacement of cultural materials is expected to have occurred due to the unconsolidated nature of the soil and the rodent activity, and vertical context is not expected to be good. Horizontal context, however, may be good within each site. The cultural materials are thinly distributed and are limited to undiagnostic flake debitage.

Sites within Group III appear to have a low to moderate information yield potential concerning the use of lower portions of the valley walls of the Navasota River. The realization of this potential is primarily dependent upon the presence of temporally diagnostic artifacts representing single occupational episodes as well as artifacts and materials which are more culturally diagnostic. The sites apparently represent limited activity areas. All of these sites, except site 41BZ41, may warrant testing to determine the nature and context of buried cultural materials if specific questions concerning limited activities within the valley walls of the Navasota River are felt to be important. Further work at site 41BZ41 does not appear to be scientifically productive at this time.

Group IV

Group IV consists of sites 41BZ48, 41BZ49, 41BZ56 and 41BZ57 which are situated within the lower portions of the valley wall. The sites are buried, and cultural materials are contained within an unknown but probably shallow depth of sandy soil. Each area has been adversely affected by land-clearing activities, unimproved road construction, rodent activity and minor erosion; however, portions of each site may be relatively intact. The sites occur on apparently stable surfaces which are subject to minor erosion. Vertical displacement of cultural materials is expected to have occurred due to the loosely consolidated nature of the soil and rodent activities. Vertical context is not expected to be good. Horizontal context, although adversely affected by land clearing and modern use, may be good within portions of each site. Site 41BZ57 is extensive in size and includes a number of thinly distributed, culturally diagnostic artifacts and materials. The remaining sites within Group IV are small and contain thinly distributed and generally undiagnostic cultural materials.

Site 41BZ57 appears to have a high information yield potential, and the remaining sites a low information potential concerning the occupation and use of the lower portion of the valley walls of major tributary streams. The realization of this potential is primarily dependent upon the presence of temporally diagnostic artifacts which represent single occupations and/or the presence of artifacts and materials which are more culturally diagnostic. Site 41BZ57 appears to represent a campsite, and sites 41BZ48, 41BZ49 and 41BZ56 to represent limited activity areas. Testing to determine the nature and context of buried cultural materials appears to be warranted at site 41BZ57 and may be warranted at the remaining sites if specific questions concerning the limited use of this environmental situation arise subsequent to testing at the potentially more informative sites within this group.

Group V

Sites situated within the middle portion of the right valley wall of Millican Creek comprise Group V; these are sites 41BZ51, 41BZ52, 41BZ53 and 41BZ55. The sites are small to moderate in size, and buried cultural materials are contained within an unknown depth of sandy soil. Each site, with the exception of site 41BZ51, has been adversely affected by modern land use which may be locally severe. Portions of the sites, however, may be relatively intact. Adverse effects to site 41BZ51 appear to be limited to intensive rodent activity which, with minor erosion, has also affected other sites within this group. The sites occur on stable to slightly eroding surfaces, and vertical displacement of cultural materials is expected to have occurred due to the unconsolidated nature of the soil and rodent activities. Although good vertical context is not expected, the horizontal context of portions of the sites may be good. Lithic debitage, which is generally limited to flakes, was noted at each of the sites; in addition, site 41BZ52 contains cores. Burned rocks were noted at sites 41BZ51 and 41BZ53. Lithic tools were identified at each of the sites except 41BZ51.

Sites within Group V appear to have a moderately high information yield potential concerning the use of the middle portion of the valley walls of Millican Creek. The realization of this potential is primarily dependent upon the presence of temporally diagnostic tools which represent single occupational episodes. Sites 41BZ51 and 41BZ53 are felt to represent campsites associated with Millican Creek, and sites 41BZ52 and 41BZ55 represent similarly associated multiple activity areas. Of these sites, only 41BZ55 appears to definitely warrant testing to determine the nature and context of buried cultural materials. The remaining sites may warrant testing dependent upon the results of testing at site 41BZ55.

Group VI

Prehistoric site Group VI includes sites 41BZ9 and 41BZ54 situated within the upper portion of the right valley wall of Millican Creek. The sites represent exposures of buried cultural materials that are small to moderate in size and are contained within shallow sandy soil. The sites have been adversely affected by land clearing, intensive land

use, rodent activity and minor erosion. The sites occur on stable surfaces, and vertical displacement of cultural materials is expected to have occurred due to the unconsolidated sandy soil and rodent activities. Vertical context is not expected to be good, and the potential for good horizontal context is limited by the intensive use of the area during modern times. Cultural materials observed are limited primarily to lithic debitage flakes, although a few burned rocks were noted at site 41BZ54.

Sites within this group appear to have a low to moderate information yield potential concerning the use of the upper portion of the valley walls of Millican Creek. The realization of this potential is dependent upon the presence of temporally diagnostic artifacts which represent single occupations and include artifacts and materials which are more culturally diagnostic. Site 41BZ54 is felt to represent a campsite, while site 41BZ9 represents a limited activity area. Of these sites, 41BZ54 may warrant testing to determine the nature and context of buried cultural materials if specific questions concerning the use of the upper valley wall of major lateral tributary streams arise as a result of initial testing of other site groups. Further scientific work at site 41BZ9 does not appear to be productive at this time.

Group VII

Sites 41BZ47 and 41BZ50 which comprise Group VII are also situated within the upper portion of the right valley wall of Millican Creek. The sites are small to moderate in size and contain cultural materials which occur surficially on hard sandstone and gravelly bedrock. Site 41BZ47 appears to be relatively intact although sheet erosion has probably resulted in limited artifact displacement. Site 41BZ50 has been severely disturbed by gully and sheet erosion. Cultural materials noted are generally limited to lithic resource procurement and processing debris although site 41BZ47 contained a number of interesting pieces of petrified wood which are tentatively identified as tools.

Sites within Group VII appear to have a low to moderate information yield potential concerning lithic resource procurement and processing within the upper portion of the valley walls of Millican Creek. The realization of this potential is primarily dependent upon the development of meaningful collection and analysis procedures for this kind of remains. Site 41BZ47 may warrant systematic surface collection. Further work does not appear to be warranted at site 41BZ50.

Group VIII

Group VIII includes sites 41BZ39, 41BZ40 and 41BZ42 situated within the lower portions of the left valley wall of Millican Creek, which is composed of Quaternary fluviatile terrace deposits, and site 41BZ43 which is included to facilitate description. Site 41BZ43 is situated within the lower portion of the right valley wall of the creek and is small in size. The cultural materials present are limited to interior flake debitage contained within an unknown depth of sandy soil. The site area, adversely affected by land clearing and minor erosion but

otherwise relatively intact, occurs on a stable surface. Some vertical displacement of cultural materials may be expected. This limited activity area appears to have a low information yield potential concerning the use of the lower portion of the valley wall of Millican Creek. The realization of this potential is dependent upon the presence of temporally and culturally diagnostic artifacts and other materials. Testing to determine the nature and context of buried cultural materials may be warranted if specific questions concerning limited use of this situation arise.

Sites 41BZ39, 41BZ40 and 41BZ42 are small to moderate in size and cultural materials are contained within an unknown depth of sandy soil. The area containing these sites has been cleared of trees and shrubs. In addition, this area has been adversely affected by intensive rodent activity. The sites occur on stable surfaces and vertical displacement of cultural materials is expected because of the unconsolidated nature of the soil and rodent disturbances. Vertical context is not expected to be good for these reasons, although good horizontal context may be present. The cultural materials include lithic and other tools and burned rocks at sites 41BZ40 and 41BZ42, and lithic debitage was noted at all three sites.

These sites appear to have a moderate to high information yield potential concerning the use of the valley walls of Millican Creek. The realization of this potential is primarily dependent upon the presence of temporally diagnostic artifacts which represent a single occupational episode. Sites 41BZ40 and 41BZ42 are felt to represent campsite association with Millican Creek and appear to warrant testing to determine the nature and context of buried cultural materials. Similar testing at site 41BZ39 may be warranted dependent upon the results of testing at the more promising sites within this group.

Group IX

Group IX sites identified within the Millican Transect Area include sites 41GM14, 41GM88 and 41GM89 which are situated on isolated bedrock knolls within the valley floor of Rocky Creek. Sites range in size from isolated finds to moderately extensive exposures. Cultural materials are contained within at least 20 centimeters of unconsolidated sandy soil. The sites appear to be relatively intact except for intensive rodent activity. Sites occur on stable surfaces, and the vertical displacement of cultural materials is expected to have occurred due to the unconsolidated nature of the soil and the rodent activities. Sites 41GM14 and 41GM89 are isolated debitage flakes; site 41GM88 contains partially reduced bifaces in addition to other lithic debitage.

The available data are not sufficient to provide an indication of information yield potential although the cultural materials may indicate a low to moderate potential concerning the use of isolated features within the valley floor of Rocky Creek. The realization of this potential is dependent upon the presence of artifacts and other materials which are more temporally and culturally diagnostic. Testing to determine the nature and context of buried cultural materials may be

warranted at the sites within Group IX if specific questions concerning the use of the valley floor of major lateral tributary streams arise as a result of initial testing of sites within other prehistoric groups.

Group X

Sites 41GM100, 41GM101 and 41GM104 through 41GM106 comprise Group X; they are situated within the left valley wall of Rocky Creek on a series of ridgecrests immediately above the modern floodplain. The sites are buried and cultural materials are contained within at least 20 centimeters of sandy soil which overlies culturally sterile clay. The sites appear to be relatively intact except for rodent activity and minor erosion. The sites are on stable surfaces, and vertical displacement of cultural materials is expected to have occurred due to the nature of the soil and rodent activities. Consequently, vertical context is not expected to be good; horizontal context, on the other hand, appears to be good. Cultural materials present are relatively densely distributed at sites 41GM100 and 41GM101, although thinly distributed elsewhere. Except for site 41GM105 which is an isolated projectile point, the sites within Group X contain a variety of cultural materials which include both temporally and culturally diagnostic artifacts and materials.

In general, these sites appear to have a moderate to high information yield potential concerning the occupation and use of the valley walls of Rocky Creek. The realization of this potential is primarily dependent upon the presence of single occupational components. The possibility of an early Archaic occupation at site 41GM100 is particularly significant. Except for site 41GM105, the sites are felt to represent multiple activity areas. Of the sites within this group, 41GM100 and 41GM101 appear to warrant testing to determine the nature and context of buried cultural materials. Similar testing may be warranted at the remaining sites depending on the results of testing at the larger and more densely distributed sites within Group X.

Group XI

Other sites within the left valley wall of Rocky Creek comprise Group XI; these are sites 41GM96 through 41GM98 and previously recorded sites 41GM12, 41GM19 and 41GM20. These sites are situated on sand-covered rises within a portion of the valley wall which is otherwise dominated by clayey surface soil layers. The previously recorded sites are situated immediately above the creek floodplain, while the newly identified sites occur within the upper portion of the valley wall. The sites are buried, and cultural materials are contained with an unknown depth of sandy soil. Except for site 41GM20, the sites have been disturbed by land clearing, intensive land use and by rodent activities. The effects of modern land use on site 41GM20 are apparently minor. The sites are on stable surfaces, and relative vertical displacement of cultural materials due to the unconsolidated nature of the soil and rodent activities is expected to have disturbed the vertical context of the buried materials. Horizontal context, however, may be good. Site

41GM20 contains a variety of materials, including some which are culturally diagnostic. The materials at the remaining sites are limited in nature, although an arrow point was noted at site 41GM98.

In general, sites within Group XI have a low to moderate information yield potential concerning the use of the valley walls of Rocky Creek. The realization of this potential is primarily dependent upon the presence of temporally diagnostic artifacts which represent a single occupation and of artifacts and other materials which are more culturally diagnostic. Site 41GM20 is felt to represent a multiple activity area, and sites 41GM96 and 41GM97 are isolated finds. Sites 41GM14, 41GM19 and 41GM98 are felt to represent limited activity areas. Of these sites, testing to determine the nature and context of buried cultural materials appears to be warranted at site 41GM20 and may be warranted at sites 41GM14, 41GM19 and 41GM98. Further work at sites 41GM96 and 41GM97 is not felt to be scientifically productive at this time.

Group XII

Group XII includes sites 41GM111 and 41GM115 situated within the left valley wall of Rocky Creek. The sites are buried, and cultural materials are contained within an unknown depth of sandy soil. Although portions of each site have been severely disturbed by modern land-use activities and erosion, portions of each site may be relatively intact. The sites are on stable to eroding surfaces, and relative vertical displacement of cultural materials within the unconsolidated soil is expected. Although vertical context is not expected to be good on that basis, horizontal context within portions of the sites may be good. The cultural materials include a variety of culturally diagnostic artifacts and other materials.

Sites within Group XII appear to have a moderate to high information yield potential concerning the occupation and use of the valley walls of Rocky Creek. The realization of this potential is primarily dependent upon the presence of temporally diagnostic artifacts which represent single occupational episodes. Sites 41GM111 and 41GM115 are felt to represent campsites and to warrant testing to determine the nature and context of buried cultural materials.

Group XIII

Other sites within the left valley wall of Rocky Creek which are located near the eastern end of the transect area comprise prehistoric Group XIII; these are sites 41GM86, 41GM87, 41GM110 and 41GM112 through 41GM114. Sites 41GM87 and 41GM110 are isolated finds and sites 41GM86 and 41GM113 are surficial in nature. Sites 41GM112 and 41GM114 are buried. Cultural materials are contained within an unknown but probably shallow depth of sandy soil. Portions of each site have been adversely affected by land clearing and intensive modern land use. The sites occur on stable to eroding surfaces, and vertical mixing of cultural materials is expected. Although good vertical context is not expected, horizontal context within portions of each site may be good. Cultural materials are generally limited to undiagnostic lithic debitage.

In general, sites within this group have a low to moderate information yield potential concerning the use of the valley walls of Rocky Creek. The realization of this potential is dependent upon the presence of temporally diagnostic artifacts which may represent a single occupation and of artifacts and other materials which are more culturally diagnostic. Sites 41GM87 and 41GM110 are isolated finds; site 41GM86 is felt to represent a lithic resource procurement and processing area. The remaining sites appear to represent limited activity areas. Of these sites, testing to determine the nature and context of buried cultural materials may be warranted at sites 41GM112 and 41GM114 and surface collection may be warranted at site 41GM86. Further work at sites 41GM87, 41GM110 and 41GM113 does not appear to be scientifically productive at this time.

HISTORIC SITE ASSESSMENTS AND RECOMMENDATIONS

Four groups of historic archeological sites are recognized within the Millican Transect Area.

Group I

Sites 41GM90 and 41GM98 which represent the remains of single housesites comprise Group I of the historic sites. The sites are apparently associated with Rocky Creek and represent the use of the valley wall environmental area for residence and ranching and/or farming activities. Site 41GM90 is primarily surficial in nature, and the structural and artifactual materials present have been severely disturbed by land-clearing activities. These include a variety of material types which are temporally and culturally diagnostic. An early-to-middle-twentieth-century occupation is suggested. Despite the severity of disturbances to the site area, the apparent density and variety of cultural materials present may provide significant information concerning sites of this kind. Surface artifact collection and/or testing to determine the presence of buried cultural materials may be warranted.

Site 41GM98 is small and contains shallowly buried and thinly distributed cultural materials which have been severely disturbed by land clearing and rodent activity. These materials, however, include a variety of types which are generally diagnostic. The presence of cut nails may indicate a late-nineteenth-century occupation which is the earliest date identified during the present survey within all four transect areas. It is primarily on this basis that testing to determine the age, nature and context of buried cultural materials appears to be warranted.

Group II

Group II is comprised of sites 41BZ46 and 41GM103 which are isolated wells. Although these wells are essentially intact, their information yield potential is not considered to be high except as a possible indication of housesite locations which have otherwise been obliterated. The well which comprises site 41GM103 may be associated with housesite

41GM98. No further work appears to be warranted at sites within historic Group II.

Group III

Historic sites Group III is represented by two clusters of historic remains and/or sites; these are sites 41GM99 and 41GM102 and sites 41GM107 through 41GM109. Both site clusters are associated with Rocky Creek and occur within the lower portion of the creek's left valley wall. Both are primarily surficial in nature. Sites 41GM99 and 41GM109 appear to be relatively intact while the remaining sites have been severely disturbed, primarily by modern land-use activities. Surface features were noted at each of the sites, and a variety of cultural materials was noted at each site except 41GM102. The major portion of site 41GM102 appears to represent a construction or maintenance camp associated with an abandoned railroad. The remaining sites appear to represent the locations of residences, farming and/or ranching activities. Research into the background of each site cluster appears to be warranted. Testing to determine the presence of buried cultural materials may be warranted at sites 41GM99, 41GM102 and 41GM109. No further work appears to be justified at the remaining sites within this group.

Group IV

The Little Flock Cemetery, 41GM116, described in Appendix I of this report, comprises Group IV of the Millican Transect Area historic sites. The cemetery should be preserved or moved intact.

FERGUSON #3 TRANSECT AREA

The Ferguson #3 Transect Area is located at rivermile 41.5, east central Brazos and west central Grimes counties, Texas. The transect area is 9.4 kilometers (5.9 miles) in length, 1.6 kilometers (1 mile) in maximum width, and oriented northwest to southeast. The approximately 3,150 acres included within the area boundaries have a maximum elevation of 290 feet MSL. A small tract near the western end and the eastern third of the transect area were not surveyed.

Figures provided for the Ferguson #3 Transect Area include:

(1) Figure 10, a detailed topographic map with the locations of sites investigated during the survey and of areas not surveyed;

(2) Figure 11, a summary of exposed geologic units adapted from the Geologic Atlas of Texas, Austin Sheet (Bureau of Economic Geology 1974); and

(3) Figure 12, an outline of the environmental strata and descriptive areas recognized within the transect area.

PREVIOUS INVESTIGATIONS

Portions of the Ferguson #3 Transect Area were apparently included within the area surveyed for the Millican Project by the Texas Archeological Survey (Sorrow and Cox 1973). That survey reported no sites within the transect limits. The valley floor of the Navasota River (Area A) may have been included (Texas Historical Commission, Project Files) as well as portions of the left valley wall (Area C) according to an area landowner (Harold Trant, personal communication, 1981). Relic hunting apparently has been limited to incidental collecting of surficially exposed artifacts.

ENVIRONMENTAL SETTING

The Ferguson #3 Transect Area includes portions of the Navasota River and Wickson Creek valleys in Brazos and Grimes counties, Texas.

Surface Geology

Surficially exposed geologic bedrock units within the transect area consist of the Eocene-age Yegua Formation which is composed primarily of sand, sandy clay and compacted clay. Exposures occur within the left valley wall of the Navasota River (Area C, Fig. 12) and within the lower portion of the right valley wall of Wickson Creek (Area F, Fig. 12). In the latter instance, a generally shallow sandy surface layer overlies a gravelly clay subsoil. The upper limits of the exposure of the Yegua Formation are higher than shown in Figure 11 due to modern gravel quarrying and subsequent erosion.

Geologic surface units which include both Quaternary fluviatile terrace deposits and alluvium are extensive within the area containing the transect. Quaternary alluvium occurs within the modern floodplain of the Navasota River (Area A, Fig. 12) and Wickson Creek (Area E, Fig. 12) where surface soil layers vary from clayey to sandy loams. The ridgecrest which separates the Navasota River and Wickson Creek (Areas B and D, Fig. 12) is composed of one kind of fluviatile terrace deposits (Qt) as is a small portion of the right valley wall of Wickson Creek (the far southeastern corner of Area F). The upper portion of the creek's right valley wall (Area F) consists of a second kind of terrace deposit (Qhg). Surface soil layers are universally sandy in nature; subsoils generally contain numerous gravels.

Area Streams

Although Area A containing the Navasota River was not investigated, features present on the USGS Reliance, Texas 7.5' topographic sheet provide an indication of river history and hydrology. The present stream course within the transect area is near the left valley wall. The majority of the central and right portions of the valley floor, however, contain relict features associated with the Flat Pond relict channel system which includes Flat Pond, Big Slough and Goon Fishhole Slough. A complex river history during prehistoric times is indicated.

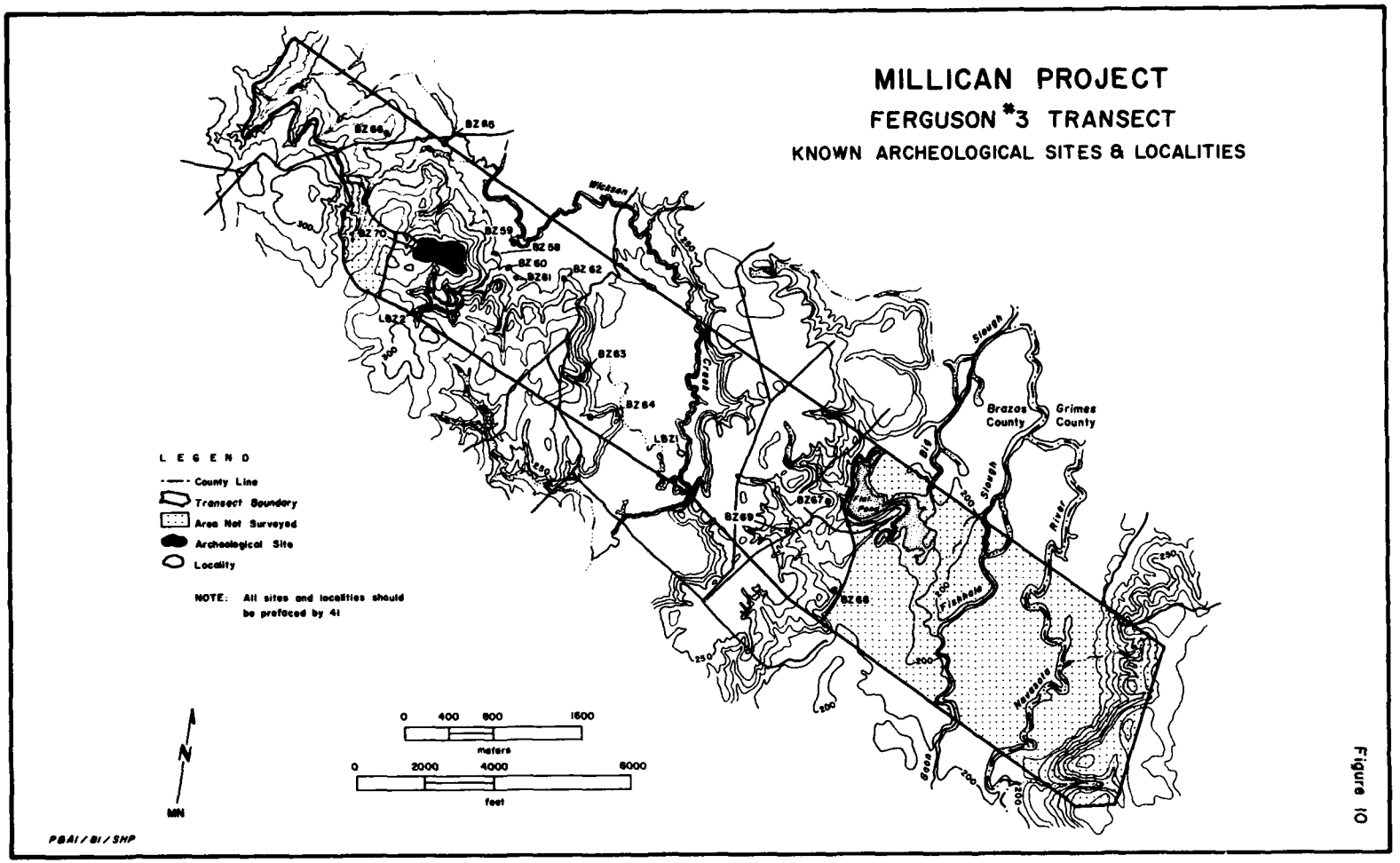

MILLICAN PROJECT
FERGUSON *3 TRANSECT
KNOWN ARCHEOLOGICAL SITES & LOCALITIES
LEGEND
County Line
Transect Boundary
Area Not Surveyed
Archeological Site
Locality
NOTE: All sites and localities should be prefaced by 41
BZ 65
BZ 66
BZ 70
BZ 59
BZ 58
BZ 60
BZ 61
BZ 62
LBZ 2
BZ 63
BZ 64
LBZ 1
BZ 67
BZ 68
BZ 69
Wickson
Creek
Slough
Brazos County
Grimes County
Fishhole
Navasota River
0 400 800 1600
meters
0 2000 4000 8000
feet
MN
PBAI/BI/SHP

Figure 10

A further indication of past channel movement is the bank which marks the boundary of the modern river floodplain (the boundary between Areas A and B).

Wickson Creek, which has its confluence with the Navasota River several kilometers south of the transect area, exhibits a similar, but less complex, history. Although the present channel is near the left valley wall, a clearly defined relict channel was noted near the right valley wall and other less distinct slough segments may indicate additional channel movement.

Topography

The Ferguson #3 Transect Area includes portions of the valley floor and walls of both the Navasota River and Wickson Creek and the margin of the upland divide between Wickson and Brushy creeks. The valley floor of the Navasota River (Area A), although primarily a featureless modern floodplain, contains an area (around Flat Pond) where relief is broken by lakes and relict channels and other features. No low terraces of Quaternary alluvium were noted at the floodplain margin along the right valley wall of the river, although they may be present and obscured by colluvial redeposition of earlier fluviatile terrace deposits. Topography within the valley floor of Wickson Creek (Area E), although of similarly low relief, contains low terrace remnants situated at margins with the valley walls and does not contain areas of undulating relief associated with relict features. Low-lying seasonally marshy areas were also noted.

Quaternary fluviatile terrace deposits form a relatively prominent ridge (Areas B and D) which separates the modern floodplains of the Navasota River and Wickson Creek. The ridgecrest (Area D) is essentially flat and elevated 45 feet above the stream floors. The creek-facing slope (Area D) is on an outside meander curve and is short and relatively steep. The river-facing slope (Area B) is broad and gently sloping; slope drainage development and dissection have resulted in a gently undulating topography which consists of flattish ridgecrests and isolated sandy rises. The lower boundary of these deposits with the river floodplain is marked by a short (1-meter) bank.

The greatest relative relief within the transect area is provided by the bedrock valley walls of the Navasota River (Area C) and Wickson Creek (Area F). The transect includes the tops of upland flattish ridgecrests which occur at the margin of the summit 80 feet (24 meters) above Wickson Creek, as well as the valley wall which is steeply sloping and moderately dissected (Area F). Both relatively broad ridgecrests and isolated rises occur within the slope.

Springs

Although no spring activity was noted within the Ferguson #3 Transect Area, marshy areas (Area E) and a large lake (Area A) may indicate the presence of seep springs. An artesian well is mapped near the left

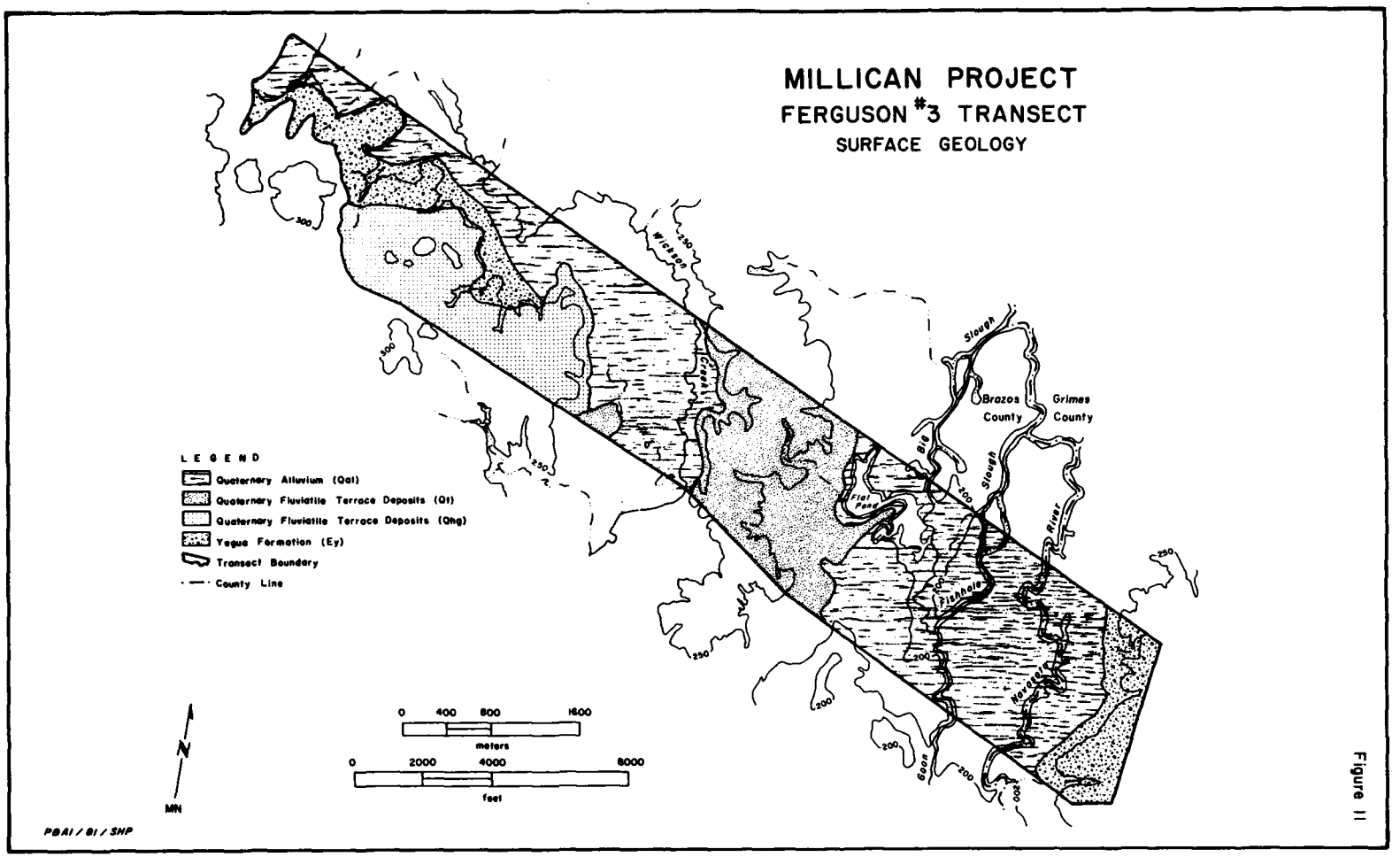

MILLICAN PROJECT
FERGUSON #3 TRANSECT
SURFACE GEOLOGY
LEGEND
Quaternary Alluvium (Qal)
Quaternary Fluviatile Terrace Deposits (Qt)
Quaternary Fluviatile Terrace Deposits (Qhg)
Yegua Formation (Ey)
Transect Boundary
County Line
Brazos County
Grimes County
Wickson Creek
Slough
Big Slough
Flat Pond
Fishhole
Navasota River
Goose
0 400 800 1600
meters
0 2000 4000 8000
feet
MN
PBAI / BI / SHP

Figure 11

valley wall of the Navasota River on the Reliance, Texas USGS 7.5' topographic sheet; however, this area was not investigated during the survey.

Environmental Stratification

The environmental strata recognized within the Ferguson #3 Transect Area and their relationship to the descriptive areas used for this report are summarized below in Table 3.

TABLE 3

ENVIRONMENTAL STRATA
FERGUSON #3 TRANSECT AREA

Navasota River, valley floor	
undifferentiated	Area A
Navasota River, valley wall	
Quaternary fluviatile terrace deposits	Area B
bedrock	Area C
Stream divide	
Quaternary fluviatile terrace deposits	Area D
Millican Creek, valley floor	
modern floodplain, featureless	Area E
low alluvial terrace	Area E
Millican Creek, valley wall	
primarily bedrock	Area F
Quaternary fluviatile terrace deposits	Area D

AREA DESCRIPTIONS

Area A

Area A of the Ferguson #3 Transect Area, which consists of the modern floodplain of the Navasota River, was not surveyed due to lack of access. The area can be provisionally subdivided into portions which contain relict features of the river and portions which are generally featureless. The present channel of the river would probably be included within the latter area. Area boundaries are real and the boundary with the left valley wall (Area C) is distinct; the boundary with the right valley wall (Area B) is generally distinct although it is obscured by colluvial deposition in some areas.

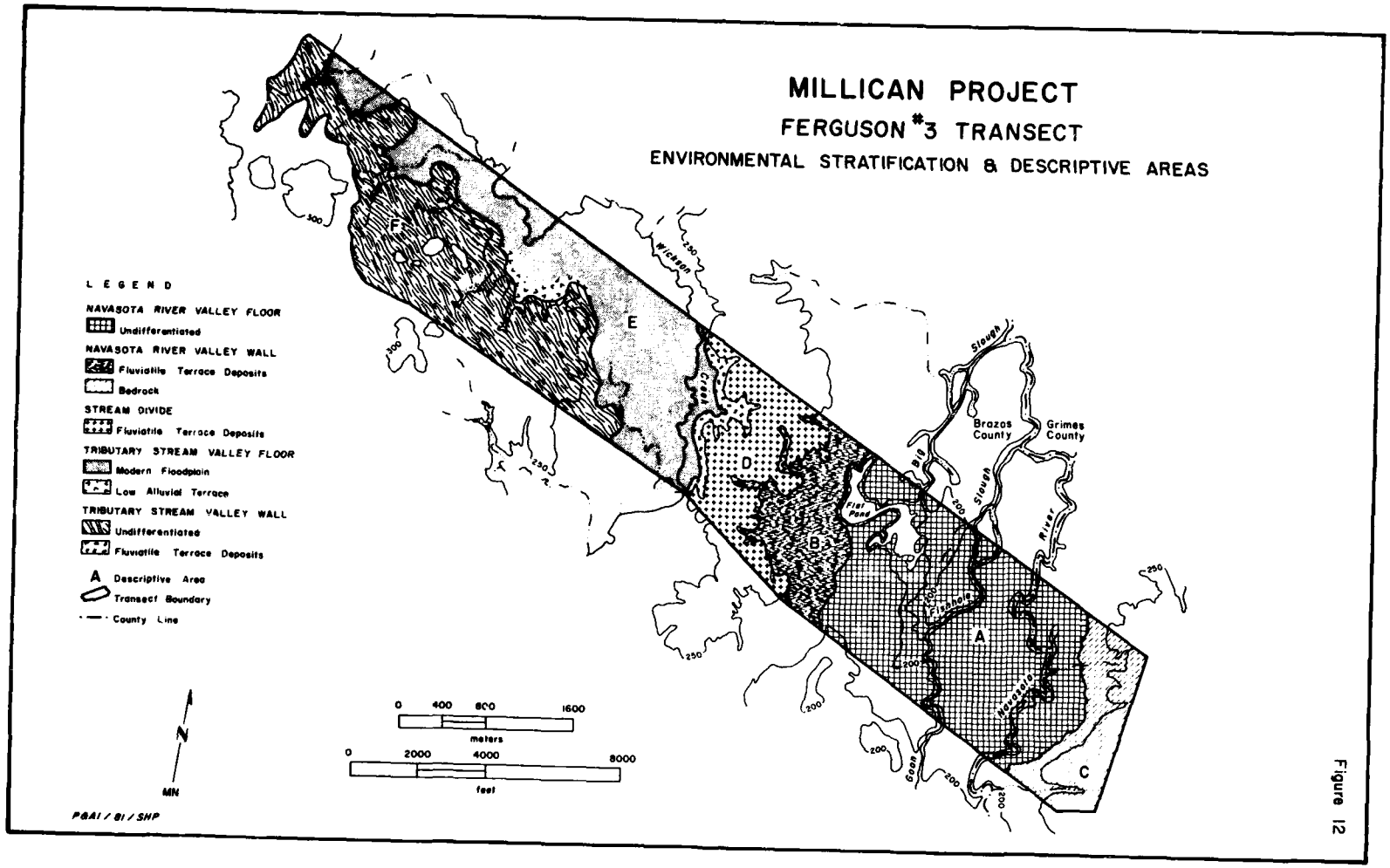
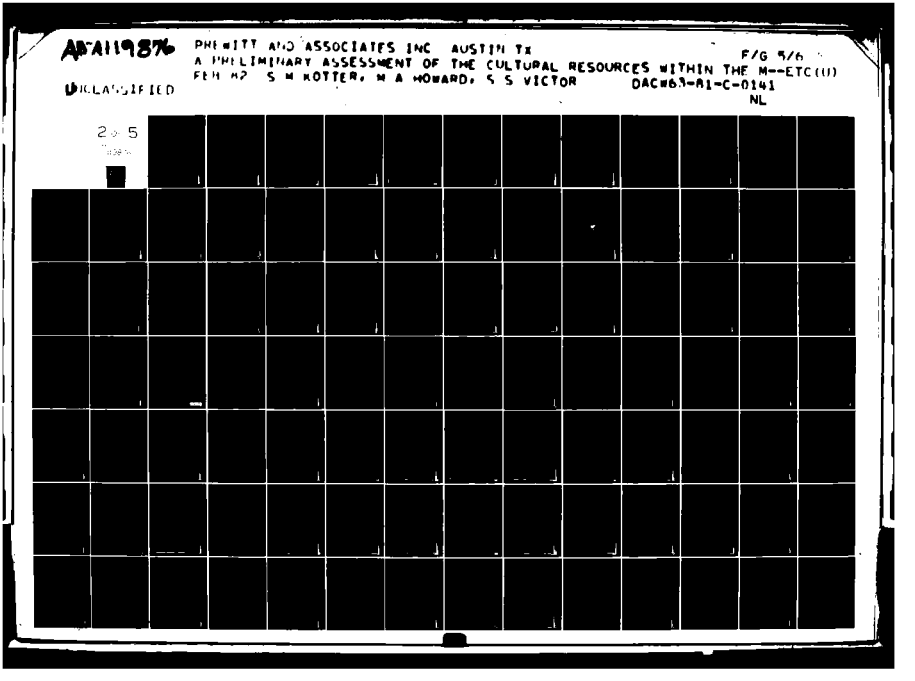

MILLICAN PROJECT
FERGUSON #3 TRANSECT
ENVIRONMENTAL STRATIFICATION & DESCRIPTIVE AREAS
LEGEND
NAVASOTA RIVER VALLEY FLOOR
Undifferentiated
NAVASOTA RIVER VALLEY WALL
Fluviatile Terrace Deposits
Bedrock
STREAM DIVIDE
Fluviatile Terrace Deposits
TRIBUTARY STREAM VALLEY FLOOR
Modern Floodplain
Low Alluvial Terrace
TRIBUTARY STREAM VALLEY WALL
Undifferentiated
Fluviatile Terrace Deposits
A Descriptive Area
Transect Boundary
County Line
0 400 800 1600
meters
0 2000 4000 8000
feet
N
MN
PGAI / BI / SHP
Brazos County
Grimes County
Wickson
Slough
Big
Slough
River
Fish Pond
Fishbowl
Buckeye
Goose
A
B
C
D
E
F

Figure 12

AD-A119 876 PREWITT AND ASSOCIATES INC AUSTIN TX F/G 5/6
A PRELIMINARY ASSESSMENT OF THE CULTURAL RESOURCES WITHIN THE M--ETC(U)
FEB 82 S M KOTTER, M A HOWARD, S S VICTOR DAC#63-81-C-0141
UNCLASSIFIED NL



Except for an area surrounding Flat Pond, the modern floodplain has apparently never been cleared and vegetation consists primarily of hardwood forest species. Cleared areas support a dense ground cover of grasses and forbs. Adverse effects from modern land use in the floodplain area appear to be minimal, other than in the Flat Pond vicinity, which has been used for recreational purposes. Area soils are too clayey to support large rodent populations; however, the area is subject to tree root bioturbation.

Although Area A was not surveyed, field observations were made from the right valley wall of the Navasota River.

Area B

Area B is a portion of the right valley wall of the Navasota River which consists of Quaternary fluviatile terrace deposits. Area boundaries are real, and the upper boundary with the crest of the stream divide (Area D) is distinct. The lower boundary with the modern floodplain of the Navasota River (Area A), although generally distinct, is obscured by colluvial deposition in some areas.

The majority of the area has been cleared of shrubs and trees, and vegetation consists of introduced bermudagrass. Some pastures have been allowed to grow wild and support a variety of forbs in addition to grasses. Portions of the upper slope of the valley wall have not been cleared, and vegetation consists of woodland tree species and a dense shrub and vine understory. Except for land clearing, adverse effects from modern land use are limited to minor unimproved road, fence and house construction. Evidence of rodent activity is widespread and in most areas reflects large animal populations.

Area B of the Ferguson #3 Transect Area was surveyed using systematic transects spaced at 30-meter intervals. Although the dense ground cover limited archeological visibility over much of the area, visibility was good in certain areas due to the presence of extensive rodent activity and minor erosion.

Three prehistoric sites, 41BZ67, 41BZ68 and 41BZ69, were identified within Area B. Each site is small (maximum dimension of 50 meters), thinly distributed and situated on the crest of a small ridge within the right valley wall of the Navasota River. Cultural materials are contained within an unknown, but generally deep, depth of unconsolidated sandy soil and are exposed by minor erosion and/or in rodent spoil piles. Each site area has been adversely affected by land-clearing and rodent activities as well as by minor modern construction activities.

Sites 41BZ67 and 41BZ68, each consisting of debitage flakes and a unifacial tool, are situated immediately above the modern floodplain of the Navasota River. These sites apparently represent limited activity areas and are closely associated with riverine as well as valley wall resource areas. Site 41BZ69 contains burned rocks in addition to debitage flakes and is felt to represent a campsite closely associated with the valley wall since the site location is nearer the crest of the stream divide which separates the river from Wickson Creek.

Area C

Area C of the Ferguson #3 Transect Area consists of a portion of the left valley wall of the Navasota River. The area was not surveyed due to lack of access. Burials which were noted during gravel quarrying activities are reported from the sandy surface layer which covers many of the higher ridgecrests within this area (Harold Trant, personal communication, 1981).

Area D

Area D consists of portions of the ridgecrest which separates Wickson Creek and the Navasota River and the left valley wall of Wickson Creek, both of which are composed of Quaternary fluviatile terrace deposits. The valley wall is included since it is not extensive and is rather steep. Both portions of the area were surveyed as a unit. Boundaries with surrounding areas are real and distinct.

Within the western half of the ridgecrest and the left valley wall of Wickson Creek, vegetation consists of woodland tree species frequently accompanied by a dense understory of shrubs and vines. The majority of the eastern half of the ridgecrest has been cleared, and vegetation now consists of a dense ground cover of grasses and forbs. The eastern half which overlooks the Navasota River has also been adversely affected by modern land-use activities, primarily improved and unimproved road construction. Although the western half and slope have apparently been minimally affected by modern land use, possible historic land clearing and subsequent second growth of the woodland community cannot be eliminated. Rodent activity appears to be minor.

Area D of the Ferguson #3 Transect Area was surveyed using systematic transects spaced at 30- to 40-meter intervals. Archeological visibility was poor due to the density of understory vegetation and leaf litter.

No cultural resources were identified within Area D.

Area E

Area E of the Ferguson #3 Transect Area consists of a portion of the valley floor of Wickson Creek including a low terrace situated at the right floodplain margin and extensive portions of the modern floodplain. Area boundaries are real, but the distinction between valley floor and valley wall landforms often is not readily apparent, particularly along inside meander curves.

The major portion of the area is cleared, and vegetation consists of a dense ground cover of grasses or grasses and forbs. Other portions of the area are wooded and support either forest and/or woodland tree species depending on the situation of a particular area relative to the channel or valley wall of Wickson Creek. With the exception of land clearing, the effects of modern land use are minor and include unimproved road and fence construction and bulldozing. Area E has been

adversely affected by tree root bioturbation. Rodent populations are limited by the clayey consistency of the soil.

Specific survey methods used within the area include systematic transects and the intensive examination of specific physiographic features. The majority of the area was covered using systematic transects spaced at intervals which varied between 20 and 75 meters. The differing intensity of coverage is related primarily to limited ground surface visibility due to the density of ground cover. Archeological visibility was generally poor throughout the area. The banks of Wickson Creek and other areas of good ground surface visibility were intensively examined. Areas which were not surveyed include limited portions of wooded areas with an impenetrable understory and areas of standing water.

Six prehistoric archeological sites, 41BZ58 through 41BZ62 and 41BZ65, and one locality, L41BZ1, were identified within Area E. Two of the sites, 41BZ59 and 41BZ65, are situated within the modern floodplain of Wickson Creek. The sites are of unknown size (maximum area of exposure is 20 meters), thinly distributed and are situated on depositional features associated with the creek. Cultural materials are contained within an unknown depth of sandy loam and are exposed by bulldozing activity associated with modern land use. Except for these effects and possibly clearing, the sites appear to be relatively intact. Site 41BZ59 consists of interior flake debitage and a flake tool. Site 41BZ65 consists solely of interior flake debitage. The sites are felt to represent limited activity areas associated with Wickson Creek and its riverine environment.

Sites 41BZ58, 41BZ60, 41BZ61 and 41BZ62 are situated on a low terrace at the margin of the right valley floor. Each site is small (maximum dimension is 35 meters) and thinly distributed. Cultural materials are contained within all or part of at least 50 centimeters of sandy loam which overlies culturally sterile sandy clay and are exposed along the terrace margin by minor bank erosion. Except for this lateral erosion and possibly clearing, the sites appear to be relatively intact. Cultural materials are primarily limited to flakes and other lithic debitage, although a ceramic sherd was noted at site 41BZ58 and utilized flakes were noted at sites 41BZ61 and 41BZ62. The sites appear to represent limited activity areas associated with Wickson Creek and both riverine and valley wall resource areas. At least a Neoarchaic occupation is present at site 41BZ58.

A single locality, L41BZ1, was identified within Area E. The locality, consisting of the skeletal remains of a cow, was recorded to document the potentially rapid mineralization of bone within the project area.

Area F

Area F includes a portion of the right valley wall of Wickson Creek which is composed of both bedrock and Quaternary fluviatile terrace deposits. The boundary between these geologic units is not readily observable in the field. Boundaries with other areas, namely the valley

floor of Wickson Creek, are real although in some instances are indistinct due to colluvial deposition.

The majority of the area has never been cleared, and vegetation consists of woodland tree species and a generally dense understory of shrubs and vines. Cleared areas support a ground cover of grasses and forbs which varies from dense to sparse depending upon the degree of erosion present. Extensive portions of more elevated areas and limited portions of the lower valley wall have been severely disturbed by gravel quarrying activity. Minor disturbances from modern land use include unimproved and improved road construction and fenceline placement. Although soil layers in more elevated areas are too shallow to support large rodent populations, the evidence of such activity within lower portions of the area is widespread. Tree root bioturbation is also extensive.

Coverage of Area F of the Ferguson #3 Transect Area was primarily by systematic transects which were spaced at 20- to 50-meter intervals. Archeological visibility varied widely dependent primarily on erosion which is severe within the more sloping portions of the area. Ground surface visibility within other portions was generally poor.

Four archeological sites, 41BZ63, 41BZ64 and 41BZ70, which are prehistoric, and 41BZ66, which consists of both prehistoric and historic components, were identified within the area. Sites 41BZ63 and 41BZ64 are small, thinly distributed and appear to have been destroyed by bulldozing associated with gravel quarrying activities. Cultural materials are limited to lithic debitage, and the sites appear to represent limited activity areas associated with Wickson Creek. Valley wall, and possibly riverine, resource orientations are suggested. Site 41BZ70 consists of a single biface fragment noted in a disturbed context. Although the site cannot be characterized, cultural materials were apparently buried within a sandy surface layer which was removed during gravel quarrying activities. Valley wall and possibly upland resource orientations are suggested. Several burials representing individual interments were reportedly noted during the removal of the surface soil layer.

The prehistoric and historic components of site 41BZ66 are thinly distributed and have been severely disturbed by modern land-use activities and artifact collecting. The historic component appears to represent the remains of a house or other structure and consists of a scatter of machinemade bricks. The prehistoric component cannot be characterized on the available data. Both valley wall and riverine resource orientations are suggested.

The recorded locality, L41BZ2, is an extensive exposure of gravels which may represent a prehistoric lithic material source and has the potential to provide data relative to the kinds and relative frequencies of a variety of material types.

PREHISTORIC SITE ASSESSMENTS AND RECOMMENDATIONS

Prehistoric sites identified within the Ferguson #3 Transect Area can be divided into five groups on the basis of their location relative to the defined environmental stratification. Two localities were also identified.

Group I

Group I includes sites 41BZ67, 41BZ68 and 41BZ69 which are situated within the right valley wall of the Navasota River. Due to the lack of access to other portions of the river valley, these sites represent the only sites which can be associated with the river proper. The sites are buried, and cultural materials are contained within deep unconsolidated sandy soil which comprises the surface layer of Quaternary fluviatile terrace deposits. The area has been cleared of tree and shrub form vegetation and generally supports large rodent populations. Consequently, vertical mixing of the cultural materials present is expected to have obscured any cultural stratigraphy. The limited extent and apparent sparsity of cultural materials, however, may indicate single component occupations. The horizontal context of the sites, which is very important if single components are represented, may be relatively intact. Although the cultural materials are thinly distributed, unifacial tools and, in one instance, burned rocks were present which may provide data concerning site activities and function. The presence of temporally diagnostic artifacts is unknown.

The sites within Group I appear to have a moderate potential to provide data relative to the use of the valley wall of the Navasota River. Two of the sites, 41BZ67 and 41BZ68, may be associated with the valley floor and relict channels of the Flat Pond system. The activities conducted at these sites apparently are limited in both kind and intensity. Site 41BZ69, which contains burned rocks and apparently represents a campsite, is also of limited intensity or duration. Testing to determine the nature and context of sites within this group may be warranted if specific questions concerning the limited use of the valley wall of the Navasota River arise from the initial testing phase.

Group II

Group II consists of sites 41BZ59 and 41BZ65 which are situated within the modern floodplain of Wickson Creek. The sites are buried and are contained within sandy loam surface layers of depositional features associated with the creek. Although bulldozing has exposed the cultural materials and severely disturbed portions of both sites, the majority of the site areas appear relatively intact. Rodent activity is apparently minimal. The situation of the sites on rapidly alluviating surfaces increases the possibility that vertical stratigraphy may be present at the sites; the horizontal context of the sites is also expected to be good. The cultural materials present, however, are thinly distributed and generally undiagnostic although a unifacial tool was noted at site 41BZ59. Temporally diagnostic artifacts were not observed.

In general, Group II sites appear to have a high information yield potential relative to the occupation and use of the riverine environment associated with Wickson Creek. The realization of this potential is primarily dependent upon the presence of recognizable stratigraphic separation and of materials which are more culturally diagnostic, neither of which were noted during the present survey. The available data suggest the activities represented are limited in both kind and intensity. Of the two sites, only 41BZ59 appears to warrant testing to determine the nature and context of buried cultural materials. Testing of site 41BZ65 may be warranted if initial testing at site 41BZ59 is negative or if more data is needed to characterize the use of the modern floodplain of major lateral tributary streams.

Group III

Sites 41BZ58, 41BZ60, 41BZ61 and 41BZ62 comprise Group III identified within the Ferguson #3 Transect Area. The sites, situated on a series of low terraces below the right valley wall of Wickson Creek, are contained within at least 50 centimeters of sandy loam overlying culturally sterile clay. If the absence of trees and shrubs is a natural condition and not caused by land-clearing activities, the sites may be intact except for minor erosion along the bank of the terrace. Rodent activity appears to be minimal. Although the sites are situated on a once rapidly alluviating surface, subsequent vertical displacement within the loosely consolidated soil may have obscured any separation of cultural components. No living surface or other indications of vertical context were noted in the exposed bank profiles. The horizontal context of the sites is apparently good. The cultural materials are thinly distributed and generally undiagnostic; however, lithic tools were noted at sites 41BZ61 and 41BZ62. Temporally diagnostic artifacts are limited to a ceramic sherd collected from site 41BZ58.

Group III sites appear to have a moderate to high information yield potential relating to the use of major lateral tributary streams and low terraces which are in an ecotonal situation. In addition, the sites may have the highest potential of known sites within the transect to provide data concerning the local cultural sequence and/or temporally specific subsistence orientation and strategies. The activities conducted at the site are apparently limited in both kind and intensity. All of the sites, except 41BZ60, warrant testing to determine the nature and context of buried cultural materials. Site 41BZ60 is thinly distributed, but it may warrant testing depending on the results of initial testing at the other sites.

Group IV

Group IV includes 41BZ63 and 41BZ64 which are situated within the lower portion of the right valley wall of Wickson Creek. Both of the sites are apparently totally destroyed by gravel quarrying activities, and no further work is warranted. Similar sites, if relatively intact, would bear a similarity to those described above under Group I.

Group V

Group V consists of site 41BZ70 which is situated within the upper portion of the right valley wall of Wickson Creek. The site area, and a major portion of the higher ridgecrests within the area, have been severely disturbed by gravel quarrying activities. The nature of this site group cannot be characterized on the available data. No further work, however, appears to be warranted. The distinctive workmanship represented by the artifact which comprises the site and the reported presence of burials within the sandy surface layer which overlies the gravelly subsoil, however, may be significant.

HISTORIC SITE ASSESSMENTS AND RECOMMENDATIONS

Only one historic site was identified within the Ferguson #3 Transect Area. Site 41BZ66 is situated within a portion of the lower valley wall which extends into the modern floodplain of Wickson Creek. The site apparently represents the remains of a house or other structure and has been severely disturbed by modern land use, primarily land clearing. No further work appears to be warranted at site 41BZ66 at this time.

BUNDIC CROSSING TRANSECT AREA

The Bundic Crossing Transect Area, located at rivermile 73.0 in northeastern Brazos and west central Madison counties, Texas, is the proposed location of the Bundic Crossing Damsite on the Navasota Reservoir (Fig. 1). The transect area is 8.5 kilometers (5.3 miles) in length, 1.9 kilometers (1.2 miles) in maximum width, oriented northeast to southwest, has a maximum elevation of 320 feet MSL, and encompasses approximately 3000 acres. Only the eastern half of the transect area was included within the present survey.

Figures provided for the Bundic Crossing Transect Area include:

(1) Figure 13, a detailed topographic map with the locations of sites investigated during the survey;

(2) Figure 14, a summary of the exposed geologic units adapted from the Geologic Atlas of Texas, Austin Sheet (Bureau of Economic Geology 1974); and

(3) Figure 15, an outline of the environmental strata and descriptive areas recognized within the transect area.

PREVIOUS INVESTIGATIONS

No professional archeological investigations had been conducted within the Bundic Crossing Transect Area or the immediate vicinity prior to the present survey. Amateur investigations apparently have been

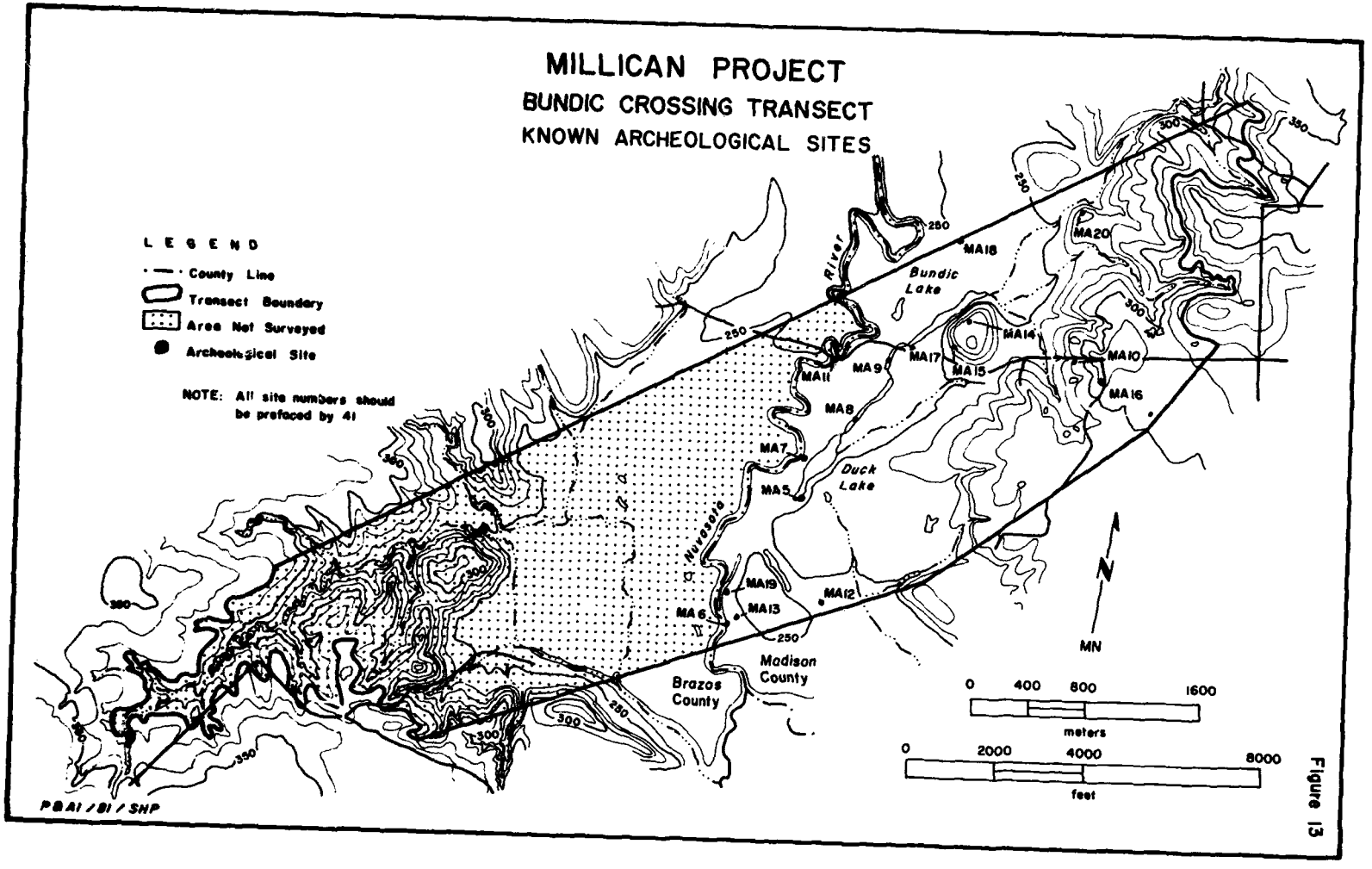

MILLICAN PROJECT
BUNDIC CROSSING TRANSECT
KNOWN ARCHEOLOGICAL SITES
LEGEND
County Line
Transect Boundary
Area Not Surveyed
Archeological Site
NOTE: All site numbers should be prefaced by 41
Bundic Lake
Duck Lake
Navasota River
MA5
MA6
MA7
MA8
MA9
MA10
MA11
MA12
MA13
MA14
MA15
MA16
MA17
MA18
MA19
MA20
Brazos County
Madison County
MN
0 400 800 1600
meters
0 2000 4000 8000
feet
PBAI/BI/SHP

Figure 13

limited to incidental surface collecting of artifacts by area landowners and residents.

ENVIRONMENTAL SETTING

The Bundic Crossing Transect Area is limited to portions of the Navasota River valley in Brazos and Madison counties, Texas.

Surface Geology

Surficially exposed geologic bedrock units within the transect area include the Eocene-age Cook Mountain subgroup and Yegua Formation. The Cook Mountain subgroup is composed of sands, clays and shales, and is exposed by drainage dissection within the right valley wall of the Navasota River (Area D, Fig. 15) and more elevated areas of the left valley wall (Area F, Fig. 15). Field observations limited to Area F noted sandy surface layers. The Yegua Formation, composed of sand, sandy clay and compacted clay, occurs within the middle portion of the left valley wall of the Navasota River (Area F). An extended profile exposed by road construction was recorded at site 41MA10. There the Yegua Formation consists of approximately 20 centimeters of tan sandy loam overlying 50 centimeters of reddish orange sand, 200 centimeters of sandy clay and an unknown depth of gravel within a clayey matrix.

Geologic surface units include both Quaternary alluvium and fluviatile terrace deposits. Quaternary alluvium occupies the valley floor of the Navasota River and includes both the modern floodplain (Areas A and B, Fig. 15) and low terraces at the valley floors margin with the left valley wall (Area C, Fig. 15). Soil surface layers vary from clayey loams and loams which occur within generally featureless portions of the modern floodplain (Area A) to sandy loams which occur on depositional features associated with relict channels (Area B) to loose sand which occurs on low terraces (Area C). Subsoils are universally sandy clays.

Quaternary fluviatile terrace deposits (Qhg) comprise the major portion of the right valley wall of the Navasota River (Area D) and (Qt) occur within the lower portion of the left valley wall (Area E, Fig. 15). In the latter instance, a gravelly subsoil noted in one area may be presumed to underlie the sandy surface layer.

Area Streams

Streams within the transect area are limited to the Navasota River. The boundary between Brazos and Madison counties follows the present course of the river which indicates that channel movement within historic times has been negligible. However, immediately below the transect area the river course has shifted during historic times to create Caney Island where the county boundary and the present river course do not correspond.

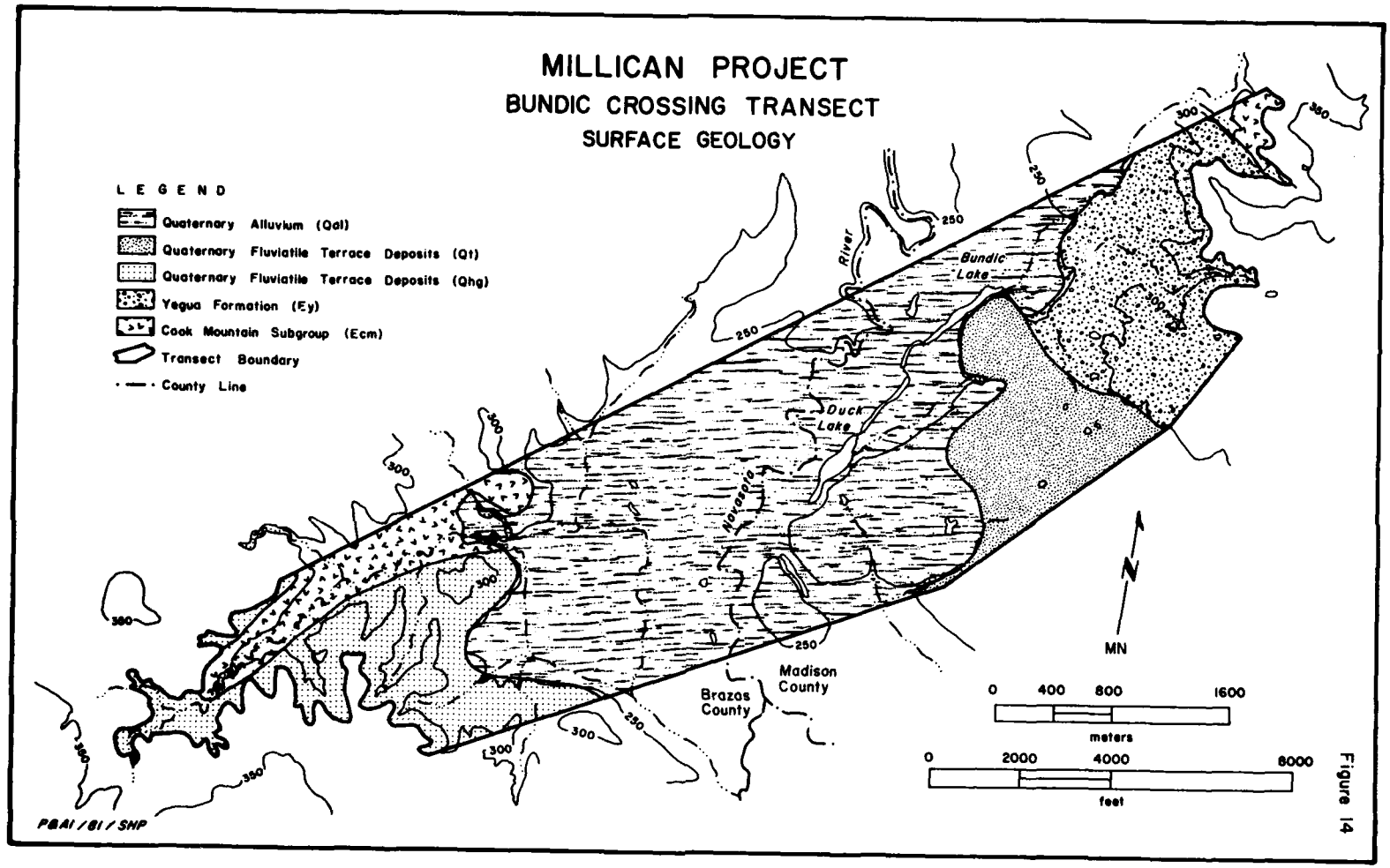

MILLICAN PROJECT
BUNDIC CROSSING TRANSECT
SURFACE GEOLOGY
LEGEND
Quaternary Alluvium (Qal)
Quaternary Fluviatile Terrace Deposits (Qt)
Quaternary Fluviatile Terrace Deposits (Qhg)
Yegua Formation (Ey)
Cook Mountain Subgroup (Ecm)
Transect Boundary
County Line
Bundic Lake
Duck Lake
Navasota River
Madison County
Brazos County
MN
0 400 800 1600
meters
0 2000 4000 8000
feet
P&A / BI / SHP

Figure 14

Evidence of similar radical changes during prehistoric times was observed during the present survey. A series of lakes and water-filled sloughs mark the location of a major prehistoric river channel which can be traced for several kilometers. The area surrounding the main channel contains numerous water-filled and dry sloughs which represent more moderate shifts in the course of the river. The main and auxiliary channels are included within the Long Hollow-Duck Lake relict channel system defined for the present survey. Although the portion of the valley floor above the right bank of the river was not investigated during the survey, the drainage pattern and the truncated nature of the lower margin of the valley wall indicate that additional river movement has occurred in this area. Similar indications along the lower margin of the left valley wall were noted during the survey.

Topography

The Bundic Crossing Transect Area includes portions of the valley floor of the Navasota River, both valley walls and the upland margin above the left valley wall. The major portion of the valley floor is a generally featureless modern floodplain (Area A). The area dominated by the Long Hollow-Duck Lake relict channel system where relief is broken by numerous lakes, sloughs and depositional features has a slightly undulating topography. Additional relief is provided by low terraces which tend to form distinct, extensive rises.

The valley walls of the Navasota River provide the greatest relief within the transect area. Quaternary fluviatile terrace deposits which dominate the lower portion of the left valley wall tend to form broad, relatively flat landforms and are dissected only along the lower margin (Area E). Similar deposits within the right valley wall and areas dominated by bedrock strata are more dissected and tend to form prominent ridgecrests at higher elevations (Areas D and F). Lower portions of these units often include small rises and small ridges which may have a benched appearance.

Springs

A spring was noted during the present survey near the southern boundary of the transect area in association with the present channel of the Navasota River. The source of the waters for this spring is unknown but may be in the Quaternary alluvium. A flowing well is shown on the Canary, Texas USGS 7.5' topographic sheet as being within the western half of the transect. The area was not investigated during the survey.

Environmental Stratification

The environmental strata recognized within the Bundic Crossing Transect Area and their relationship to the descriptive areas used for this report are summarized in Table 4.

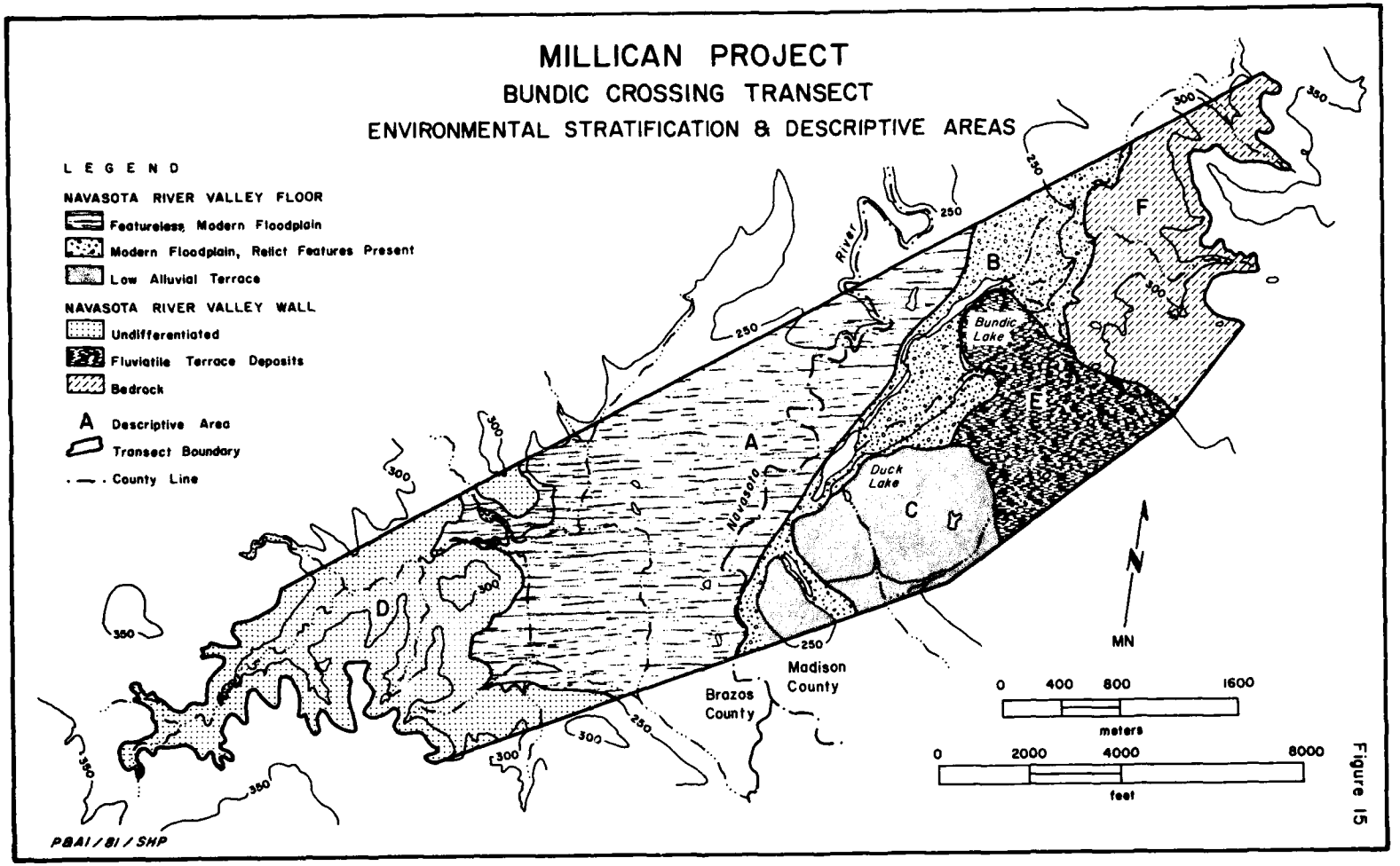

MILLICAN PROJECT
BUNDIC CROSSING TRANSECT
ENVIRONMENTAL STRATIFICATION & DESCRIPTIVE AREAS
LEGEND
NAVASOTA RIVER VALLEY FLOOR
Featureless, Modern Floodplain
Modern Floodplain, Relict Features Present
Low Alluvial Terrace
NAVASOTA RIVER VALLEY WALL
Undifferentiated
Fluviatile Terrace Deposits
Bedrock
A Descriptive Area
Transect Boundary
County Line
A
B
C
D
E
F
Bundic Lake
Duck Lake
Navasota River
Madison County
Brazos County
250
300
350
MN
0 400 800 1600
meters
0 2000 4000 8000
feet
PBAI/BI/SHP

Figure 15

TABLE 4

ENVIRONMENTAL STRATA
BUNDIC CROSSING TRANSECT AREA

Navasota River, valley floor	
modern floodplain, featureless	Area A
modern floodplain, relict features present	Area B
low terrace	Area C
Navasota River, valley wall	
undifferentiated	Area D
Quaternary fluviatile terrace deposits	Area E
bedrock	Area F

AREA DESCRIPTIONS

Area A

Area A of the Bundic Crossing Transect Area includes the modern floodplain of the Navasota River except the Long Hollow-Duck Lake relict channel system, an area arbitrarily isolated because of the numerous sites identified along its course. The majority of Area A was not surveyed due to lack of access, and the surveyed portion is limited to the left side of the river.

Most of the area examined has never been cleared, and vegetation consists of a hardwood forest which usually lacks an understory. Cleared portions of the area southeast of Duck Lake support a dense ground cover of grasses and waist-high forbs. (Although local residents refer to the lake as Twin Lake, it is designated as Duck Lake on the USGS map and will be referred to as such in this report.) Except for cleared areas, the adverse effects from modern land use appear to be limited to minor unimproved road and pipeline construction. Area soils are generally too clayey to support rodent populations, and natural disturbances appear to be limited to tree root bioturbation and minor bank erosion.

The pedestrian coverage of Area A utilized transects and intensive examination of specific physiographic features. The generally featureless floodplain was surveyed by transects spaced at intervals of 50 meters in cleared grass-covered areas and up to 100 meters in wooded areas. Sloughs encountered during the transects are primarily associated with the present river channel and were intensively examined, as was the left bank of the river itself. Archeological visibility within Area A was generally poor, and dense grass totally obscured the ground surface within cleared areas. The ground surface of densely wooded areas was primarily recent alluvium (drying cracks and crayfish activity were noted) which again totally obscured the previous ground surface. Areas of good archeological visibility were limited to the banks of the Navasota River and a few sloughs.

Two historic sites, 41MA7 and 41MA11, were identified within Area A of the Bundic Crossing Transect Area. Both sites represent the remains of bridges and consist of surface features without associated artifacts. Site 41MA7, structural remains of brick, metal reinforcements and asphalt, is across a water-filled slough near the present channel of the Navasota River and is without apparent association with existing roads. Site 41MA11 is the remains of Bundic Crossing which once connected roads on either side of the present river channel. The remains are fragmentary, consisting of wood pilings along one riverbank.

Area B

Area B includes the portion of the modern floodplain of the Navasota River which contains the Long Hollow-Duck Lake relict channel system. Although the boundary with other portions of the modern floodplain (Area A) is arbitrary, the separation of these areas reflects differences in the nature of the cultural resources present. Boundaries with low terraces (Area D) and the valley wall (Areas E and F) are real and generally distinct.

The majority of the area has never been cleared, and vegetation consists of a hardwood forest which grades into a mixed woodland with a dense shrub and vine understory. Cleared areas occur primarily southeast of Duck Lake and support communities of short grasses and forbs, both of which form dense ground covers. Except for land-clearing activities, effects of modern land use appear to be minimal. Rodent activity is generally absent due to the clay content of area soils. Natural disturbances apparently are limited to tree root bioturbation and minor bank erosion.

The main channel of the Long Hollow-Duck Creek relict channel and the isolated knoll which forms a portion of its right bank were intensively examined. The complex of sloughs which surrounds the main channel was examined as intensively as possible given the terrain and vegetation of the area. Archeological visibility was generally good along the eroding banks of most sloughs and the bottoms of dry sloughs which are devoid of vegetation. Other portions of Area B were similar to the featureless modern floodplain, and archeological visibility was generally poor.

Six prehistoric archeological sites, 41MA6, 41MA8, 41MA9, 41MA17, 41MA18 and 41MA19, were identified within Area B of the Bundic Crossing Transect Area. Two of these, 41MA6 and 41MA18, are isolated finds or have very thinly distributed materials and cannot be characterized. These sites, however, may be similar to the remaining sites which are described below. Each of the remaining sites is small (maximum dimension of 50 meters), thinly distributed and is situated along relict channels of the Long Hollow-Duck Lake system. Cultural materials, contained within at least 20 and up to over 100 centimeters of loamy to clayey loam soil, are exposed along the banks and within relict channels. The sites appear to be intact except for tree root bioturbation and minor bank erosion. Cultural materials noted include lithic debitage flakes and burned rocks and, in most instances, lithic tools. In

addition, lithic cores and a rock feature were noted at site 41MA19, a grinding stone at site 41MA9, and a projectile point at site 41MA8.

The Area B sites are felt to represent campsites which were closely associated with the channel of the Navasota River at the time of their occupation. A riverine resource orientation is suggested for each site, and at least a late Archaic occupation is indicated at site 41MA8.

Area C

Area C of the Bundic Crossing Transect Area isolates a low Quaternary alluvium terrace of the Navasota River. The area is divided into two portions by a channel of the Long Hollow-Duck Lake relict channel system (Area B). Area boundaries are real and generally distinct.

Approximately half of the area has been cleared, and vegetation consists of a dense ground cover of grasses and forbs. Other portions of the area support woodland tree species and a dense understory of shrubs and vines. In addition to land clearing, the area has been affected by minor unimproved road, fence and pipeline construction. Rodent activity is generally present, but the intensity of the activity varies greatly. Tree root bioturbation and minor bank erosion have also adversely affected the area.

Pedestrian coverage of Area C included both systematic and exploratory transects. Where possible, primarily within cleared areas, 50-meter-interval transects were used for systematic coverage. Archeological visibility was generally poor due to the density of the ground cover. More widely spaced (100-meter-interval) systematic transects and/or exploratory transects were used to sample wooded areas. The density of the understory generally limited more intensive coverage as well as archeological visibility, which was poor due to the presence of leaf litter.

Three archeological sites were identified within Area C: prehistoric sites 41MA5 and 41MA12 and historic site 41MA13. Site 41MA5 is a small (50x20 meters), thinly distributed site situated at the margin of a low terrace of the Navasota River; site 41MA12 is an isolated find. Cultural materials are contained within an unknown depth of unconsolidated sandy soil which overlies culturally sterile sandy clay. Materials are exposed in an unimproved roadbed, cowpaths and rodent spoil piles, and the sites are apparently relatively intact except for these disturbances. Site 41MA5 consists of cortex and interior debitage flakes, cores, a projectile point and burned rocks; site 41MA12 consists of an interior flake. Both sites are situated immediately above a relict channel of the Long Hollow-Duck Lake system. Site 41MA5 is felt to represent a campsite closely associated with a riverine environment but also oriented toward valley wall resources. At least a Neoarchaic occupation is apparently represented. The available data from site 41MA12 are not sufficient to characterize its occupation.

Historic site 41MA13, Ace's Camp, consists of a housesite and an associated scatter of historic cultural materials. The site is surficial and badly disturbed by land-clearing activities. The area has been reported (Bink Manning, personal communication, 1981) as the location of a subsistence camp occupied by a single person during the earlier portion of the twentieth century. Apparently the site is oriented toward a seep spring noted during the present survey and the exploitation of the riverine environment.

Area D

Area D, which consists of the right valley wall of the Navasota River, was not surveyed due to lack of access.

Area E

Area E includes the portion of the left valley wall which is dominated by surface exposures of Quaternary fluviatile terrace deposits and an isolated knoll which is within the modern floodplain of the Navasota River that is composed of similar deposits. The boundary with other portions of the valley wall (Area F) is based on mapped differences in surficially exposed geologic units rather than on clearly defined field observations. Other area boundaries are real and generally distinct.

The majority of the area, which includes gently sloping portions of the valley wall, has been cleared and vegetation consists of a usually dense ground cover of grasses. More sloping portions of the area and the major portion of the isolated knoll support woodland tree species with a dense shrub and vine understory. Cleared portions of the area apparently have been subject to intensive land use during much of this century and have been adversely affected by unimproved road, fence, pond and house construction in addition to land clearing and cultivation. Rodent activity is widespread and generally intensive. Wooded areas appear to be less affected by modern land use and rodent activity, although tree root bioturbation is extensive. Erosion is minor.

Coverage of Area E included both systematic and exploratory transects and intensive examinations of specific physiographic features. Cleared portions of the valley wall were surveyed using transects spaced at 50-meter intervals. The grass had recently been cut and ground surface visibility varied from poor to good depending on the number of rodent spoil piles present within a particular area. A number of unimproved roadbeds, fencelines and a pipeline right-of-way were intensively examined. Wooded areas of the valley wall were surveyed by a single one-person transect since more intensive coverage was limited by access into the dense brush. Archeological visibility was poor due to the presence of leaf litter. The isolated knoll was intensively examined; although visibility within wooded areas was poor, visibility was good within certain portions of cleared areas.

Two archeological sites were identified within Area E of the Bundic Crossing Transect Area, both of which are prehistoric and are situated on the isolated knoll within the floodplain of the Navasota River. Each

site is represented by a single interior debitage flake exposed by rodent activity within unconsolidated sandy soil. Given the confined nature of the isolated knoll and the proximity of these sites, the entire knoll probably represents a single occupational locus. Portions of the knoll have been cleared, but the sites appear to be relatively intact except for the effects of rodent burrowing. Although apparently the sites are associated with the Long Hollow-Duck Lake relict channel system and have riverine and valley wall resource orientations, the nature of the sites cannot be characterized on the basis of the available data.

Area F

Area F of the Bundic Crossing Transect Area includes the portion of the left valley wall of the Navasota River which consists of surficially exposed bedrock strata. The boundary with the valley floor of the Navasota River (Area B) is real and distinct; that with other portions of the valley wall (Area E) is based on distinctions for mapped geologic units rather than clearly defined field observations.

The portion of the area which is south of the road to Bundic Crossing has been cleared of trees and shrubs for some time, and current vegetation consists of a dense ground cover of grasses. This area has been subject to intensive modern land use and in some instances supports large rodent populations. Most of the remaining area has been recently cleared, and vegetation consists of a dense ground cover of grasses and forbs. Modern land-use activities within this area have been limited in the past; however, future use could be intensive.

Area F was covered using systematic transects spaced at 50-meter intervals. Archeological visibility was generally poor due to the dense ground cover, and the transects were used to locate areas of disturbances which were then intensively examined. Areas of good visibility included eroded drainage margins, a few rodent spoil piles, unimproved roadbeds and the edges of wooded areas.

Three archeological sites were identified during the present survey. Prehistoric sites 41MA10 and 41MA20 are isolated finds. Site 41MA10 is an isolated projectile point without apparent context but which may indicate the use of the upper portion of the valley wall of the Navasota River during late Archaic times. The isolated flake noted at site 41MA20 appears to represent a site rather than an isolated loss. Other cultural materials may be buried in an unknown depth of sandy soil. The occupation of the site cannot be characterized from the available data; however, both valley wall and riverine resource orientations are suggested.

Historic site 41MA16 is an existing house structure which may have been moved to its present location after construction and has been used as a hunting lodge (Bink Manning, personal communication 1981).

PREHISTORIC SITE ASSESSMENTS AND RECOMMENDATIONS

The prehistoric sites identified within the Bundic Crossing Transect Area can be divided into four groups on the basis of their location relative to the defined environmental stratification.

Group I

Group I sites situated within the modern floodplain of the Navasota River and associated with relict river channels include sites 41MA6, 41MA8, 41MA9 and 41MA17 through 41MA19. These sites are buried with cultural materials contained within from 50 to 100 centimeters or more of sandy loam which overlies culturally sterile sandy clay. The area containing the sites has never been cleared, is generally devoid of active rodent populations, and natural disturbances are limited to tree root bioturbation and minor bank erosion. The effects of modern land use are apparently minimal. Sites occur on rapidly alluviating depositional features, and there is good potential for vertical and horizontal context. The thinly distributed cultural materials include both temporally and culturally diagnostic artifacts and materials. A feature which appears to be intact was noted at site 41MA19, and the potential for additional features at this and other sites within Group I is good.

In general, Group I sites appear to have a high information yield potential relative to the occupation and use of the riverine environment of the Navasota River. The realization of this potential is primarily dependent upon the presence of recognizable stratigraphic separation of occupational components. Group I sites also have the greatest potential of sites identified within the transect area for determining the areal cultural sequence and to characterize temporally specific artifact assemblages and resource strategies. The sites represent campsites and a number of varied activities appear to be represented. Of these sites, all except 41MA6, 41MA8 and 41MA18 appear to warrant testing to determine the nature and context of buried cultural materials. Sites 41MA6, 41MA8 and 41MA18 may warrant testing depending upon the results of initial testing of the more densely distributed sites.

Group II

Sites 41MA5 and 41MA12, situated on the low alluvial terrace of the Navasota River, comprise Group II of the prehistoric sites. These are buried sites with cultural materials contained within an unknown depth of loosely consolidated sandy soil. With the exception of its lower margin, the terrace has apparently never been cleared and therefore is unaffected by modern land-use activity. The lower margin has been cleared and subjected to minor land improvements and recreational use. Natural disturbances include tree root bioturbation and, in limited areas, rodent activity and minor bank erosion. Although the sites are situated on once rapidly alluviating depositional features, subsequent vertical displacement and mixing may have occurred within the loosely consolidated soil. No evidence of intact vertical stratigraphy was noted during the survey, but horizontal context may be good. The cultural materials noted at site 41MA5 include both temporally and

culturally diagnostic artifacts and materials, and although site 41MA12 consists of a chert flake as an isolated find, other similar cultural materials may be present.

In general, sites within Group II have a moderate information yield potential concerning the use of low terraces which are in an ecotonal situation and associated with the Navasota River. These sites have a more limited potential relative to the area cultural sequence and subsistence strategies. The Group II sites apparently represent campsites where a variety of activities were conducted. Site 41MA5 appears to warrant testing to determine the nature and context of buried cultural materials. Testing at site 41MA12 may be warranted depending on the results of testing at site 41MA5.

Group III

Group III includes sites 41MA14, 41MA15 and 41MA20 which are situated on prominent knolls within the lower valley wall of the Navasota River. The sites are buried within an unknown depth of loosely consolidated sandy soil and are exposed in rodent spoil piles and other small disturbances. Portions of each of the site areas have been cleared and are subject to rodent activity. Except for clearing, the effects of modern land use appear to be minimal. Recognizable vertical stratigraphy is not expected due to the nature of the soil and to post-occupational artifact displacement and mixing. Each site is represented by a single lithic flake. Sites 41MA14 and 41MA15 appear to represent single occupational areas and/or episodes. No temporally and/or culturally diagnostic artifacts and materials were observed.

The character and information yield potential of this group of sites cannot be determined from the available data; however, similarly situated sites within the Lake Limestone area have a high research potential. The sites may provide significant information concerning the use of both valley wall and riverine resource areas associated with the Navasota River and more specifically the Long Hollow-Duck Lake relict channel system. Testing of one or more of these sites may be warranted if specific questions concerning sites within this situation arise as a result of initial testing in other areas.

Group IV

Site 41MA10 comprises Group IV of the prehistoric sites identified within the Bundic Crossing Transect Area. The site is an isolated projectile point noted in a disturbed context. Although the projectile point dates from the late Archaic period, the occupation cannot be characterized. No further work is warranted at this site.

HISTORIC SITE ASSESSMENTS AND RECOMMENDATIONS

Three groups of historic sites are recognized within the Bundic Crossing Transect Area.

Group I

Historic Group I includes sites 41MA7 and 41MA11 which are stream crossings associated with the present and relict channels of the Navasota River. The sites are apparently surficial consisting of fragmentary remains of bridges. Both sites appear to have moderate research potential for early transportation systems; however, no further fieldwork is warranted. Future archival research into the historical background and importance of these crossings may be desirable.

Group II

Site 41MA13 comprises Group II and consists of an historic housesite situated on a low terrace in association with the Navasota River. The site is apparently surficial; however, cultural materials may be shallowly buried in an unknown depth of loosely consolidated sandy soil. The site area has been cleared and bulldozed, removing any structural remains and disturbing the context of any remaining artifactual materials. Site 41MA13 apparently represents a single occupational period which can be assigned a specific date. Despite the disturbed nature of the site, moderate research potential exists concerning historic subsistence-oriented use of the riverine environment of this area of the Navasota River. Testing to determine the presence, nature and context of buried cultural materials seems warranted.

Group III

Group III consists of site 41MA16, an existing house structure situated within the upper portion of the valley wall of the Navasota River. This site apparently is entirely surficial and lacks associated artifactual remains. The area which surrounds the structure has been cleared and intensively used. The house appears to be recent and neither historically nor architecturally significant; therefore, no further work appears to be warranted.

CLEAR CREEK TRANSECT AREA

The Clear Creek Transect Area is located approximately 19 kilometers (12 miles) north of the Bundic Crossing Transect Area in east-central Robertson and west-central Leon counties, Texas (Fig. 1). The transect area is 6.4 kilometers (4 miles) in length, 1.6 kilometers (1 mile) in maximum width, and oriented northeast to southwest. The approximately 1,825 acres within the area have a maximum elevation of 320 feet MSL. All portions of the Clear Creek Transect Area were included in the terrain survey.

Figures provided for the Clear Creek Transect Area include:

(1) Figure 16, a detailed topographic map showing the locations of sites investigated during the survey;

(2) Figure 17, a summary of exposed geologic units adapted from the Geologic Atlas of Texas, Waco Sheet (Bureau of Economic Geology 1973); and

(3) Figure 18, an outline of the environmental strata and descriptive areas recognized within the transect area.

PREVIOUS INVESTIGATIONS

The Clear Creek Transect Area has not been previously included within a professional archeological investigation. A portion of the Cole Creek Lignite Prospect (Good and Turpin 1980) is located approximately 6 miles northwest of the area. No identified sites will be affected by the proposed Millican Project alternatives. Relic hunting probably has been limited to incidental surface collecting of artifacts by area landowners and residents.

ENVIRONMENTAL SETTING

The Clear Creek Transect Area includes portions of the Navasota River and Clear Creek valleys and a portion of Duck Creek which is confined to the valley floor of the Navasota River.

Surface Geology

Surficially exposed geologic bedrock units which occur within the valley walls of the Navasota River (Areas D and F, Fig. 18) and the upper right valley wall of Clear Creek (Area I, Fig. 18) are limited to the Eocene-age Queen City Formation. This formation is composed primarily of sand, sandy clay or shale; characteristic sandy surface layers were noted in portions of the transect area. The subsoil varies from clays and sandy clays (Area D) to gravelly clay intermixed with minor exposures of indurated ferruginous sand (Area F). The composition of the lower right valley wall of Clear Creek (Area I, Fig. 18) is undetermined. It may represent the Queen City Formation, Quaternary fluviatile terrace deposits or alluvium.

Geologic surface units in the valley floors of area streams include Quaternary fluviatile terrace deposits and alluvium. Terrace deposits are limited to an area (Area E, Fig. 18) which previously separated the Navasota River and Clear Creek near their confluence. A sandy surface layer and an unknown subsoil apparently abut and partially overlie the Queen City Formation.

Areas which are dominated by Quaternary alluvium (Areas A, H and I, Fig. 18) are more extensive and varied. That portion of the valley floor which is subject to annual flooding consists of clay, clayey loam and loam surface layers of unknown depth. Low terraces composed of Quaternary alluvium are limited to an area surrounding a series of relict channels of the Navasota River (Area B, Fig. 18) and at the margin of the right valley wall (Area C, Fig. 18). In these areas sandy surface layers of varying depth overlie a sandy clay subsoil.

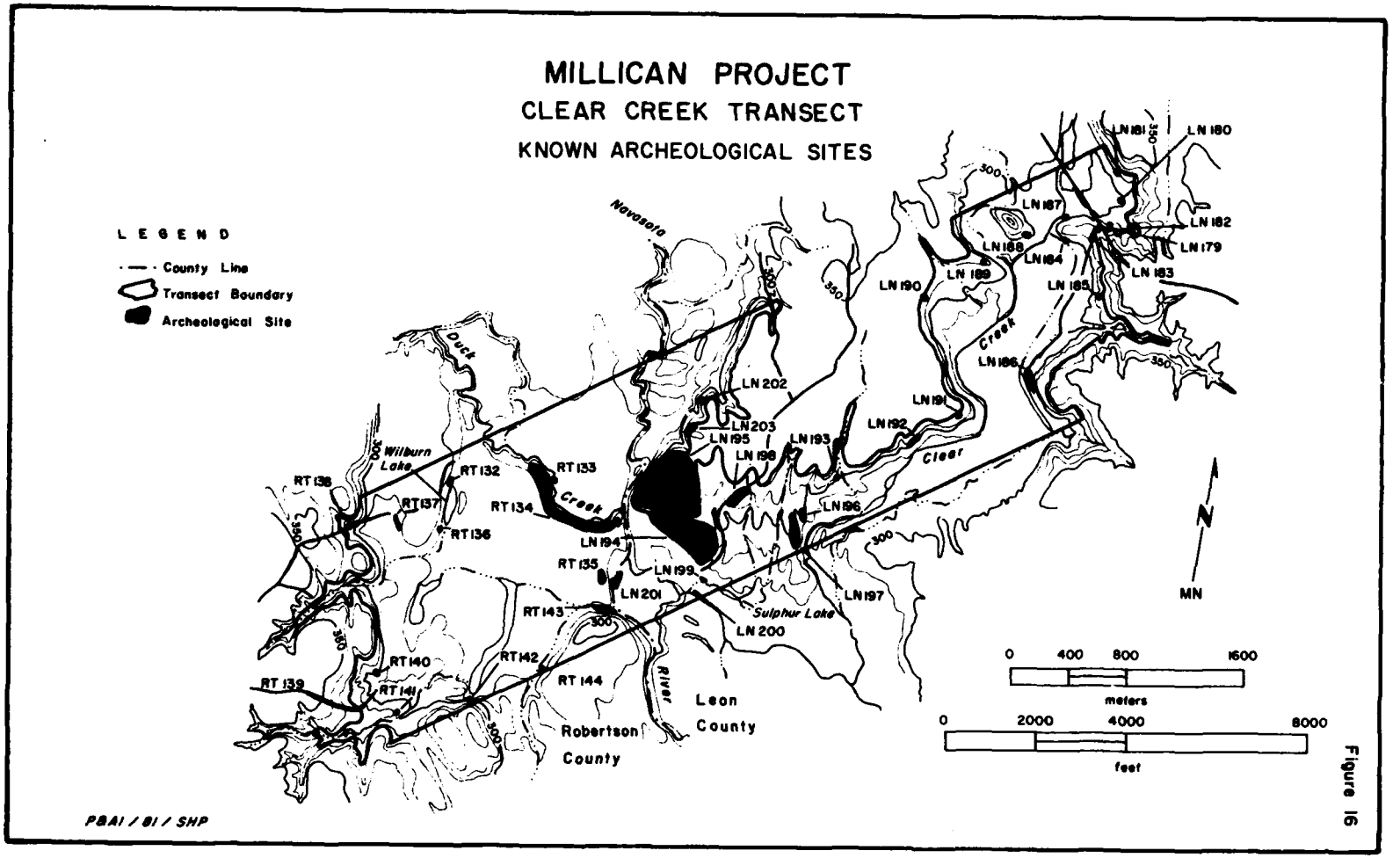

MILLICAN PROJECT
CLEAR CREEK TRANSECT
KNOWN ARCHEOLOGICAL SITES
LEGEND
County Line
Transect Boundary
Archeological Site
Navasota
Duck
Wilburn Lake
Creek
Clear
Sulphur Lake
River
Leon County
Robertson County
LN 180
LN 181
LN 182
LN 179
LN 183
LN 184
LN 185
LN 186
LN 187
LN 188
LN 189
LN 190
LN 191
LN 192
LN 193
LN 194
LN 195
LN 196
LN 197
LN 198
LN 199
LN 200
LN 201
LN 202
LN 203
RT 132
RT 133
RT 134
RT 135
RT 136
RT 137
RT 138
RT 139
RT 140
RT 141
RT 142
RT 143
RT 144
300
350
MN
0 400 800 1600
meters
0 2000 4000 8000
feet
PBAI / BI / SHP

Figure 16

Area Streams

Abundant evidence of the history and dynamics of the Navasota River was noted during the survey of the Clear Creek Transect Area. The present river channel enters the area from the north near the left valley wall and leaves near the right valley wall. The configuration of the visible relict channels, however, indicates a reverse pattern during prehistoric times. Duck Creek (Area H) presently flows through a relict channel of the Navasota River and during prehistoric times the creek's confluence with the river was 1 to 2 kilometers north of the transect area. Below the present confluence, the width of the river valley floor constricts severely (Area B) and several relicts of the Sulphur-Malochomy lakes channel system were noted. Additional evidence for river channel changes is provided by the locations of features cut or formed by stream movement, primarily the cutbank which separates Areas A and C and the truncated boundary between Areas B and E.

Evidence of channel movement similar to that for the Navasota River was observed in the Clear Creek valley floor. The present channel is near the right valley wall while a previous channel is near the left valley wall. The Clear Creek confluence with the Navasota River is complex. Three distinct confluences were noted south of the transect area: the present confluence and two associated with the Sulphur-Malochomy lakes relict channel system.

Topography

The Clear Creek Transect Area is confined to the floors and lower valley walls of the Navasota River and Clear Creek. Featureless modern floodplains (Areas A, H and I) make up a major portion of the valley floors of these streams. Flat and featureless low terraces composed of Quaternary alluvium form escarpments at the floodplain (Area C). Areas along the river are dominated by relict features and an undulating topography (Area B) or by isolated knolls within the creek valley floor (Area I).

Area G, containing seep springs and lakes, is on the valley floor of the Navasota River. The series of lakes result in low topographic undulations in an area otherwise indistinguishable from the floodplain.

Portions of the valley walls within the transect area extend a maximum of 40 feet (12 meters) above the valley floor. The lower portion of the valley wall consists of low to moderate slopes interspersed with small, relatively flat ridgecrests, rises and similar features which result from slope drainage development and occur within and above major elements of the slope.

Springs

Seep springs occur throughout the extreme western portion (Areas C and G) of the transect area and were also noted at the flowing well just north of the area, at the southern end of Wilburn Lake, and in two areas along the transect's southern boundary. The springs are apparently

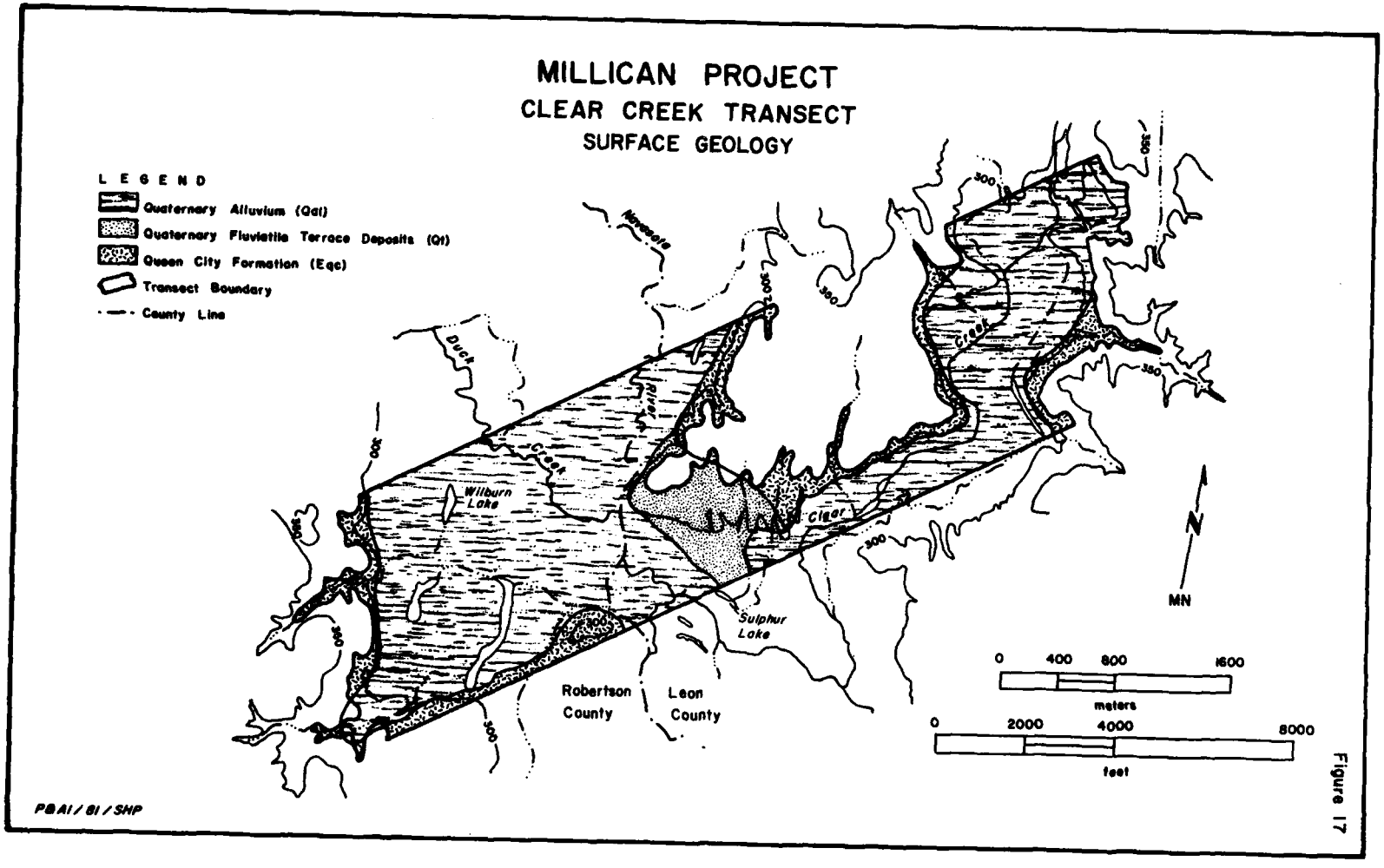

MILLICAN PROJECT
CLEAR CREEK TRANSECT
SURFACE GEOLOGY
LEGEND
Quaternary Alluvium (Qal)
Quaternary Fluviatile Terrace Deposits (Qt)
Queen City Formation (Eqc)
Transect Boundary
County Line
Wilburn Lake
Sulphur Lake
Robertson County
Leon County
MN
0 400 800 1600
meters
0 2000 4000 8000
feet
PB AI / BI / SHP

Figure 17

associated with the Queen City Aquifer and are of sufficient discharge to form three lakes.

Environmental Stratification

The environmental strata recognized within the Clear Creek Transect Area and their relationship to the descriptive areas used for this report are summarized in Table 5.

TABLE 5

ENVIRONMENTAL STRATA
CLEAR CREEK TRANSECT AREA

Navasota River, valley floor	
modern floodplain, featureless	Area A
modern floodplain, with relict features	Area B
low terrace	Area C
spring-dominated area	Area G
Navasota River, valley wall	
bedrock	Areas D and F
Quaternary fluviatile terrace deposits	Area E
Duck Creek, valley floor	
modern floodplain, featureless	Area H
Clear Creek, valley floor	
modern floodplain, featureless	Area I
Clear Creek, valley wall	
margin with floodplain, origin uncertain	Area I

AREA DESCRIPTIONS

Area A

Area A of the Clear Creek Transect Area is the modern floodplain of the Navasota River which is divided by the present course of Duck Creek (Area H) and the proximity of the Navasota River to its left valley wall (Areas E and F) opposite the confluence of the river and Duck Creek. Arbitrary boundaries delineate Area A, the floodplain of Duck Creek (Area H), and the area containing seep lakes (Area G). Boundaries with other areas composed of Quaternary alluvium (Areas C and B) are real and distinct.

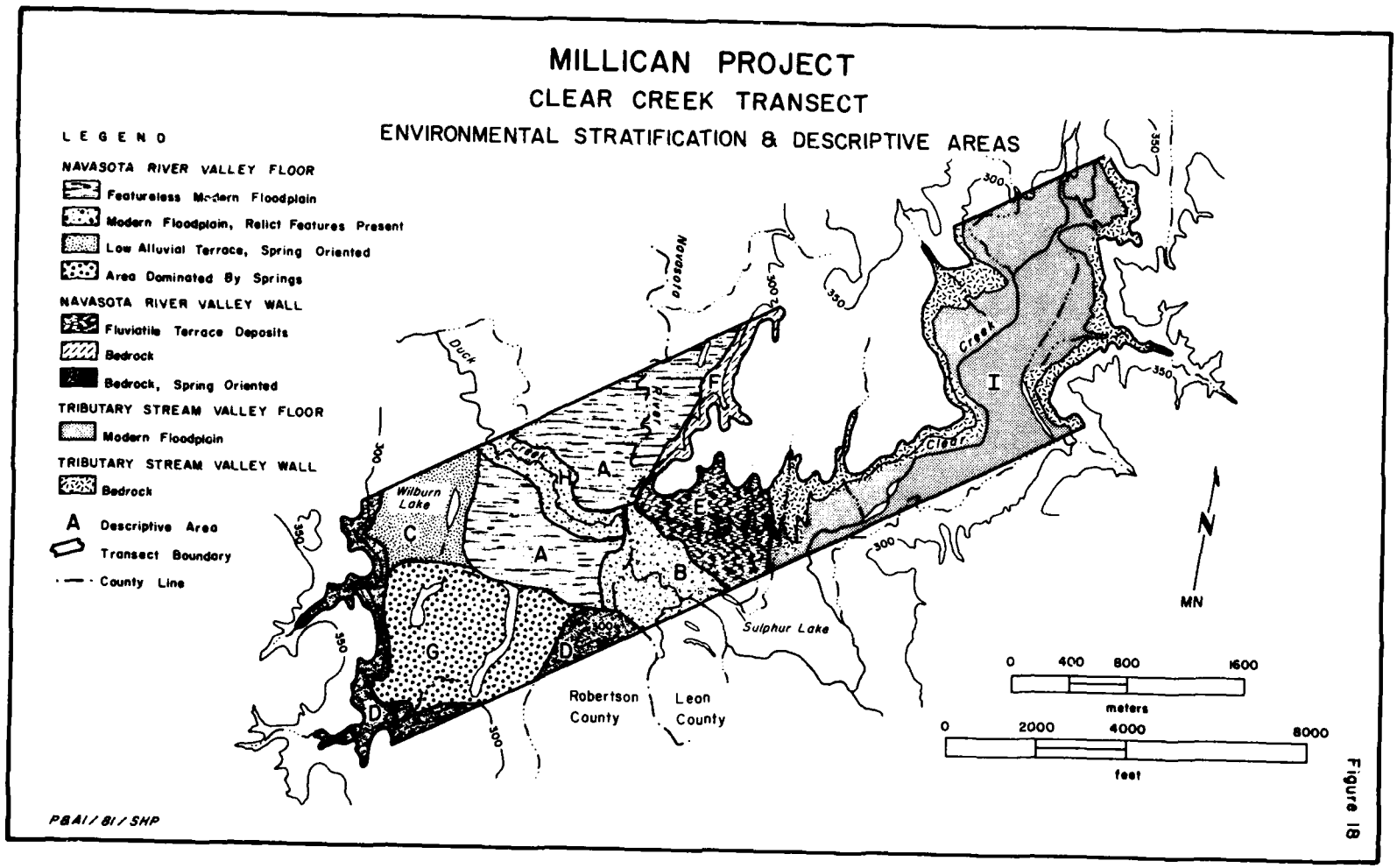

MILLICAN PROJECT
CLEAR CREEK TRANSECT
ENVIRONMENTAL STRATIFICATION & DESCRIPTIVE AREAS
LEGEND
NAVASOTA RIVER VALLEY FLOOR
Featureless Modern Floodplain
Modern Floodplain, Relict Features Present
Low Alluvial Terrace, Spring Oriented
Area Dominated By Springs
NAVASOTA RIVER VALLEY WALL
Fluviatile Terrace Deposits
Bedrock
Bedrock, Spring Oriented
TRIBUTARY STREAM VALLEY FLOOR
Modern Floodplain
TRIBUTARY STREAM VALLEY WALL
Bedrock
A Descriptive Area
Transect Boundary
County Line
Duck Creek
Wilburn Lake
Sulphur Lake
Robertson County
Leon County
MN
0 400 800 1600
meters
0 2000 4000 8000
feet
P&A1/81/SHP

Figure 18

The major portion of Area A has apparently never been cleared of vegetation and supports a hardwood forest with a sporadic lower story of dense shrubs and vines. An area east of Wilburn Lake has been cleared of vegetation and is currently a bermudagrass pasture. Vegetation within another clearing in the far northeastern corner of Area A consists of waist-to-chest-high grasses and forbs. With the exception of the cleared portions, disturbances from modern land use appear to be limited to minor unimproved road and fence construction. Area soils are too clayey to support large rodent populations; however, bioturbation as a result of root growth may be considerable.

Systematic coverage of Area A was limited to the pasture east of Wilburn Lake which was surveyed using transects spaced at 75-meter intervals. This pasture was the most likely area where systematic transects might be effective, although ground cover density limited surface visibility to approximately 5 percent. The banks of the Navasota River were intensively examined and archeological visibility was generally good. The remainder of the area was covered using one- or two-person exploratory transects. This preliminary examination demonstrated that archeological visibility was poor due to the ground cover density within cleared areas and the presence of recent alluvium within wooded areas. A more systematic or intensive coverage of Area A was precluded by the absence of identifiable relict features.

No archeological sites were identified during the pedestrian survey of Area A of the Clear Creek Transect Area.

Area B

Area B includes the present channel of the Navasota River south of the confluence with Duck Creek and the constricted portion of the river valley floor containing features associated with the Sulphur-Malochomy lakes relict channel system. Most Area B boundaries are real and distinct and isolate an area which contains distinctive landforms (relict features) and prehistoric archeological sites.

Most of Area B has apparently never been cleared and vegetation consists of mixed hardwood forest and woodland tree species. An understory of shrubs and vines varies from absent to dense. Cleared portions along the boundary between Areas B and E support a dense ground cover of short grasses and may have been adversely affected by farming activities associated with the historic community of Little Egypt. The majority of Area B, however, appears to be intact and subject to only tree root bioturbation and minor erosion. Rodent and modern land-use activities appear minimal.

Cleared portions of Area B were surveyed using transects spaced at 50-meter intervals. Ground surface visibility was poor, although minor erosion provided some areas of good visibility. The survey of wooded areas consisted of exploratory transects to locate specific physiographic features and subsequent intensive coverage of these features. The eroding banks of the present river channel and relict channels were intensively examined. Archeological visibility, although variable, was

generally good. Portions of Area B distant from river features were not systematically or intensively examined since the ground surface is obscured by recent deposition.

Four prehistoric archeological sites, 41LN199, 41LN200, 41LN201 and 41RT135, were identified within Area B. The sites represent areas of exposure rather than occupational units and vary in size from small to moderate (maximum dimensions of 35 to 70 meters). Although usually thinly distributed, the sites contain limited areas of relatively dense cultural materials. Sites 41LN199, 41LN200 and 41RT135 are situated on natural levees which parallel relict channels of the Navasota River and consist of sandy loam surface layers at least 30 to 40 centimeters in thickness which overlie culturally sterile sandy clay. Site 41LN201 is exposed in the bank of the present river course within a loamy surface layer at least 50 centimeters in thickness. The sites are exposed by minor bank erosion and, except for tree root bioturbation, appear to be intact.

Interior flake debitage and burned rocks were noted at each site identified within Area B. Cortex flakes were noted at sites 41LN199 and 41RT135; hematite at sites 41LN200 and 41LN201; a core at site 41LN201; a thin biface fragment at 41RT135; and dart points at sites 41LN200 and 41RT135. Each site is felt to represent a campsite closely associated with the channel of the Navasota River and its riverine environment. A late Archaic occupation at site 41RT135 and an Archaic occupation at site 41LN200 are suggested.

Area C

Area C is a low terrace composed of Quaternary alluvium located immediately west of Wilburn Lake and below the right valley wall of the Navasota River. Within the valley floor the area is separated from the modern floodplain (Area A) by a 20-foot-high bank. The distinction between Area C and an area dominated by seep lakes (Area G) is made on the basis of landform and, relative to the cultural resources present, is arbitrary.

Much of Area C has been cleared and is currently planted in bermudagrass. Isolated stands of trees consist primarily of woodland species. In addition to clearing activities, the area has been adversely affected by cultivation, root and rodent bioturbation, and minor unimproved road and fence construction.

Area C was surveyed using transects spaced at 50-meter intervals except along the bank above the modern floodplain which was intensively examined. Archeological visibility was generally poor except along this bank and where the grass cover has been interrupted by modern construction. In these areas, visibility was good to excellent.

Three prehistoric archeological sites, 41RT132, 41RT136 and 41RT137, were identified within Area C. The sites contain thinly distributed cultural materials and are small to moderately extensive in size (maximum dimensions of 30 to 100 meters). Sites 41RT132 and

41RT136 are situated at the edge of the low terrace overlooking the modern floodplain of the Navasota River, while site 41RT137 is near the right valley wall of the river. The sites are buried with cultural materials occurring in all or part of at least 60 centimeters of loosely consolidated sandy soil overlying culturally sterile sandy clay. The sites are exposed by bank erosion and/or minor land improvements including roads and a small stockpond. Any shallowly buried cultural materials have been disturbed through clearing of trees and shrubs. Portions of each site, however, may contain deeply buried cultural materials which are relatively intact.

Observed cultural materials are limited to interior flake debitage except for a single ceramic sherd collected from site 41RT136. The sites are felt to represent limited activity areas associated with seep springs and riverine environments contained within the modern floodplain of the Navasota River. A Neoarchaic occupation of site 41RT136 is suggested.

Area D

Area D includes a portion of the right valley wall of the Navasota River located along the western and southwestern boundaries of the transect area. The major portion of this area of exposed bedrock is situated above an area dominated by seep springs, and any sites identified are probably associated with this source of water. A small area at the far eastern end of Area D is immediately above and associated with the present course of the river. Boundaries with other defined areas (Areas B, C and G) are real and generally distinct.

A substantial portion of Area D has apparently been cleared. Vegetation consists of woodland tree species with a dense understory of shrubs and vines. Cleared areas generally support a variety of grasses and forbs, although small pastures of bermudagrass were also noted. The effects from modern land use and natural processes are localized, primarily surficial in nature, and the result of unimproved road and fence construction. An area forming the southwestern corner of Area D has been severely disturbed by erosion and clearing activities. Although tree root bioturbation is extensive, no evidence of large rodent populations was noted.

Area D was covered using transects which followed the interface between the area and the valley floor of the Navasota River. Disturbed areas noted during the transects, primarily unimproved roads, were intensively examined. Poor ground surface visibility was encountered within wooded portions of the area.

Seven archeological sites, 41RT138 through 41RT144, were identified. The sites, except 41RT141 which contains a minor historic component, are prehistoric in age. Sites 41RT138 through 41RT140, the prehistoric component of site 41RT141, and site 41RT142 are small to moderately extensive (maximum dimensions of 30 to 100 meters) and thinly distributed. These sites situated within the lower portion of the right valley wall of the Navasota River are either directly or indirectly

associated with seep springs. The sites are buried and cultural materials are contained within all or part of from 30 to over 100 centimeters of unconsolidated sandy soil which overlies culturally sterile sandy clay. The majority of sites are exposed in linear roadbeds and bulldozer cuts; sites 41RT140 and 41RT141 are exposed by erosion which has deflated or otherwise severely disturbed the context of the cultural materials. The context of site 41RT138 is questionable since the site may represent materials washed downslope from the ridgecrest above the site. Only sites 41RT139 and 41RT142 may contain areas which are relatively intact. Except for site 41RT139, which includes a grinding slab and a ceramic sherd, the cultural materials at these sites are limited to interior flake debitage and burned rocks. The sites are felt to represent campsites associated with seep springs. Spring, valley wall and riverine resource orientations are suggested. A Neoarchaic occupation is suggested for site 41RT139. Site 41RT144 is an interior flake isolate which may represent a site similar to those discussed above.

Prehistoric site 41RT143 is extensive (dimensions of 200 by 140 meters) but thinly distributed. The site is situated immediately above the present course of the Navasota River on a knoll which has a sandy surface soil layer at least 1 meter in thickness. Cultural materials are exposed along an unimproved roadbed and an eroded bank, and, except for these disturbances, the site appears to be intact. On the basis of the debitage flakes, partially reduced biface and burned rocks, the site is believed to represent a campsite associated with the Navasota River. Both valley wall and riverine resource orientations are suggested.

The historic component of site 41RT141 consists of a few glass and ceramic sherds and cannot be characterized on the available data. These materials have been severely disturbed by erosion.

Area E

Area E of the Clear Creek Transect Area is dominated by Quaternary fluviatile terrace deposits which occur within the lower portion of the left valley wall of the Navasota River and separate portions of the Navasota River and Clear Creek. The area's boundary with the modern floodplain of the Navasota River (Area B) is real and distinct. The boundaries with the valley floor of Clear Creek (Area I) where the deposits grade into sandy surface layers overlying the Queen City Formation are indistinct.

All of Area E has been cleared and is currently planted in bermudagrass. The area has been adversely affected by cultivation associated with recent land use and by the community of Little Egypt. Minor disturbances include rodent bioturbation, erosion and unimproved road and fence construction.

Although the area was originally surveyed using systematic transects spaced at 50-meter intervals, the extent of cultural materials noted resulted in a more intensive examination. Archeological visibility was generally good due to rodent activity and minor erosion along the area's lower boundary.

Three archeological sites were identified during the survey of Area E: prehistoric site 41LN195 and sites 41LN194 and 41LN198 which include both prehistoric and historic components. The prehistoric components of sites 41LN194 and 41LN195 are extensive (maximum dimensions of 500 meters) and may represent a single areal occupation unit; the two are separated into upper (41LN195) and lower (41LN194) areas for descriptive purposes. Cultural materials are thinly distributed and buried. The sites are situated on flat to gently sloping landforms within the lower portion of the left valley wall of the Navasota River. Quaternary fluviatile terrace deposits which dominate the area consist of at least 1 meter of sandy soil overlying culturally sterile sandy clay. The sites are exposed by rodent activity and minor erosion at the valley wall's margin with the modern floodplain. Portions of the prehistoric component at each site may contain deeply buried cultural materials which are relatively intact. The cultural materials observed include cortex and interior flake debitage, burned rocks and utilized flakes at site 41LN195. The sites appear to represent campsites associated with the Navasota River and have both valley wall and riverine resource orientations.

The prehistoric component of site 41LN198 is thinly distributed and of unknown size (two exposures, one a 5x5-meter area surrounding a tree and the other an isolated flake, were noted). The site is situated on a ridgecrest within the right valley wall of Clear Creek but could be associated with either the creek or the Navasota River. Cultural materials are contained within an unknown depth of sandy soil and exposed by land clearing and rodent activities which have severely disturbed much of the site area. The prehistoric component of site 41LN198 consists of interior flake debitage, a core and a distal dart point fragment. The site is felt to represent a limited activity area. Valley wall and possibly riverine resource orientations, and an Archaic occupation, are suggested.

The historic components of sites 41LN194 and 41LN198 consist of structural foundation remains and an associated small (maximum dimensions of 25 meters), thinly distributed artifact scatter. The cultural materials are apparently surficial in nature, although due to the unconsolidated nature of the soil the possibility of shallowly buried materials cannot be eliminated. The historic component of site 41LN194 consists of sandstone foundation supports and ceramic sherds; that of site 41LN198 consists of mortared machinemade bricks, clear glass and a broken plowshare. These are felt to represent housesites which were occupied during the early to middle twentieth century and may be associated with the historic community of Little Egypt (Appendix I).

Area F

Area F is a bedrock portion of the left valley wall of the Navasota River. A relatively steep slope separates the valley floor (Area A) from a broad, flat, sand-covered upland landform which is outside of the limit of the transect area.

Apparently the area has not been cleared, and vegetation consists of woodland tree species, primarily oaks, and a dense understory of shrubs and vines. The upper margin of Area F has been severely disturbed by modern fence construction and gravel quarrying. The flat area above the slope has been cleared and cultivated and is at present a bermudagrass pasture. Most of the area is apparently undisturbed except by root bioturbation.

This portion of the transect area was not systematically or intensively examined due to the steep slope and the density of vegetation. Single one-person transects were walked at the lower and upper margins of the area, and the slope was examined where relatively flat clear areas were noted.

Two prehistoric archeological sites, 41LN202 and 41LN203, were identified in Area F. Both sites are small but may represent a small portion of a larger site area which, if present, is outside of the transect area. The sites are situated at the tips of ridgecrests within the left valley wall of the Navasota River. Cultural materials are thinly distributed and are contained within a shallow sandy surface layer overlying culturally sterile gravelly subsoil. The sites are exposed and severely disturbed by erosion and rodent activity as well as by land clearing and cultivation. Cultural materials include cortex and interior flake debitage and burned rocks. The sites are felt to represent campsites associated with the Navasota River. Both valley wall and riverine resource orientations are suggested.

Area G

Area G is a low-lying area located between the modern floodplain (Area A) and the right valley wall (Area B) of the Navasota River dominated by seep springs and spring-fed lakes. The area's boundaries with the valley wall and the low terrace west of Wilburn Lake (Area C) are real and distinct. The boundary with the modern river floodplain is arbitrary.

Except for a transmission line right-of-way, the area appears never to have been cleared. Vegetation consists of mixed hardwood forest and woodland species with a dense yaupon understory. Disturbances in the area appear to be limited to the right-of-way except for root bioturbation which is extensive.

Area G was surveyed using two-person exploratory transects with intensive examination of physiographic features, namely the banks of the seep lakes. Archeological visibility was generally poor due to leaf detritus.

No archeological sites within the area were identified.

Area H

Area H is a portion of the modern floodplain of Duck Creek located entirely within the valley floor of the Navasota River. The boundaries

with the modern floodplain of the river (Area A) are arbitrary. If the reconstruction of river history previously stated is correct, the separation of this area and Area B is arbitrary as far as the cultural resources present are concerned.

The area has apparently not been cleared, and vegetation consists primarily of hardwood forest species. The banks of the creek are eroding and all portions of the area have been disturbed by root bioturbation (the soil is apparently too clayey to support rodent populations). Disturbances from recent land use are limited to a single unimproved road and a fishing camp near its confluence with the Navasota River. An historic bridge across Duck Creek provides evidence of past disturbance which was probably limited in extent.

The area surrounding both banks of Duck Creek was intensively examined.

Two archeological sites were identified during the present survey: prehistoric site 41RT134 and site 41RT133 which contains both prehistoric and historic components. The prehistoric component of site 41RT133 is small and may be a portion of site 41RT134 which has been isolated by channel movement. Site 41RT134 consists of five exposures of cultural materials which extend over an area 600 by 30 meters in size. The site is on a natural levee which parallels the present course of Duck Creek and has a loamy or clayey loam surface soil layer at least 30 centimeters thick. The thinly distributed cultural materials are exposed by minor to moderately extensive bank erosion. The site appears intact except for the effects of tree root bioturbation and erosion. Cultural materials noted at the site include cortex and interior flake debitage, arrow and dart points and burned rocks. The site is felt to represent a campsite and/or series of campsites which at the time of their occupation were closely associated with the channel and associated riverine environment of the Navasota River (see Environmental Setting, Area Streams). As a minimum, middle Archaic and Neoarchaic occupations are suggested.

The historic component of site 41RT133 is a bridge across Duck Creek. Constructed of bricks, concrete and asphalt, the bridge is intact and apparently recent in age. No artifacts were noted, and the bridge does not appear to be associated with any extant road system.

Area I

Area I consists of the eastern half of the transect area and includes portions of the valley floor and limited portions of either lower valley wall of Clear Creek. No distinction is made in this instance between the valley floor and wall since the transect area boundary ran along the interface between the two and it was often difficult to distinguish the exact origin of the landforms represented.

The area has been cleared and for the most part is a bermudagrass pasture. Isolated wooded areas consist of both hardwood forest and

woodland species; some pastures have been allowed to go wild and vegetation consists of other grasses and a variety of forbs. Portions of the creek course have been channelized and therefore are severely disturbed. Portions of the creek's floodplain and lower valley wall have apparently also been badly disturbed by a variety of modern land-use activities including stock tank, unimproved road and fence construction as well as land clearing and cultivation. Erosion and rodent activity are locally severe. Portions of Area I, however, appear to be relatively intact.

Coverage of Area I included both systematic transects and the intensive examination of specific physiographic features. The valley floor was surveyed using transects spaced at 50-meter intervals and intensive examinations of disturbed areas since ground surface visibility was limited. The interface between the valley floor and valley walls was intensively examined due to its high site locational probability and good archeological visibility.

A total of 17 archeological sites were identified within Area I; these include prehistoric sites 41LN179 through 41LN185, 41LN188 through 41LN193, 41LN196 and 41LN197 and historic sites 41LN186 and 41LN187. In the following discussion the prehistoric sites are presented by the kind of site represented.

Prehistoric sites 41LN179, 41LN182 through 41LN185, 41LN190, 41LN191 and 41LN197 are felt to represent campsites. Each site is an area of exposure, and in all instances only one horizontal dimension could be determined (maximum observed dimensions of 30 to 190 meters). The sites are situated within the lower portion of the valley wall of Clear Creek, primarily at the margin with the valley floor, and they occur on small rises and low-lying ridgecrests. The sites are buried and contain thinly distributed cultural materials within a deep (in excess of 1 meter) surface layer of unconsolidated sandy soil. In some instances the underlying sandy clay subsoil is exposed. In all instances, linear disturbances which include unimproved roads, manmade creek channels, erosional gullies and cow trails have exposed and severely disturbed portions of the sites. Land-clearing and rodent activities are present and have caused additional adverse effects. Portions of each site, however, may contain deeply buried or other cultural materials which are relatively intact.

Each site contains interior flake debitage, burned rocks and, in most instances, other artifact and material categories. Other lithic debitage, which includes cortex flakes, cores, tested cobbles and partially reduced bifaces, were noted at sites 41LN182, 41LN183, 41LN185 and 41LN197. In addition, a unifacial tool was noted at site 41LN179, a ceramic sherd at site 41LN182, and an arrow point at site 41LN183. Site 41LN190 contains a grinding slab, pitted stone and hammerstone in close proximity to one another which appear to represent a vegetable processing feature. Burned clay lumps were also observed. These sites are felt to represent campsites associated with Clear Creek and both valley wall and riverine resource areas. At least a Neoarchaic occupation is suggested for sites 41LN182 and 41LN183.

Site 41LN181 appears to represent a thinly distributed but moderately extensive (dimensions of 100 by 60 meters) multiple activity area. The site is situated within the lower portion of the left valley wall of Clear Creek. Cultural materials, contained within all or part of 2 meters of unconsolidated sandy soil overlying sandy clay subsoil, are exposed by erosion. Land-clearing activities and unimproved road construction have adversely affected the site area. Cultural materials present, including cortex and interior debitage flakes, tested cobbles and a unifacial side scraper, indicate a number of activities were conducted at the site. Both valley wall and riverine resource orientations are suggested.

Prehistoric sites 41LN188, 41LN193 and 41LN196 are felt to represent limited activity areas. The sites are thinly distributed, and except for site 41LN196 which is 100 by 100 meters in size, are small (maximum dimensions of 30 meters). Sites 41LN193 and 41LN196 are situated within the lower portion of the right valley wall of Clear Creek; site 41LN188 is situated at the base of a knoll isolated within the creek's valley floor. Cultural materials are buried and are contained within all or part of 1 meter of unconsolidated sandy soil; an underlying sandy clay subsoil was visible at site 41LN193. The sites are exposed by creek channelization, rodent activity, unimproved road construction and minor erosion. In addition, they have been adversely affected by land clearing. All cultural materials present are limited to interior flake debitage which represents an unknown but limited activity or set of activities. Both valley wall and riverine resource orientations are suggested.

The remaining prehistoric sites cannot be characterized on the basis of available data; these include sites 41LN180 and 41LN192, which are of dubious context, and site 41LN189, which is an isolated find. Site 41LN180 consists of debitage flakes noted on the banks of a stockpond within the modern floodplain of Clear Creek. The banks are constructed of introduced fill and therefore the cultural materials present must be considered to be without context. Cultural materials noted at site 41LN192 appear to have been washed downslope from the ridgecrest above the site; this ridgecrest is outside of the transect area and was not examined during the survey. Site 41LN189 is an isolated interior flake noted on a low ridgecrest immediately above the modern floodplain of the creek. Although the find may represent a buried site, the available data are not sufficient to characterize the nature of the occupation.

Historic sites identified within Area I of the Clear Creek Transect Area include sites 41LN186 and 41LN187. Site 41LN186 is a housesite associated with a number of outbuildings, a trash dump, an artifact scatter, and a gas pump. Site 41LN187 is a cane syrup press with an associated brick firebox. Site 41LN186 is situated within the lower portion of the left valley wall of Clear Creek, while site 41LN187 is on the valley floor adjacent to the present creek channel. Both sites appear to be surficial in nature, although the possibility of shallowly buried cultural materials, particularly at site 41LN186, cannot be eliminated. Both sites are apparently intact although the structures at

site 41LN186 are in various stages of collapse. Site 41LN186 is early to middle twentieth century in age and is believed to represent a housesite/farming complex and possibly a commercial gas station associated with an old road to Franklin. Site 41LN187 is a community cane syrup processing site which dates to the early twentieth century (Appendix I).

PREHISTORIC SITE ASSESSMENTS AND RECOMMENDATIONS

The prehistoric sites identified within the Clear Creek Transect Area can be divided into six groups on the basis of their location relative to the defined environmental stratification and their physical and cultural characteristics.

Group I

Group I sites, which includes 41RT133 through 41RT135 and 41LN199 through 41LN201, are situated within the modern floodplain of the Navasota River and are associated with the present and with relict channels. The sites are buried, and cultural materials are contained within 30 to 100 centimeters of sandy loam which overlies culturally sterile sandy clay. The area containing these sites has never been cleared, and effects from modern land use appear to be minor. Tree root bioturbation and bank erosion are present but are generally not severe; rodent activity is generally absent. The sites occur on rapidly alluviating surfaces, and the potential for both vertical and horizontal context is good. Hearth-sized burned rock features were noted at site 41LN201; these provide additional positive data for vertical context and indicate the potential presence of features at other sites within this site group. The cultural materials, although primarily thinly distributed, include relatively dense concentrations and a variety of temporally and culturally diagnostic artifacts.

In general Group I sites appear to have a high information yield potential relative to the occupation and use of the riverine environment associated with the Navasota River. The realization of this potential is primarily dependent upon the presence of recognizable stratigraphic separation of occupational components. Group I sites have the greatest potential of sites identified within the transect area for determining the area-specific cultural sequence and temporally specific artifact assemblages and resource strategies. The sites represent campsites, and a number of varied activities are apparently represented. Of these sites, 41RT134, 41RT135 and 41LN200 warrant testing to determine the nature and context of buried cultural materials. Intact features at site 41LN201 indicate potentially good vertical context. Testing to determine the nature and context of buried cultural materials may be warranted at sites 41RT133 and 41LN199 dependent upon the results of testing at the larger, more densely distributed sites within Group I.

Group II

Sites 41RT132, 41RT136 and 41RT137, situated on a low terrace of the Navasota River, comprise Group II. An area dominated by seep springs occurs immediately below the terrace and undoubtedly these are a major resource orientation for these sites. The sites are buried, and cultural materials are contained within all or part of generally more than 1 meter of unconsolidated sandy soil which overlies culturally sterile sandy clay. Except for land-clearing activities which have adversely affected shallowly buried cultural materials, disturbances are limited to the construction of unimproved roads and fencelines, and to minor erosion along the bank which forms the lower boundary of the terrace. Although the sites are situated on once rapidly alluviating depositional features, subsequent displacement and vertical mixing has probably occurred within the unconsolidated sandy soil. Recognizable stratigraphic separation of occupational components is not expected. Horizontal context, however, may be good. The cultural materials present at these sites are thinly distributed and, except for a single ceramic sherd collected from site 41RT136, are generally undiagnostic.

In general, sites within Group II have a low to moderate information yield potential concerning the use of low terraces of the Navasota River which are situated adjacent to seep springs. The sites apparently represent limited activity areas and the realization of the research potential is dependent upon the presence of single component occupation and artifacts which are more culturally diagnostic. Testing to determine the nature and context of buried cultural materials may be warranted if specific questions arise concerning the nature of limited activities within this environmental situation. Of these sites, 41RT136 appears to have the greatest research potential.

Group III

Group III sites are situated along the valley walls of the Navasota River and are associated with the river rather than with seep springs. These include sites 41LN194, 41LN195, 41LN202, 41LN203 and 41RT143. The sites are buried, and cultural materials are contained within sandy surface layers which consist of loosely consolidated sandy soil that ranges from shallow to over 1 meter in depth. The underlying culturally sterile subsoil varies from sandy to gravelly clay. Except for 41RT143, the area containing these sites has been cleared and subject to intensive modern cultivation (bermudagrass). Other effects of modern land use are limited to unimproved road and fence construction. Minor bank erosion and rodent activity are also present. The sites occur on relatively stable surfaces which are subject to minor erosion, deflation, and/or colluvial deposition. Vertical displacement of cultural materials is expected to have occurred due to the loosely consolidated soil and the presence of rodent populations. Vertical context is not expected to be good. Horizontal context, although in most instances adversely affected by clearing and modern land use, may be good. The cultural materials present are thinly distributed, and, with the possible exception of site 41LN195 where utilized flakes were noted, are undiagnostic. Sites 41LN194, 41LN195 and 41RT143, however, include extensive areas of occupation.

Sites within Group III appear to have a low to moderately high information yield potential concerning the occupation and use of the lower portions of the valley walls and the valley floor of the Navasota River. The realization of this potential is primarily dependent upon the presence of temporally diagnostic artifacts representing a single occupation and of artifacts and materials which are more culturally diagnostic. The sites represent extensive campsites; however, no evidence of a variety of activities was noted during the survey. Of the Group III sites, 41LN194, 41LN195 and 41RT143 appear to warrant testing to determine the nature and context of buried cultural materials. The portions of sites 41LN202 and 41LN203 which were examined are severely disturbed; however, testing may be warranted within other portions of these sites dependent upon the results of testing at the more extensive and intact sites within this group.

Group IV

Sites 41RT138 through 41RT142 and site 41RT144, which are situated within the valley wall of the Navasota River and are directly or indirectly associated with seep springs, comprise Group IV. These sites are buried, and cultural materials are contained within all or part of 30 to 150 centimeters of unconsolidated sandy soil which overlies culturally sterile sandy clay. Although the majority of the area containing these sites has never been cleared and other activities associated with modern land use are limited in extent, all of the sites except 41RT139 and 41RT142 are severely disturbed or are of dubious context due to erosion and associated slopewash. The sites occur on stable to eroding surfaces, and the potential for good vertical context is not high. The horizontal context of sites 41RT139 and 41RT142 possibly is good. The cultural materials at sites within Group IV are primarily lithic debitage and burned rocks. A grinding slab fragment and a ceramic sherd were noted at site 41RT139.

In general, these sites appear to have a low to moderately high information yield potential concerning the occupation and use of valley walls of the Navasota River which occur above areas dominated by seep springs. The realization of this potential is dependent upon the presence of temporally diagnostic artifacts representing single occupational episodes and of artifacts and materials which are more culturally diagnostic. The sites appear to represent campsites which, on the basis of the observed cultural materials, do not include a wide variety of activities. Of these sites, 41RT139 and 41RT142 appear to warrant testing to determine the nature and context of buried cultural materials. Although similar testing may be warranted at site 41RT138, the remaining sites within Group IV do not appear to warrant additional work at this time.

Group V

Group V includes sites 41LN179, 41LN181 through 41LN185, 41LN190, 41LN191 and 41LN197 which are situated within the valley wall of Clear Creek. The sites are buried, and cultural materials are contained within all or part of from 1 to over 2 meters of unconsolidated sandy soil

which overlies culturally sterile sandy clay. The area containing these sites has been cleared of trees and shrubs, and portions of each site have been severely disturbed by other modern land-use activities which include creek channelization, unimproved road construction and cultivation (bermudagrass). Portions of each site, however, appear to be relatively intact except for rodent bioturbation and land clearing. The sites occur on stable to slightly eroding surfaces. Vertical mixing and displacement of cultural materials has probably occurred due to the nature of the soil and rodent activity. On this basis, vertical context is not expected to be good, although horizontal context within portions of the sites may be good. Cultural materials include lithic debitage and, except for site 41LN181, burned rocks. Lithic tools were noted at sites 41LN179 and 41LN181; artifacts which apparently represent a vegetable processing feature were noted at site 41LN190.

Sites in Group V appear to have a low to high information yield potential relative to the occupation and use of the valleys of major lateral tributaries of the Navasota River. The realization of this potential is primarily dependent upon the presence of relatively intact cultural materials which represent single ocupational components. The presence of both temporally and culturally diagnostic cultural materials has been demonstrated for a number of the sites. Except for site 41LN181 which appears to represent a multiple-activity area, the sites in Group V apparently represent campsites. Of these sites, 41LN182, 41LN183, 41LN190 and 41LN197 appear to warrant testing to determine the nature and context of buried cultural materials. Testing at sites 41LN179, 41LN181, 41LN184 and 41LN191 may be warranted depending upon the results at other more promising sites within the group. Site 41LN185 does not appear to warrant additional work at this time.

Group VI

Additional prehistoric sites which are situated within the Clear Creek valley comprise Group VI; these are sites 41LN180, 41LN188, 41LN189, 41LN192, 41LN193, 41LN196 and 41LN198. These sites are buried, and cultural materials are contained within from 30 to over 100 centimeters of unconsolidated sandy soil which overlies culturally sterile sandy clay. The sites have been adversely affected by land clearing and by other more limited modern land-use activities including creek channelization, unimproved road construction and cultivation. In addition, rodent activity and minor erosion are usually present. Sites 41LN180, 41LN192 and 41LN196 are severely disturbed or of questionable context. The sites occur on stable to slightly eroding surfaces, and subsequent vertical displacement and mixing of the cultural materials is expected due to the unconsolidated nature of the soil and to rodent activity. The potential for good vertical context, therefore, is not expected to be high, although the horizontal context within portions of certain sites within the group may be good. The cultural materials noted are limited to flake debitage except at site 41LN192 where burned rocks were noted in questionable context.

In general, sites within Group VI have a low information yield potential concerning the occupation and use of the Clear Creek valley.

The realization of this potential is dependent upon the presence of intact and more diagnostic cultural materials which represent single occupational episodes. The majority of the sites apparently represent limited activity areas and/or sites which cannot be characterized on the available data due to dubious context or sparsity of the cultural materials noted. Of these sites, 41LN188, 41LN189, 41LN192 and 41LN193 may warrant testing to determine the nature and context of buried cultural materials. No further work is warranted at sites 41LN180, 41LN196 and 41LN198.

HISTORIC SITE ASSESSMENTS AND RECOMMENDATIONS

Four groups of historic archeological sites are recognized within the Clear Creek Transect Area.

Group I

Sites 41LN194 and 41LN198, which represent the remains of house-sites, comprise Group I. The sites are associated with the Navasota River and/or Clear Creek, and were apparently part of the historic community of Little Egypt. Although primarily surficial in nature, cultural materials may be shallowly buried within an unknown depth of unconsolidated sandy soil. Structural remains are limited to foundations which have been severely disturbed by land-clearing activities. Cultural materials are very thinly distributed, generally undiagnostic (a plowshare is the one exception noted), and appear to be severely disturbed. Despite the disturbed nature of these sites, the historic significance of the community of Little Egypt mandates additional work at the sites. Of the two, site 41LN198 appears to exhibit greater context and variety of remains and appears to warrant testing to determine the presence of buried cultural materials. Site 41LN194 may warrant similar testing dependent upon the results from the other site, although the surface examination indicates that 41LN194 may already have been destroyed.

An existing house structure was identified at 41LN186; however, this site is included within Group II due to the presence of commercial activities.

Group II

Historic Group II includes site 41LN186, which is a house site, farming complex and gas station, and site 41LN187, which is a cane syrup processing locality. Both sites appear to be entirely surficial in nature and are relatively intact even though the features noted at the sites are in various stages of collapse. No historic artifacts were noted at site 41LN187; those at site 41LN186 include a variety of scattered materials and category types and a trash dump, both of which appear to be relatively intact. Site 41LN186 appears to represent a typical early-to-middle-twentieth-century farmstead, and its significance is based solely on the presence of a gas pump which was described in detail during the survey. Archival research concerning the site's

relationship with earlier transportation systems appears to be warranted, and any additional work at the site is dependent upon the historical significance determined by such research. Site 41LN187 appears to represent a highly significant resource as a community-oriented processing site. Research concerning the extent of the area involved in this agricultural enterprise and its significance to the community appears to be warranted. Although the presence of artifactual materials is not expected due to the clayey nature of the soil, the significance of the site mandates that testing to determine the presence of such materials be conducted.

Group III

The historic component of site 41RT133, which is a crossing associated with the present channel of Duck Creek, is historic Group III. The site is intact and entirely surficial and consists of a bridge which is constructed of bricks, concrete and asphalt. No associated artifacts or old roadbeds were noted. The site appears to have a moderate research potential relative to earlier transportation systems, but no further work at the site itself appears to be warranted. Archival research into the background and importance of the crossing is warranted if specific data concerning transportation is felt to be historically significant.

Group IV

Group IV consists of the historic component of site 41RT141 which is a scatter of glass and ceramic sherds. These remains are thinly distributed, generally undiagnostic and of recent origin. The site area is severely disturbed. No further work appears to be warranted.

PART III

SUMMARY AND CONCLUSIONS

SUMMARY AND MANAGEMENT CONSIDERATIONS

Summary and management-oriented data are provided so that the research potential of each site within each of the reservoir alternatives can be assessed relative to any adverse effects which might result from proposed dam construction and reservoir impoundment. Research potential is primarily determined by the quality and type of cultural information which is contained within each site relative to the available cultural information concerning a particular area and its relationship to surrounding areas. The quality of the data is influenced by the nature of the physical characteristics of the site, while the type of data is influenced by the kinds, density and disposition of the cultural materials present. The potential adverse effects to cultural resources which might result from reservoir construction is influenced by the site distribution as related to a number of defined environmental, cultural and managerial units.

SITE PHYSICAL CHARACTERISTICS

Data gathered during the survey are not sufficient to allow a detailed assessment of the physical characteristics of each investigated site. A few prehistoric sites and most historic sites are surficial in nature, and characteristics of disposition and context can generally be described on the basis of a surface examination. A majority of the prehistoric sites, and therefore of sites in general, are buried. In most instances, the processes of exposure of buried cultural materials provide only limited indications of subsurface disposition and context. Since excavations were not conducted during the terrain survey, the assessment of the physical characteristics of these sites must be based on analogous sites which have been investigated within the project vicinity, primarily the Upper Navasota River Basin and Gibbons Creek areas. These comparisons, combined with observations made during the survey, provide a fairly accurate understanding of the physical characteristics of sites within the project area.

The prehistoric sites can be divided into three general groups on the basis of their physical characteristics. These groups representing cultural resource-oriented management units include: (1) surficial scatters of cultural materials; (2) buried sites within valley walls; and (3) buried sites within valley floors. The physical characteristics of historic sites are described following those of the prehistoric sites.

Surficial Sites

Few surficial scatters of prehistoric cultural materials were identified. In the Millican Transect Area, scatters of debitage flakes were noted on flat exposures of hard sandstone. Scatters of lithic resource procurement debris were noted on gravel concentrations, primarily those surrounding the heads of slope drainages. All the surficial sites examined are the result of disposition on stable surfaces rather than

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deflation of buried cultural materials. Sites on stable bedrock surfaces appear to be relatively intact, while sites surrounding drainage heads are in some instances subject to severe erosional displacement.

Buried Valley Wall Sites

The preponderance of the prehistoric sites are buried and situated within valley walls. This group includes sites situated on features of the valley wall, usually isolated knolls, which occur within valley floors. Although sites vary in content (or kind) and in specific situations within the valley wall, they exhibit similar physical characteristics. The following is a general description of the site group as a whole.

Previous investigations in the vicinity of the Millican Project provide indications of the physical characteristics of sites within stream valley walls. Seventeen sites were excavated during the investigations for Lake Limestone (Prewitt 1975; Prewitt and Mallouf 1977; Mallouf 1979), and most of them can be included within this group of buried valley wall sites. Cultural materials are contained within about 100 centimeters of sandy soil which overlies culturally sterile clay or bedrock. Both natural and cultural stratigraphy are rare due to repeated occupations of stable surfaces, rodent activities and other disturbances. The possibility of vertical mechanical displacement of cultural materials through the unconsolidated sand is strongly suggested. In situ hearth-sized burned rock features were noted infrequently, and it was sometimes possible to distinguish horizontal separations of temporally specific artifact assemblages. Although most of the sites contained several temporal components and were vertically mixed, a significant number were assessed positively after testing.

The results of testing five sites within the Gibbons Creek watershed are reported by Ippolito (1979) and Bond (1981). Each site examined is contained within unconsolidated sandy soil that is generally shallow but ranges up to 100 centimeters in depth. No features or apparent stratigraphy were noted, and most of the sites were disturbed by rodent activities.

The results of the investigations at Lake Limestone and Gibbons Creek are directly applicable to similar sites identified during the present survey. It is reasonable to expect that the sites included in this group have physical characteristics that are similar to those described in the two adjacent study areas.

Buried Valley Floor Sites

A significant percentage of the prehistoric sites are buried within the valley floors of the Navasota River and other area streams. Sites occur in the modern floodplain along the banks of relict channels which, in some instances, appear to represent natural levees and consist of sandy surface soil layers. In other instances, cultural materials were noted eroding from banks which are composed of clayey and loamy surface soils and lack apparent depositional structure. Relatively few sites

were identified along the present courses of area streams, and in many instances the sites have apparently been exposed by post-occupational river channel migration. Sites were also noted on low terraces composed of Quaternary alluvium which are situated at the margins of valley walls.

No sites situated within a stream valley floor have been excavated within the lower portion of the Navasota River watershed. A few of the sites investigated at Lake Limestone, however, may provide an indication of the nature of this group of sites. Areas B and D of site 41LT12 are situated on low natural levees bordering the present and relict channels of the Navasota River. Within Area B, vertically mixed cultural materials from at least two components are contained within 60 centimeters of dark gray, friable sandy loam which overlies culturally sterile sandy clay. Area D, associated with relict channels, consists of from 40 to 100 centimeters of similar soil. A burned rock-strewn living surface and both human and deer bone concentrations were noted. Occupational surfaces apparently were quickly covered by sediment prior to subsequent occupations, and the resulting stratigraphic separation is relatively undisturbed over a significant portion of the site area (Mallouf 1979). A portion of site 41LT17 may be included within the site group. Although disturbed by rodent activity, the site contained intact burned rock features and some stratigraphic separation of occupational components. At site 41LT44, investigations of Area B revealed a thin scatter of very shallowly buried cultural materials (Mallouf 1979).

In summary, the investigations at Lake Limestone indicate that the context of buried valley floor sites varies from excellent to severely disturbed. Approximately half of the sites exhibited horizontally recognizable and vertically separable components; physical characteristics of the remaining sites severely limit research potential. All of the sites, regardless of post-occupational disturbances, are apparently subject to similar processes of site formation. These processes consist of occupations with resultant accumulation of cultural materials alternating with relatively rapid alluvial deposition. Sites buried within stream alluvium are rare within the Lake Limestone area and much of eastern and southeastern Texas (Story 1981). This has limited the scope of cultural overviews within these areas.

The results from Lake Limestone are not directly applicable to sites identified during the present survey due to the general difficulty of determining the exact nature and origin of specific landforms within the Navasota River valley. The low relief, widespread flooding and the similarity between fluviatile, alluvial and bedrock soil layers (sandy or loamy surfaces overlying sandy or gravelly clay subsoil) are contributing factors. However, the Lake Limestone data and that from other areas as well as observations during the present survey provide a sufficient basis for preliminary assessment of the physical characteristics of buried valley floor sites within the project area.

Low alluvial terraces above the modern floodplain consist of sandy surface soils and usually support large rodent populations. Except for one instance (the channelization of Clear Creek), this portion of the

valley floor has also been subject to intensive modern land-use activities of which land clearing and cultivation have caused the most severe adverse effects. As a result, sites identified on low terraces are not expected to consistently exhibit good vertical and, to a lesser degree, horizontal cultural integrity. Specific sites or site areas, however, may be relatively intact. The potential for recognizable vertical stratigraphy of the sites as a group falls between that assessed for sites within the valley wall and modern floodplain.

Sites identified on natural levees within the modern floodplain and sites on the featureless floodplain are expected to exhibit different physical characteristics because of variations in depositional processes and soil characteristics. Although a significant percentage of the sites identified in both situations are expected to exhibit good context, greater rodent activity and mechanical artifact displacement through the less compact sandy soil may characterize sites on levees. Observations made during the survey indicate that generally the impact on modern floodplains from modern land-use activities is minimal and sites within floodplains are the least disturbed.

Historic Sites

The physical characteristics of historical archeological sites are in most instances apparent from a surficial examination. All historic sites identified occur on stable landforms and consequently are surficial in nature. Those sites which are situated on clayey or otherwise resistant surfaces are felt to be entirely surficial; however, the mechanical displacement of artifactual materials within unconsolidated sandy surfaces noted for the prehistoric sites applies equally well to the historic sites. Those sites which occur on sandy surfaces, therefore, may possibly contain shallowly buried cultural materials. The presence of features at most of the historic sites provides an additional index by which to determine the context of the sites on the basis of the integrity or displacement of these features.

SITE CULTURAL CHARACTERISTICS

Kinds of Cultural Information

Regardless of the area under investigation, certain kinds of information are necessary to characterize the cultural resources present and to place the area within a local, regional and interregional cultural framework. These include: (1) area-specific cultural sequence, (2) temporally specific artifact assemblages, (3) temporally specific primary adaptations (the major lifeways), (4) temporally specific subsistence and other resource orientations and strategies, and (5) temporally specific land-use strategies. Although the following discussion of the kinds of information important to the management of cultural resources is presented in terms which are more appropriate to prehistoric resources, similar kinds of information are necessary to assess the significance of historic resources. Traditionally, archeological investigations have been geared toward determining area-specific cultural

sequences and the artifact assemblages which characterize particular temporal divisions of this sequence. Recent investigations have attempted to broaden the scope of the cultural information obtained to include specific detailed data concerning subsistence and land-use orientations and strategies. All kinds of cultural information, however, are necessary to provide a complete picture of the lives of past groups of people. The more basic kinds of data are needed to understand the refined and more detailed information.

The area-specific cultural sequence and temporally specific artifact assemblages are the most basic kinds of cultural information. A detailed cultural sequence of an area provides the specific timing of major and minor changes in both cultural adaptation and regional interaction. Noting broad similarities at varying times with other cultural areas or relying on typological similarities with other areas to develop a seriated relative chronology is not sufficient. These stress similarities which may be only apparent and do little to define the way groups of people within a particular area actually lived. Once a cultural sequence has been established, the artifacts associated with each temporal division can be used to define characteristic assemblages. The assemblage can then be used to provide data concerning the nature and functions of preserved tool types, material-working traditions and major subsistence adaptations.

Previous investigations within the Lower Navasota River Basin (Sorrow and Cox 1973) provide a temporal range of the occupation for the southern portion of the project area relative to established sequences from other areas. Since no testing or excavation has been conducted within the area, more specific information is unknown. Investigations within the Gibbons Creek watershed have done little to refine this general cultural sequence. The area nearest the project area which has a relatively well-defined local cultural sequence is Lake Limestone. Although this sequence may be valid for the northern portion of the project area, the likelihood of shared history decreases to the south. This appears to be even more true of cultural adaptations which would be reflected in the artifact assemblages characteristic of the defined temporal periods. The current investigations indicate that the project area possesses unique historical and cultural information which is largely undefined.

The primary adaptations or lifeways pursued by the various groups of people which have occupied the project area are fairly well defined. Specific data concerning the transitions to an Archaic and possibly incipient Formative lifeway would be significant. However, the potential of the project area to provide such data is not great because of the scarcity of early sites and a lack of preserved organic materials.

Once the basic kinds of cultural information have been obtained for a specific area, more detailed data can be used to define and characterize temporally specific resource orientations and strategies and ultimately land-use strategies. The former is viewed as a cultural construct which defines a group's view of their environment in terms of the resources necessary to carry on their lives, while the latter is the

result of the pursuit of these orientations and strategies as expressed by the locations and timing of the activities conducted within a specific area. In order to address various kinds of cultural information, a number of environmental and cultural variables must be defined. The area must be divided into environmental units which are characterized by differing kinds or relative availability of specific resources. The locations of seasonally specific activities or groups of activities conducted by temporally specific groups of people must be determined relative to the defined environmental stratification. Finally, the nature and meaning of the overall pattern of resource exploitation must be obtained from a data synthesis. It is recognized that cultural information of this nature is not routinely defined even by extensive excavations; however, their definition is a primary goal of archeological investigation.

Research within areas near the project area, most pertinently the Lake Limestone area and eastern and southeastern Texas, are currently in the stage of developing initial hypotheses concerning detailed Archaic subsistence and land-use strategies. Indications of these patterns are discussed by defined temporal divisions in the Archeological Background section of this report (Part I) and will not be repeated. More importantly, sufficient investigations have been conducted within these adjacent areas to raise specific questions which can be applied to the current project area and which investigations within the project area can help to answer.

Kinds of Cultural Materials

The kinds of cultural materials present at a particular site are used with other variables to define and characterize groups of sites. Cultural materials as management factors which contribute to the assessment of the kinds and quality of information for the site as a whole are discussed later in this report. In addition, certain cultural materials potentially may provide significant information concerning the project area regardless of the nature of other associated materials, and these merit management considerations in their own right.

Prehistoric ceramics and exotic lithic materials are potential sources of data concerning the relationships between the project area and other cultural areas. The presence of a local ceramic tradition, its origin and relationships with those of eastern and southeastern Texas is unknown. Distinctive ceramic materials (based primarily on clay mineral content, types of tempering and style of decoration) can provide significant cultural information. Exotic lithic materials within the project vicinity are usually derived from Central Texas or from Arkansas by way of East Texas and provide trade data from these areas.

Faunal remains have the potential to provide critical data concerning area-specific subsistence and seasonal timing. Bone remains are especially significant in this instance due to general poor preservation and subsequent scarcity of bone within the project area. Shell remains, although relatively more numerous, are also scarce. Vegetable remains, particularly the remains of cultigens, although highly significant, are rare or absent from the project area.

Other kinds of cultural materials with a high research potential include specialized and/or functionally specific tools. Within this general artifact category, concentrations of vegetable processing tools were noted during the present survey. Other and different kinds of specialized tools undoubtedly are present in the project area. Given the apparent generalized and consequently undiagnostic nature of the majority of the observed cultural materials, these artifacts have a high information yield potential concerning local subsistence strategies. Other significant kinds of artifacts and/or materials may be recognized as a result of more intensive investigations within the project area.

No specific historic cultural materials are considered to be of particular significance to resource management. The kinds of features and artifactual materials noted during the survey are general in nature and relate primarily to the maintenance of residences. More important to the assessment of historic resources are a variety of kinds of artifacts and materials and the type of site represented. These are discussed later in this report.

Kinds of Sites

Four general kinds of prehistoric sites are represented in the sample investigated during the present survey; these are: (1) campsites, (2) multiple activity areas, (3) specialized activity areas, and (4) limited activity areas. It must be stressed that these kinds of prehistoric sites, which are based primarily on the kinds of cultural materials noted at a particular site, are descriptive in nature. The placement of a site within this framework is made on the basis of a limited, and possibly biased, sample of buried cultural materials and on an assessment of the nature of the activities represented by specific cultural materials. Although the framework is useful in combining the prehistoric sites into manageable groups and is used within this report to present management and summary data, these biases are acknowledged and should be considered during the following discussions.

Campsites are identified by the presence of hearth-sized burned rock features and/or scattered burned rocks which result from the displacement or maintenance of such features. Although campsites were identified which contain less varied artifact inventories, most contain lithic and other tools in addition to the more ubiquitous lithic debitage. It is tempting to separate campsites into more meaningful descriptive categories on the basis of site size and the apparent density and variety of cultural material present. Unfortunately, although both campsites which were occupied by small groups of people for short durations and campsites which were occupied by larger groups of people on semipermanent bases may exist within the sample, separations made on the basis of the present survey data would be premature.

During the survey a number of prehistoric sites were identified which contain a variety of kinds of cultural materials but which apparently lack burned rocks. Lithic and other tools and lithic debitage noted at these sites represent a number of different activities which apparently did not include camp maintenance. Although the types of

activities conducted and the apparent intensity or duration of the occupations vary considerably, the exact function of this kind of site within the framework of prehistoric land-use strategies is not known. These multiple activity sites, however, are felt to reflect actual differences in prehistoric use rather than to be the result of sampling bias.

A small proportion of the prehistoric sites contain materials which indicate a specific activity or set of activities. Although many sites in a particular area may represent such activities, the actual number of sites which can be so characterized are few in number. The most common and readily identified kind of specialized activity site is lithic resource procurement and/or processing. Primary flakes, cores, tested cobbles, partially reduced bifaces, thinning flakes and manufacturing failures are generally indicative of these sites. The presence of specialized tools and other cultural materials which might indicate additional kinds of specialized activity areas are rare within the project area. Consequently, many sites recorded during the survey must be grouped in the final kind of prehistoric sites: limited activity areas.

Limited activity sites include all small, thinly distributed sites which cannot be assigned a specific activity and which generally consist of debitage flakes, very few tools and no burned rocks. Most of these sites probably represent short term occupations by small groups of people for specific activities or very limited sets of activities. Although the site category is obviously not sufficiently definitive to answer specific cultural questions, it isolates those sites which are the most difficult to characterize and assess.

The kinds of historic sites which are included within the survey sample are more easily determined; these include: (1) standing structures, (2) the remains of housesites, (3) isolated water wells, (4) clusters of historic remains and/or communities, (5) commercial sites, (6) stream crossings, and (7) artifact scatters.

The first two kinds of historic sites are related and represent single residences which are usually, but not necessarily, associated with ranching and/or farming facilities or activities. Standing structures are rare within the areas surveyed, and it appears that house or other structures have been intentionally moved from their locations or are disturbed to such an extent that little evidence remains on the site. Housesites are generally represented by the remains of foundations and/or chimneys which consist of surface features and/or scatters composed of sandstone blocks. In a few instances, no structural features are present and the designation as a housesite is made on the basis of the presence of nails, sheet metal and other indirect evidence of structures, or on information gathered from local informants.

A number of historic wells, which apparently are not associated with either structural or artifactual remains, were identified during the present survey. The wells may represent either the remains of housesites which have been otherwise obliterated by land clearing or other activities or water sources separated from residences and used during ranching and/or farming activities.

In a few instances, a number of historic remains and/or sites were identified within a restricted area; these are included within historic site clusters or communities. In one instance (Clear Creek Transect Area), a cluster of site remains is associated with a known historic community. The relationship between sites or components within other similar clusters cannot be demonstrated but is assumed on the basis of similarities in construction, date of occupation and other pertinent site characteristics. Regardless of the presence or absence of definite associations, this kind of historic site presents unique problems for cultural resource management. Their separation from other kinds of sites is justified on that basis.

A few of the historic sites investigated are categorized as commercial sites. This distinction is made on the basis of specific features or artifacts which indicate that public services were provided. The presence of such materials is given priority over the remains of other activities; for example, a housesite and farming complex which also contains evidence of use as a gas station (Clear Creek Transect Area) is included in the commercial sites category.

Stream crossings consist of the remains of bridges which span streams or water-filled sloughs within the project area. Only one artifact scatter was identified during the survey; in this instance the artifacts do not provide an indication of activities or function and the site is of necessity included within this most general kind of historic site.

Site Age

The cultural sequences used in this report are discussed within the Archeological Background (Part I) and Appendix I (Historical Background) and are not repeated here. Several factors concerning site age are of more direct concern to the management of cultural resources. Foremost is the number of components present at a particular site relative to the potential for stratigraphic separation of occupations. Multiple components which can be isolated are important in establishing an area-specific cultural sequence, and sites which meet this criterion are of significant management value. If, on the other hand, no vertical or horizontal separation exists, the presence of multiple components limits research potential. Sites which contain a single component are also of critical management value. In all instances the identified historic sites are single component.

For both prehistoric and historic resources, certain periods within the defined temporal sequence may be considered more important than other periods. This relates to the scarcity of both early prehistoric and historic sites. Although it is recognized that all phases of previous occupations within the project area must be investigated if a complete picture of past adaptations is to be obtained, the scarcity of earlier sites is felt to justify the examination of a higher percentage of such sites.

SITE DISTRIBUTION

The physical and cultural characteristics of the sites provide a basis by which the research potential of each site can be assessed. However, it is the distribution of the sites within the project area which determines the potentially adverse effects that might result from reservoir construction. Four aspects of this site distribution are of importance to the management of cultural resources; these are: (1) the geographic location of the site relative to the northern or southern limit of the project area; (2) the situation of the site relative to the defined environmental stratification within a particular portion of the project area; (3) the unequal distribution of sites within each of these environmental strata; and (4) the distribution of sites relative to defined divisions within each reservoir alternative.

Geographic Location

The transect areas as a whole represent geographic and environmental units which sample the range of variation within the cultural resources from south to north. The cultural resources present within each area are expected to vary according to their location relative to surrounding cultural areas, as well as from the effects of the distance of 70 to 80 miles between the two geographic extremes. Variations are expected to result from differing environmental characteristics, primarily in the type of surficially exposed geologic unit and vegetation.

In addition to providing data which can be used to define the variability within the project area, the geographic location of cultural resources has more immediate management potential. Cultural resources within the northern end of the project area, which for this investigation are typified by the Clear Creek Transect Area, are similar to those documented in the Lake Limestone area. Thus, information from Lake Limestone can be applied to sites within the northern portion of the project area. The cultural resources within the southern portion of the project area, on the other hand, are poorly defined and cannot be directly associated with another, better-defined area. These differences mean that the potential loss of cultural information due to reservoir construction will be relatively greater in the southern portion of the project area.

Environmental Stratification

Each transect area is stratified on the basis of a number of physiographic and environmental units which are defined and their use justified within the Environmental Background section of this report (Part I). The strata are discussed here relative to their summary and management potential.

An environmental stratification is used to define resource areas within a particular portion of the project area and allow each site to be characterized by association as being oriented toward a specific resource area or areas. The strata and the cultural resources identified within their boundaries can then be discussed as a whole regardless

of their geographic location, and the use of a specific strata by prehistoric or historic groups of people can be characterized. Of more immediate management potential, portions of each environmental strata which have been surveyed can be used to predict the nature and apparent density of cultural resources within the project area as a whole. Also, certain divisions in the environmental stratification, namely the valley floor and valley wall, generally correspond to the reservoir management units which are defined below and which determine the kinds and intensities of potential adverse effects to cultural resources within each reservoir alternative. The environmental strata can be readily defined on the basis of an interpretation of USGS 7.5' topographic sheets in conjunction with the Geologic Atlas of Texas, Waco Sheet (Bureau of Economic Geology 1973) and Geologic Atlas of Texas, Austin Sheet (Bureau of Economic Geology 1974) and without field investigations.

Unequal Site Distributions

The distribution of sites within each environmental stratum is not expected to be uniform but is expected to include both a random element and clusters of sites. This means that although all portions of each stratum may potentially contain cultural resources, identifiable archeological sites within a specific area may be absent; may occur as a single, apparently randomly located site; or may form clusters or apparent concentrations of sites. The unequal distribution of sites is related to the unequal distribution or use of specific resources as well as the resource orientation and land-use strategy of particular groups of people. The specifics of this relationship are poorly defined and will not be discussed here. Of more importance, the distribution of sites within each stratum must be considered during any predictive assessment of the cultural resources present within the project area.

Reservoir Management Units

Four areal management units are defined on the basis of differences in the type and severity of the potential adverse effects which will result from the construction and impoundment of the proposed reservoir. The effects on cultural resources within each of these units is dependent upon the physical characteristics of the sites as they are affected by natural processes and land-use activities and is independent of the research potential of the sites. That is, surficial scatters of cultural materials and deeply buried sites will be affected differently by similar natural processes and land use regardless of whether the sites contain significant information or not.

The four defined management units include: (1) the selected damsite and associated construction areas; and three units defined on the basis of their relative vertical placement within the project area: (2) the conservation pool, (3) the floodpool, and (4) the fee-owned lands above the dam spillway elevation and adjacent to the floodpool. The construction of the dam will effectively destroy any cultural resources within its limits, and this unit has the most potentially severe adverse effects. A ranking of the severity of the effects of the remaining units are, from highest to lowest, the floodpool, the conservation pool

and, if properly managed, the fee-owned lands. A discussion of the specific types of potentially adverse effects within the management units, except for the damsite, follows.

The conservation pool is the minimum body of water which should be maintained and will, except at times of drought, continually submerge a predetermined area. Natural processes which might adversely affect cultural resources are limited to deposition and minor wave erosion. Although it can be argued that such deposition preserves the integrity and eliminates further deterioration of deeply buried sites, this is not true for surficial or eroding sites. Without a microtopographic map, the original ground surface, which is essential for reconstruction and interpretation of such sites, is lost. An additional consideration relative to the preservation of sites by lake deposition is that archeological remains are scientific resources only if they can be feasibly retrieved.

The high potential for adverse effects on cultural resources within the area between the conservation pool and floodpool elevations is due primarily to fluctuations in lake level and wave erosion. In addition to erosion, this area is subject to land use associated with lake activities including the collecting of artifacts exposed by erosion. The severity of the adverse effects of land activities can be minimized by proper management; however, eliminating the effects of erosion, except in extraordinary instances, is neither economically nor engineeringly feasible.

The fee-owned lands above the spillway elevation will not be affected by either lake-related deposition or erosion. Although minor erosion will occur subsequent to reservoir impoundment as drainages adjust their gradients, the potentially adverse effects to cultural resources will be primarily from land use. If this area is managed properly, the loss of significant cultural information can be limited; however, the effects on unmanaged land-use areas can be severe.

SUMMARY

The summary and management considerations discussed above which include (1) the physical characteristics of the sites, (2) the kinds of cultural information contained within each site relative to the known information for that area, (3) the kinds of activities and number of temporal components represented at the sites, and (4) the distribution of sites with a high information yield potential relative to the expected adverse effects, provide the basis of site assessments used within this report. Although the procedure used involves the grouping of sites on the basis of shared physical and cultural attributes and site situation, care is taken to ensure that the unique aspects of each site are not totally lost in the process.

Each site identified during the survey is assessed separately relative to its potential to provide different kinds of cultural information. This is important since a specific site may have a high information yield potential concerning one kind of information and a low potential concerning another kind of information. Within this framework, different kinds of sites, the presence of single or multiple components, and the physical characteristics of each site are felt to represent the critical values. Thus, campsites and multiple activity areas which contain a number of occupations and are situated within the valley floor of area streams and therefore have a high potential for good vertical context have the highest potential to answer questions concerning the area-specific cultural sequence. Conversely, specialized and limited activity areas which include a number of components and are situated within the valley wall or are surficial in nature have a low potential. All kinds of sites which contain single occupations or stratigraphically separable multiple occupations, however, have some information yield potential concerning overall subsistence and land-use strategies. The unique nature of each site is considered by discussing research potential relative to each transect area which includes the presence or absence of similar sites and the known distribution of other cultural resources surrounding the site. In this way the research potential of a particular site is viewed within the specific cultural framework of its occurrence.

SUMMARY AND MANAGEMENT DATA

This section provides data concerning the apparent kinds, density, age and information yield potential of cultural resources investigated during the present survey. These variables are discussed relative to the environmental stratification defined for the project and provide an indication of the variability between northern and southern portions of the area, between the Navasota River and its major lateral tributaries, and within each kind of stream valley. These data provide the means to predict the situation and apparent density of significant cultural resources which can be expected to occur within the project area and to define the occupation and use of this area during prehistoric times.

The apparent site density values for prehistoric sites provided below indicate the instances of surficially exposed cultural materials which can be expected to occur for every 100 acres surveyed. Only those prehistoric sites which are surficial in nature or conform to topographic rises or other isolatable physiographic features could be entirely delineated. Most of the prehistoric sites represent exposures. Values for historic sites closely reflect a total inventory of cultural resources, although intensive modern land use has probably obliterated some historic remains (Moody Allen, personal communication, 1981). The data base for the following discussion of the apparent site density which can be expected within the Millican Project area is provided in Tables 6 through 9.

TABLE 6

APPARENT SITE DENSITY, MILLICAN TRANSECT AREA

Area	Situation	Acreage	Prehistoric		Historic		Total	
			# of Components	Density per 100 Acres	# of Components	Density per 100 Acres	# of Sites	Density per 100 Acres
Area A	Navasota River valley floor, undifferentiated	271	2	0.70	0	-	2	0.70
Area B	Navasota River valley wall, Quaternary fluviatile terrace deposits	188	1	0.53	0	-	1	0.53
Area C	Navasota River valley wall, Quaternary fluviatile terrace deposits	95	5	5.26	1	1.05	5	5.26
Area D	Millican Creek valley floor, modern floodplain	446	0	-	0	-	0	-
Area E	Millican Creek valley wall, bedrock	340	12	3.53	0	-	12	3.53
Area F	Millican Creek valley wall, bedrock	352	1	0.28	0	-	1	0.28
Area G	Millican Creek valley wall, Quaternary fluviatile terrace deposits	77	3	3.89	1	1.30	4	5.19
Area H	Rocky Creek valley floor, isolated features within the modern floodplain	552	3	0.54	0	-	3	0.54
Area I	Rocky Creek valley wall, mixed composition	398	5	1.25	4	1.0	9	2.25
Area J	Rocky Creek valley wall, clayey bedrock	274	6	2.19	1	0.36	6	2.19
Area K	Rocky Creek valley wall, bedrock	349	6	1.72	1	0.29	7	2.01
Area L	Rocky Creek valley wall, bedrock	315	2	0.63	3	0.95	5	1.58
TOTAL		3357	46	1.37	11	0.33	55	1.34

TABLE 7

APPARENT SITE DENSITY, FERGUSON #3 TRANSECT AREA

Area	Situation	Acreage	Prehistoric # of Components	Prehistoric Density per 100 Acres	Historic # of Components	Historic Density per 100 Acres	Total # of Sites	Total Density per 100 Acres
Area A	Nawasota River valley floor, modern floodplain		not surveyed					
Area B	Nawasota River lower valley wall, Quaternary fluviatile terrace deposits	243	3	1.13	0	-	3	1.13
Area C	Nawasota River valley wall, bedrock		not surveyed					
Area D	Stream divide, Quaternary fluviatile terrace deposits	230	0	-	0	-	0	-
	Wickson Creek valley floor, Quaternary fluviatile terrace deposits	103	0	-	0	-	0	-
Area E	Wickson Creek valley floor, modern floodplain	583	2	0.34	0	-	2	0.34
	Wickson Creek valley floor, low terrace	33	4	12.12	0	-	4	12.12
Area F	Wickson Creek valley wall, bedrock	745	4	0.54	1	0.13	4	0.54
TOTAL		1927	13	0.61	1	0.05	13	0.61

TABLE 8

APPARENT SITE DENSITY, BUNDIC CROSSING TRANSECT AREA

Area	Situation	Acreage	Prehistoric		Historic		Total	
			# of Components	Density per 100 Acres	# of Components	Density per 100 Acres	# of Sites	Density per 100 Acres
Area A	Navasota River valley floor, modern floodplain, featureless (portions of Area A were not surveyed)	196	0	-	2	1.02	2	1.02
Area B	Navasota River valley floor, modern floodplain, relict channel system present	335	6	1.79	0	-	6	1.79
Area C	Navasota River valley floor, low terraces	333	2	0.60	1	0.30	3	0.39
Area D	Navasota River valley wall, mixed composition	not surveyed						
Area E	Navasota River valley wall, Quaternary fluviatile terrace deposits	306	2	0.66	0	-	2	0.66
Area F	Navasota River valley wall, bedrock	481	2	0.42	1	0.21	3	0.63
TOTAL		1651	12	0.72	4	0.24	16	0.96

TABLE 9

APPARENT SITE DENSITY, CLEAR CREEK TRANSECT AREA

Area	Situation	Acreage	Prehistoric # of Components	Prehistoric Density per 100 Acres	Historic # of Components	Historic Density per 100 Acres	Total # of Sites	Total Density per 100 Acres
Area A	Navasota River valley floor, modern floodplain, featureless	289	0	-	0	-	0	-
Area B	Navasota River valley floor, modern floodplain, relict channel system present	99	4	4.04	0	-	4	4.04
Area C	Navasota River valley floor, low terraces, spring-oriented	93	3	3.11	0	-	3	3.11
Area D	Navasota River valley wall, bedrock, spring-oriented	110	6	5.05	0	-	6	5.05
	Navasota River valley wall, bedrock, river-oriented	20	1	5.00	0	-	1	5.00
Area E	Navasota River lower valley wall, Quaternary fluviatile terrace deposits	114	3	2.63	0	-	3	2.63
Area F	Navasota River lower valley wall, bedrock	43	2	4.65	0	-	2	4.65
Area G	Navasota River valley floor, area dominated by seep springs and spring-fed lakes	243	0	-	0	-	0	-
Area H	Navasota River valley floor, modern floodplain, major lateral tributary stream, relict channel of Navasota River	65	2	3.08	1	1.54	2	3.08
Area I	Clear Creek valley floor and margins with valley walls	618	15	2.39	2	0.32	17	2.70
TOTAL		1694	36	2.13	3	0.17	38	2.24

The kinds of prehistoric and historic archeological sites provide an indication of the kinds and varieties of cultural materials and other remains which can be expected to occur within defined site areas. Although these sites are felt to reflect cultural reality, the limited sample of cultural materials available at many of the prehistoric sites should be kept in mind during the discussion. Data concerning the kinds of archeological sites are derived from the preceding descriptions of each transect area, primarily the defined groups of sites which are summarized in Tables 10 through 17. The age of prehistoric sites summarized in Tables 18 through 21 is also discussed using data from this section of the report but is augmented by the results of previous investigations within the project area (Appendix III, Site Descriptions).

Assessments and recommendations of the sites identified during the present survey provide an indication of the number, kinds and situation of significant cultural resources which can be expected within the project area. Tables 22 through 29 provide an assessment of each group of sites and separate those sites which are felt to have a high, moderate or low information yield potential within each group of sites. The management summary discusses the more general areal units first and the more specific environmental situations later.

THE TRANSECT AREAS

Apparent Site Density

Apparent site density values for each of the transect areas investigated are summarized in Table 30. These indicate the range in variation of average transect area site densities. The averaged values of all the transect areas, although they are removed even further from the reality of both prehistoric and historic occupation, provide the most readily usable prediction of apparent site densities.

Apparent density values for both prehistoric and historic components exhibit considerable variation. The high density of prehistoric sites within the Clear Creek Transect Area, which is the northernmost transect, apparently reflects real differences in the intensity of occupation of that area. The southernmost transect, the Millican Transect Area, however, also contained numerous prehistoric components, and the geographic variability within apparent densities is not a simple progression from a more intensively occupied southern area. The low density of prehistoric components within the Bundic Crossing Transect Area reflects the averaging of intensive use of the valley floor of the Navasota River and extremely sparse use of the valley walls. The low values for the Ferguson #3 Transect Area may reflect a real scarcity of identifiable prehistoric sites within this area.

TABLE 10

SUMMARY OF PREHISTORIC SITE GROUPS,
MILLICAN TRANSECT AREA

Site Group	Description
Group I	Multiple activity areas within the modern floodplain of the Navasota River and associated with relict river channels.
Group II	Lithic resource processing sites which occur surficially on outcrops of hard sandstone within the valley wall of the Navasota River.
Group III	Limited activity areas within the valley wall of the Navasota River.
Group IV	A campsite and limited activity areas within the lower portion of the valley wall of Millican Creek.
Group V	Campsites and multiple activity areas within the middle portion of the valley wall of Millican Creek.
Group VI	A campsite and limited activity area within the upper portion of the valley wall of Millican Creek.
Group VII	Lithic resource procurement and processing sites within the upper portion of the valley wall of Millican Creek.
Group VIII	Campsites and limited activity areas within the valley wall of Millican Creek.
Group IX	Limited activity areas situated on isolated bedrock knolls within the valley floor of Rocky Creek.
Group X	Multiple activity areas and an isolated find within the valley wall of Rocky Creek.
Group XI	A multiple activity area, limited activity areas and isolated and/or dubious finds within a portion of the valley wall of Rocky Creek dominated by clayey surface soil layers.
Group XII	Campsites within the valley wall of Rocky Creek.
Group XIII	A lithic resource procurement site, limited activity areas and isolated and/or dubious finds within the valley wall of Rocky Creek.

TABLE 11

SUMMARY OF PREHISTORIC SITE GROUPS,

FERGUSON #3 TRANSECT AREA

Site Group	Description
Group I	A campsite and limited activity areas within the valley wall of the Navasota River.
Group II	Limited activity areas within the modern floodplain of Wickson Creek.
Group III	Limited activity areas situated on low terraces within the valley floor of Wickson Creek.
Group IV	Limited activity areas within the valley wall of Wickson Creek.
Group V	An isolated find within the valley wall of Wickson Creek.

TABLE 12

SUMMARY OF PREHISTORIC SITE GROUPS,
BUNDIC CROSSING TRANSECT AREA

Site Group	Description
Group I	Campsites and isolated finds within the modern floodplain of the Navasota River and in association with relict river channels.
Group II	Campsites and isolated finds situated on low terraces within the valley floor of the Navasota River.
Group III	Isolated finds situated on isolated knolls within the lower portion of the valley wall of the Navasota River.
Group IV	An isolated find within the upper portion of the valley wall of the Navasota River.

TABLE 13

SUMMARY OF PREHISTORIC SITE GROUPS,
CLEAR CREEK TRANSECT AREA

Site Group	Description
Group I	Campsites within the modern floodplain of the Navasota River in association with relict river channels.
Group II	Limited activity areas situated on low terraces of the Navasota River and associated with seep springs.
Group III	Campsites within the valley walls of the Navasota River.
Group IV	Campsites within the valley walls of the Navasota River and associated with seep springs.
Group V	Campsites and one multiple activity area within the valley walls of Clear Creek.
Group VI	Limited activity areas, isolated finds and finds of questionable context primarily within the valley walls of Clear Creek.

TABLE 14

SUMMARY OF HISTORIC SITE GROUPS,
MILLICAN TRANSECT AREA

Site Group	Description
Group I	Housesites within the valley wall of Rocky Creek.
Group II	Isolated wells within the valley walls of Rocky and Millican creeks.
Group III	Clusters of historic remains and/or communities within the valley walls of Rocky Creek.
Group IV	Little Flock Cemetery.

TABLE 15

SUMMARY OF HISTORIC SITE GROUPS,
FERGUSON #3 TRANSECT AREA

Site Group	Description
Group I	A housesite within the valley wall of Wickson Creek.

TABLE 16

SUMMARY OF HISTORIC SITE GROUPS,
BUNDIC CROSSING TRANSECT AREA

Site Group	Description
Group I	Crossings within the modern floodplain of the Navasota River.
Group II	A housesite situated on a low terrace within the valley floor of the Navasota River.
Group III	A standing structure within the valley wall of the Navasota River.

TABLE 17

SUMMARY OF HISTORIC SITE GROUPS,
CLEAR CREEK TRANSECT AREA

Site Group	Description
Group I	Housesites which apparently represent the remains of a community and situated within the valley wall above the confluence of the Navasota River and Clear Creek.
Group II	Commercial sites within the Clear Creek stream valley.
Group III	A crossing associated with Duck Creek and situated within the modern floodplain of the Navasota River.
Group IV	An artifact scatter within the valley wall of the Navasota River.

TABLE 18

SUMMARY OF SITE AGE, PREHISTORIC SITES,
MILLICAN TRANSECT AREA

Site Group	Site #	Temporally Diagnostic Materials	Site Age
Group I	41BZ45	Gary type projectile point	Late Archaic
Group X	41GM100	Wells type projectile point	Early Archaic
	41GM105	Gary type projectile point	Late Archaic
Group XI	41GM98	Arrow point	Neoarchaic

TABLE 19

SUMMARY OF SITE AGE, PREHISTORIC SITES,
FERGUSON #3 TRANSECT AREA

Site Group	Site #	Temporally Diagnostic Materials	Site Age
Group III	41BZ58	Ceramic sherd	Neoarchaic

TABLE 20

SUMMARY OF SITE AGE, PREHISTORIC SITES,
BUNDIC CROSSING TRANSECT AREA

Site Group	Site #	Temporally Diagnostic Materials	Site Age
Group I	41MA8	Projectile point	Possibly Late Archaic
Group II	41MA5	Arrow point	Neoarchaic
Group IV	41MA10	Ellis-like projectile point	Late Archaic

TABLE 21

SUMMARY OF SITE AGE, PREHISTORIC SITES,
CLEAR CREEK TRANSECT AREA

Site Group	Site #	Temporally Diagnostic Materials	Site Age
Group I	41RT134	Neches River type projectile point	Middle Archaic
		Arrow point	Neoarchaic
	41RT135	Gary type projectile point	Late Archaic
	41LN200	Dart point	Archaic
Group II	41RT136	Ceramic sherd	Neoarchaic
Group IV	41RT139	Ceramic sherd	Neoarchaic

TABLE 22

SUMMARY OF PREHISTORIC SITE GROUP AND SITE ASSESSMENTS,
MILLICAN TRANSECT AREA

Site Group	Assessment	Information Yield Potential		
		High	Moderate	Low
Group I	Sites are relatively undisturbed and have a high potential for good vertical context. Although thinly distributed, cultural materials include a variety of culturally diagnostic artifacts and other materials. Temporally diagnostic artifacts are present.	41BZ44 41BZ45	-	-
Group II	Sites are surficial in nature but relatively intact. The cultural materials present are limited to lithic debitage flakes which are generally undiagnostic. No temporally diagnostic artifacts were noted.	-	-	41GM93 41GM94
Group III	Although portions of each site are disturbed, other portions may be relatively intact. Potential for good vertical context is low. Cultural materials are thinly distributed and generally undiagnostic. No temporally diagnostic artifacts were noted.	-	41GM91 41GM92 41GM93	41GM41
Group IV	Although portions of each site are disturbed, other portions may be relatively intact. Potential for good vertical context is low. Except for site 41BZ57, cultural materials are thinly distributed and generally undiagnostic. Site 41BZ57 contains thinly distributed but culturally diagnostic artifacts. No temporally diagnostic artifacts were noted.	41BZ57	41BZ48 41BZ49 41BZ56	-
Group V	Although portions of each site are disturbed, other portions may be relatively intact. Potential for good vertical context is low. Cultural materials are thinly distributed although certain sites contain culturally diagnostic artifacts and other materials. No temporally diagnostic artifacts were noted.	41BZ55	41BZ51 41BZ52 41BZ53	-
Group VI	Sites are disturbed and the potential for good vertical context is low. Cultural materials are thinly distributed and generally undiagnostic. No temporally diagnostic artifacts were noted.	-	41BZ54	41BZ9

Table 22, continued

Site Group	Assessment	Information Yield Potential		
		High	Moderate	Low
Group VII	Sites are surficial in nature. Site 41BZ50 is severely disturbed and contains thinly distributed and undiagnostic cultural materials. Site 41BZ47 is relatively intact and contains culturally diagnostic artifacts. No temporally diagnostic artifacts were noted.	-	41BZ47	41BZ50
Group VIII	Although portions of each site are disturbed, other portions may be relatively intact. Potential for good vertical context is low. Two sites contain culturally diagnostic artifacts and other materials. No temporally diagnostic artifacts were noted.	41BZ40 41BZ42	41BZ39 41BZ43	-
Group IX	Although portions of each site are disturbed, other portions may be relatively intact. All are isolated finds which cannot be characterized on the available data. No temporally diagnostic artifacts were noted.	-	41GM14 41GM88 41GM89	-
Group X	Although portions of each site are disturbed, other portions may be relatively intact. The potential for good vertical context is low. Cultural materials may be relatively densely distributed and include a variety of culturally diagnostic artifacts and other materials. Temporally diagnostic artifacts are present.	41GM100 41GM101	41GM104 41GM105 41GM106	-
Group XI	Sites are disturbed but may contain portions which are relatively intact. Potential for good vertical context is low. Cultural materials are thinly distributed and except for 41GM20 and 41GM98 generally undiagnostic. Temporally diagnostic artifacts are present.	41GM20	41GM14 41GM19 41GM98	41GM96 41GM97
Group XII	Although portions of each site are severely disturbed, other portions may be relatively intact. The potential for good vertical context is low. Cultural materials are thinly distributed but include culturally diagnostic artifacts and other materials. No temporally diagnostic artifacts were noted.	41GM111 41GM115	-	-
Group XIII	Many sites are severely disturbed; portions of other sites may be relatively intact. Potential for good vertical context is low. Cultural materials are thinly distributed and generally undiagnostic. No temporally diagnostic artifacts were noted.	-	41GM86 41GM112 41GM114	41GM87 41GM110 41GM112

TABLE 23

SUMMARY OF PREHISTORIC SITE GROUP AND SITE ASSESSMENTS,
FERGUSON #3 TRANSECT AREA

Site Group	Assessment	Information Yield Potential		
		High	Moderate	Low
Group I	Although portions of each site are disturbed, other portions may be relatively intact. Potential for good vertical context is low. Cultural materials are thinly distributed and generally undiagnostic. No temporally diagnostic artifacts were noted.	-	41BZ67 41BZ68 41BZ69	-
Group II	Although portions of each site are severely disturbed, other portions may be relatively intact. Potential for good vertical context is high. Cultural materials are thinly distributed and generally undiagnostic.	41BZ59	41BZ65	-
Group III	Although portions of each site are disturbed, other portions may be relatively intact. Potential for good vertical context is moderate. Although cultural materials are thinly distributed, culturally and temporally diagnostic artifacts are included.	41BZ58 41BZ61 41BZ62	41BZ60	-
Group IV	Apparently effectively totally destroyed.	-	-	41BZ63 41BZ64
Group V	Apparently effectively totally destroyed.	-	-	41BZ70

TABLE 24

SUMMARY OF PREHISTORIC SITE GROUP AND SITE ASSESSMENTS,
BUNDIC CROSSING TRANSECT AREA

Site Group	Assessment	Information Yield Potential		
		High	Moderate	Low
Group I	Sites are relatively intact and have a high potential for good vertical context. Cultural materials are thinly distributed but include a variety of culturally diagnostic artifacts and other materials. Temporally diagnostic artifacts are present.	41MA9 41MA17 41MA18 41MA19	41MA6 41MA8	-
Group II	Sites are relatively intact but have a low potential for good vertical context. Cultural materials are thinly distributed but may include culturally and temporally diagnostic artifacts and other materials.	41MA5	41MA12	-
Group III	Although portions of each site are disturbed, other portions may be relatively intact. Potential for good vertical context is low. All are isolated finds.	-	41MA14 41MA15 41MA20	-
Group IV	An isolated find of questionable context.	-	-	41MA10

TABLE 25

SUMMARY OF PREHISTORIC SITE GROUP AND SITE ASSESSMENTS,
CLEAR CREEK TRANSECT AREA

Site Group	Assessment	Information Yield Potential		
		High	Moderate	Low
Group I	Sites are relatively undisturbed and have a high potential for good vertical context. Cultural materials may be densely distributed and are generally more varied and diagnostic than other groups. Temporally diagnostic artifacts are present.	41RT134 41RT135 41LN200 41LN201	41RT133 41LN199	-
Group II	Sites are disturbed to severely disturbed and have a low potential for good vertical context. Except for a single ceramic sherd, cultural materials are undiagnostic and thinly distributed. Temporally diagnostic artifacts are present.	-	41RT132 41RT136 41RT137	-
Group III	Sites are disturbed and have a low potential for good vertical context. Cultural materials are thinly distributed; however, three of the sites contain lithic tools and other culturally diagnostic artifacts. No temporally diagnostic artifacts were noted.	41LN194 41LN195 41RT143	41LN202 41LN203	-
Group IV	Although portions of each site are severely disturbed, other portions may be relatively intact. Potential for good vertical context is low. Cultural materials are thinly distributed and undiagnostic except for a grinding slab and ceramic sherd noted at one site. Temporally diagnostic artifacts are present.	41RT139 41RT141	41RT138	41RT140 41RT142 41RT144
Group V	Although portions of each site are severely disturbed, other portions may be relatively intact. Potential for good vertical context is low. Cultural materials are thinly distributed but include a variety of diagnostic artifacts and other materials. Temporally diagnostic artifacts are present.	41LN182 41LN183 41LN190 41LN197	41LN179 41LN181 41LN184 41LN191	41LN185
Group VI	Although portions of each limited activity area may be relatively intact, others are severely disturbed or of dubious context. Potential for good vertical context is low. Cultural materials are thinly distributed and generally undiagnostic. No temporally diagnostic artifacts were noted.	-	41LN188 41LN189 41LN192 41LN193	41LN180 41LN196 41LN198

TABLE 26

SUMMARY OF HISTORIC SITE GROUP AND SITE ASSESSMENTS,
MILLICAN TRANSECT AREA

Site Group	Assessment	Information Yield Potential		
		High	Moderate	Low
Group I	Although sites are badly disturbed, the cultural materials include a variety of diagnostic artifacts. The presence of cut nails at site 41GM98 is particularly significant.	41GM98	41GM90	-
Group II	Although walls are essentially intact, associated features or materials are absent or effectively totally destroyed.	-	-	41GM103 41BZ46
Group III	The majority of sites are severely disturbed and warrant no further work on-site. Portions of a few remains may be relatively intact. The presence of this kind of site is particularly significant. Early twentieth-century artifacts are present at cluster represented by sites 41GM107 through 41GM109.	-	41GM102 41GM109	41GM99 41GM107 41GM108
Group IV	An historic cemetery.	Little Flock Cemetery		

TABLE 27

SUMMARY OF HISTORIC SITE GROUP AND SITE ASSESSMENTS,
FERGUSON #3 TRANSECT AREA

Site Group	Assessment	Information Yield Potential		
		High	Moderate	Low
Group I	Site is severely disturbed and cultural materials are few in number and generally undiagnostic.	-	-	41BZ66

TABLE 28

SUMMARY OF HISTORIC SITE GROUP AND SITE ASSESSMENTS,
BUNDIC CROSSING TRANSECT AREA

Site Group	Assessment	Information Yield Potential		
		High	Moderate	Low
Group I	Sites are surficial in nature and disturbed. The nature of the remains does not warrant further work.	-	-	41MA7 41MA11
Group II	Although site is badly disturbed, the cultural materials include a variety of diagnostic artifacts. Particulars of occupation are known.	41MA13		
Group III	Although site is intact, this house structure is relatively recent and neither historically nor architecturally significant.	-	-	41MA16

TABLE 29

SUMMARY OF HISTORIC SITE GROUP AND SITE ASSESSMENTS,
CLEAR CREEK TRANSECT AREA

Site Group	Assessment	Information Yield Potential		
		High	Moderate	Low
Group I	Although badly disturbed, portions of one site may be relatively intact. A variety of cultural materials is present. Part of a known historic community.	41GM198	41GM194	-
Group II	Sites are relatively intact and contain a variety of diagnostic cultural materials. Particulars of occupation and use are known. Commercial components are felt to be particularly significant.	41GM187	41GM186	-
Group III	Site is surficial and apparently intact. The nature of the remains does not warrant further work.	-	-	41RT133
Group IV	Site is badly disturbed and the cultural materials present are thinly distributed and generally undiagnostic.	-	-	41RT141

TABLE 30

APPARENT SITE DENSITY, TRANSECT AREAS

Transect Area	Acreage	Prehistoric # of Components	Prehistoric Density per 100 Acres	Historic # of Components	Historic Density per 100 Acres	Total # of Sites	Total Density per 100 Acres
Millican	3357	46	1.37	11	0.33	55	1.34
Ferguson #3	1927	13	0.61	1	0.05	13	0.61
Bundic Crossing	1651	12	0.72	4	0.24	16	0.96
Clear Creek	1694	36	2.13	3	0.17	38	2.24
TOTAL	8629	109	1.26	19	0.22	122	1.41

The apparent density of historic components is highest within the Millican Transect Area. This is to be expected given the early and relatively intensive use of surrounding areas (Appendix I, Historical Background). The density values for the Bundic Crossing and Clear Creek transect areas are slightly lower and not significantly different. A single historic site was identified within the Ferguson #3 Transect Area.

Kinds of Prehistoric Sites

The kinds of prehistoric sites recognized within each of the transect areas are summarized in Table 31. The values for the transect areas indicate ranges of variation within the number and relative frequency of occurrence of kinds of cultural materials which can be expected in identified site areas. The totals for all transect areas provide the number and relative frequency of prehistoric sites which can be expected within the project area as a whole.

The values for each kind of prehistoric site show considerable variation which appears to reflect significant differences between the northern and southern portions of the project. Within the Millican Transect Area, a relatively low percentage of campsites and relatively high percentages of multiple activity and limited activity areas occur. In addition, the Millican Transect Area contains the only prehistoric specialized activity sites identified during the survey; both lithic resource procurement and processing sites are included. The Clear Creek Transect Area data show high percentages of campsites and low percentages of both multiple activity and limited activity areas. The differences between the two transect areas appear to reflect differing prehistoric adaptations and land-use strategies.

The relatively high percentage of campsites identified within the Bundic Crossing Transect Area and very high percentage of limited activity areas within the Ferguson #3 Transect Area may indicate closer affiliations within the northern and southern portions of the project area, respectively. The nature of the adaptations in the "transition zone" between the northern and southern extremes, however, was not clearly defined by the survey within these transect areas.

The number and relative frequency of isolated and/or dubious finds indicates that a significant percentage of the sites identified within the project area will be this kind of prehistoric site.

Kinds of Historic Sites

The kinds of historic sites recognized are summarized by transect area in Table 32. A variety of kinds of historic sites can be expected to occur within the project area. The number and relative frequency of each kind of site indicate that low numbers of standing structures, artifact scatters and cemeteries, and relatively high percentages of house-related remains can be expected. Significant percentages of stream crossings and commercial sites can also be expected to occur.

TABLE 31

KINDS OF PREHISTORIC SITES, TRANSECT AREAS

Transect Areas	Campsites		Multiple Activity Areas		Specialized Activity Areas		Limited Activity Areas		Isolated or Dubious Finds		Total Number of Sites
	#	%	#	%	#	%	#	%	#	%	
Millican	8	17.4	10	21.7	5	10.9	17	37.0	6	13.0	46
Ferguson #3	1	8.3	0	-	0	-	10	83.3	1	8.3	12
Bundic Crossing	5	41.7	0	-	0	-	0	-	7	58.3	12
Clear Creek	25	69.4	1	2.8	0	-	7	19.4	3	8.3	36
TOTAL	39	36.8	11	10.4	5	4.7	34	32.1	17	16.0	106

TABLE 32

KINDS OF HISTORIC SITES, TRANSECT AREAS

Transect Area	Standing Structures		House Sites		Isolated Wells		Clusters or Communities		Commercial Sites		Stream Crossings		Artifact Scatters		Cemeteries		Total # of Sites
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	
Millican	0	-	2	28.6	2	28.6	2	28.6	0	-	0	-	0	-	1	14.3	7
Ferguson #3	0	-	1	100	0	-	0	-	0	-	0	-	0	-	0	-	1
Bundic Crossing	1	25.0	1	25.0	0	-	0	-	0	-	2	50.0	0	-	0	-	4
Clear Creek	0	-	0	-	0	-	1	20.0	2	40.0	1	20.0	1	20.0	0	-	5
TOTAL	1	5.9	4	23.5	2	11.8	3	17.6	2	11.8	3	17.6	1	5.9	1	5.9	17

The number of historic sites is too small to provide an indication of significant geographic variation, although stream crossings are limited to the northern portion of the project area.

Age of Prehistoric Sites

The temporally diagnostic artifacts, summarized in the preceding introductory portion of the Management Summary, are too few in number to allow statistical comparisons of the transect areas. The Millican and Clear Creek transect areas show the greatest number and range of temporal components, from the early Archaic through Neoarchaic periods respectively. Temporally diagnostic artifacts noted within the Bundic Crossing Transect Area are limited in age to the late Archaic and Neoarchaic periods, while those from the Ferguson #3 Transect Area are limited to the Neoarchaic period.

Prehistoric Site Assessments and Recommendations

The number and percentage of prehistoric sites which are felt to have high, moderate and low information yield potentials are summarized for each transect area in Table 33. These values indicate the percentage of significant cultural resources which can be expected to occur within the project area. The values for all transect areas indicate that approximately one-third of the identifiable sites within the area have a high information yield potential and would warrant consideration during the initial phases of site assessment testing and/or mitigation. Over half of the sites have some information yield potential and may warrant consideration during later phases of site assessment testing and mitigation. Approximately 20 percent of the prehistoric sites are too severely disturbed and/or contain cultural materials which are too undiagnostic to warrant further work.

TABLE 33

SUMMARY OF PREHISTORIC SITE ASSESSMENTS, TRANSECT AREAS

Transect Areas	Information Yield Potential: High #	High %	Moderate #	Moderate %	Low #	Low %	Total # of Sites
Millican	11	23.9	25	54.3	10	21.7	46
Ferguson #3	4	33.3	5	41.7	3	25.0	12
Bundic Crossing	5	41.7	6	50.0	1	8.3	12
Clear Creek	13	36.1	16	44.4	7	19.4	36
TOTAL	33	31.1	52	49.1	21	19.8	106

The number and percentage of sites with a high information yield potential within each transect area indicate that a portion of the project area can be expected to include significant cultural resources. Although the number of such sites is greater within the Millican and Clear Creek transect areas, the percentage of all sites identified within a particular area which are represented may be greater elsewhere. All portions of the project area, therefore, can be expected to contain prehistoric archeological sites which appear to warrant additional investigations.

Historic Site Assessments and Recommendations

The number and percentage of historic sites which have a high, moderate and low information yield potential are summarized in Table 34. The values for all transect areas indicate that over half of the historic sites are too severely disturbed to warrant further work and of the remaining number of sites, approximately half have only limited information yield potential. In many instances, historic sites are considered to have a high information yield potential on the basis of their historic significance rather than the nature of the sites themselves, and additional work at these sites, although warranted, is not expected to result in positive assessments. This is due to a great degree to the severely disturbed nature of the vast majority of the historic sites identified during the survey.

TABLE 34

SUMMARY OF HISTORIC SITE ASSESSMENTS, TRANSECT AREAS

Transect Areas	Information Yield Potential: High #	High %	Moderate #	Moderate %	Low #	Low %	Total # of Sites
Millican	2	20.0	3	30.0	5	50.0	10
Ferguson #3	0	-	0	-	1	100.0	1
Bundic Crossing	1	25.0	0	-	3	75.0	4
Clear Creek	2	33.3	2	33.3	2	33.3	6
TOTAL	5	23.8	5	23.8	11	52.4	21

THE NAVASOTA RIVER VALLEY

Apparent Site Density

The apparent site density of portions of the Navasota River valley within each of the transect areas and for all transect areas is summarized in Table 35. The values for prehistoric components are similar to those of the respective transect areas, and any characterizations concerning the values would be similar to those presented above.

The historic values, on the other hand, indicate low numbers and apparent densities within the Navasota River valley. The one exception is the Bundic Crossing Transect Area which does not include portions of a major lateral tributary. The preference for tributary streams during historic times within the remaining transects appears to represent a real and significant resource preference.

Kinds of Prehistoric Sites

The number and relative frequency of the kinds of prehistoric sites, which are summarized in Table 36, provide an indication of the percentage of kinds of sites that can be expected to occur within the Navasota River valley. The values for the river valley as a whole are higher for campsites and lower for both limited activity and multiple activity areas compared to those for all transect areas. The values for specialized activity areas and isolated and/or dubious finds are essentially the same. These differences in the relative frequency of occurrence of the kinds of prehistoric sites may indicate significant differences in the occupation and use of the Navasota River valley.

The values for each transect area, however, indicate more complex and less clear-cut relative distribution of kinds of prehistoric sites. Within the Millican Transect Area, no campsites and a greater percentage of limited activity areas were noted which is the reverse of the trends for all transect areas discussed above. The apparent high percentage of campsites within the Ferguson #3 Transect Area is the result of the low density of sites in general and the presence of the only campsite identified within the transect area. The very high relative frequency of campsites noted within the Clear Creek Transect Area is responsible for the increase in the percentage of this kind of site within the river valley as a whole and appears to represent different use of the river environment.

Kinds of Historic Sites

The number and relative frequency of the kinds of historic sites identified within the Navasota River valley are provided in Table 37. The values for the total of all transect areas indicate that all of the standing structures, stream crossings and artifact scatters are associated with the river. The values for each transect area reflect the low number of historic sites in general with the result that the data are not sufficient to discuss geographical variation within the valley of the Navasota River.

TABLE 35

APPARENT SITE DENSITY, NAVASOTA RIVER VALLEY

Transect Area	Acreage	Prehistoric # of Components	Prehistoric Density per 100 Acres	Historic # of Components	Historic Density per 100 Acres	Total # of Sites	Total Density per 100 Acres
Millican	554	8	1.44	1	0.18	8	1.44
Ferguson #3	473	3	0.63	0	-	3	0.63
Bundic Crossing	1651	12	0.72	4	0.24	16	0.96
Clear Creek	1076	21	1.95	1	0.09	21	1.95
TOTAL	3754	44	1.17	6	0.16	48	1.28

TABLE 36

KINDS OF PREHISTORIC SITES, NAVASOTA RIVER VALLEY

Transect Areas	Campsites		Multiple Activity Areas		Specialized Activity Areas		Limited Activity Areas		Isolated or Dubious Finds		Total Number of Sites
	#	%	#	%	#	%	#	%	#	%	
Millican	0	-	2	25.0	2	25.0	4	50.0	0	-	8
Ferguson #3	1	33.3	0	-	0	-	2	66.7	0	-	3
Bundic Crossing	5	41.7	0	-	0	-	0	-	7	58.3	12
Clear Creek	17	85.0	0	-	0	-	3	15.0	0	-	20
TOTAL	23	53.5	2	4.65	2	4.65	9	20.9	7	16.3	43

TABLE 37

KINDS OF HISTORIC SITES, NAVASOTA RIVER VALLEY

Transect Area	Standing Structures		House Sites		Isolated Wells		Clusters or Communities		Commercial Sites		Stream Crossings		Artifact Scatters		Cemeteries		Total # of Sites
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	
Millican	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0
Ferguson #3	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0
Bundic Crossing	1	25.0	1	25.0	0	-	0	-	0	-	2	50.0	0	-	0	-	4
Clear Creek	0	-	0	-	0	-	1	33.3	0	-	1	33.3	1	33.3	0	-	3
TOTAL	1	14.3	1	14.3	0	-	1	14.3	0	-	3	42.9	1	14.3	0	-	7

Age of Prehistoric Sites

The number and relative frequency of temporal components of both newly identified and previously recorded prehistoric sites within the project area are summarized in Table 38. The values for the Navasota River valley indicate that the preponderance of the temporally diagnostic artifacts date from the late Archaic and Neoarchaic periods but that low numbers of early and middle Archaic components are also present within the river valley. Comparisons of these values with those for tributary streams and the project area as a whole appear to indicate that the presence and relative frequency of the earlier components are consistent throughout the area. Late Archaic period components, which are relatively more abundant within the river valley, and Neoarchaic period components, which are more abundant within the valleys of tributary streams, however, may indicate temporal differences in the use of these environmental areas.

Prehistoric Site Assessments and Recommendations

The number and percentage of sites which appear to have high, moderate and low information yield potentials within the Navasota River Valley are provided in Table 39 by transect area. The values for all transect areas are not significantly different from those of the total transect areas discussed previously. The values for each transect area show a relatively higher percentage of sites with a low potential within the Millican Transect Area and a higher percentage of sites with a high potential within the Clear Creek Transect Area. These differences appear to reflect the corresponding locations of the majority of campsites which are generally felt to warrant additional investigations. Otherwise, the values indicate that, except for the Ferguson #3 Transect Area where only a limited sample of the Navasota River was surveyed, portions of the Navasota River valley contain sites which appear to have a sufficiently high information yield potential to warrant further work.

Historic Site Assessments and Recommendations

The number and percentage of historic archeological sites which have high, moderate and low information yield potentials are provided in Table 40. These values reflect the absence of historic sites within the Navasota River valley of the Millican and Ferguson #3 transect areas and the absence of major lateral tributary streams within the Bundic Crossing Transect Area. The values for the Clear Creek Transect Area show a slightly higher percentage of low potential sites and a corresponding decrease in the percentage of sites with high and moderate potentials within the Navasota River valley. The low number of sites, however, makes any characterizations tentative.

TABLE 38

SUMMARY OF PREHISTORIC SITE AGE

	Paleo-indian		Early Archaic		Middle Archaic		Late Archaic		Neoarchaic		Formative		Historic		Total # of Sites
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	
Navasota River Valley	0	-	1	5.0	3	15.0	6	30.0	10	50.0	0	-	0	-	20
Valley floor	0	-	0	-	1	14.3	3	42.9	3	42.9	0	-	0	-	7
Valley walls	0	-	1	7.7	2	15.4	3	23.1	7	53.8	0	-	0	-	13
Tributary Streams	0	-	1	5.3	2	10.5	3	15.8	13	68.4	0	-	0	-	19
Valley floor	0	-	0	-	0	-	0	-	1	100.0	0	-	0	-	1
Valley walls	0	-	1	5.55	2	11.1	3	16.7	12	66.7	0	-	0	-	18
TOTAL	0	-	2	5.1	5	12.8	9	23.1	23	59.0	0	-	0	-	39
Valley floor	0	-	0	-	1	12.5	3	37.5	4	50.0	0	-	0	-	8
Valley walls	0	-	2	6.45	4	12.9	6	19.35	19	61.3	0	-	0	-	31

TABLE 39

SUMMARY OF PREHISTORIC SITE ASSESSMENTS,
NAVASOTA RIVER VALLEY

Transect Areas	Information Yield Potential: High #	High %	Moderate #	Moderate %	Low #	Low %	Total # of Sites
Millican	2	25.0	3	37.5	3	37.5	8
Ferguson #3	0	-	3	100.0	0	-	3
Bundic Crossing	5	41.7	6	50.0	1	8.3	12
Clear Creek	9	45.0	8	40.0	3	15.0	20
TOTAL	16	37.2	20	46.5	7	16.3	43

TABLE 40

SUMMARY OF HISTORIC SITE ASSESSMENTS,
NAVASOTA RIVER VALLEY

Transect Areas	Information Yield Potential: High #	High %	Moderate #	Moderate %	Low #	Low %	Total # of Sites
Millican	0	-	0	-	0	-	0
Ferguson #3	0	-	0	-	0	-	0
Bundic Crossing	1	25.0	0	-	3	75.0	4
Clear Creek	1	25.0	1	25.0	2	50.0	4
TOTAL	2	25.0	1	12.5	5	62.5	8

MAJOR LATERAL TRIBUTARY STREAM VALLEYS

Apparent Site Density

The apparent site density of portions of major lateral tributary streams within each of the transect areas is summarized in Table 41. The prehistoric values for all tributary streams included within the survey are similar to the respective transect area as a whole and indicate that the average density of prehistoric sites which can be expected within a particular portion of the project area is essentially the same regardless of the stream ranking. The prehistoric values for each transect area indicate slightly lower apparent site density for Millican and Rocky creeks which are within the Millican Transect Area, similar density for Wickson Creek which is within the Ferguson #3 Transect Area, and slightly higher density for Clear Creek which is within the Clear Creek Transect Area. No major lateral tributary streams were included within the Bundic Crossing Transect Area.

The values for historic archeological sites within the valleys of major lateral tributary streams primarily reflect the high number and apparent density of sites identified along portions of Rocky Creek within the Millican Transect Area. This stream appears to represent an area of intensive historic occupation. Both the Ferguson #3 and Clear Creek transect areas show slightly higher densities of historic sites compared to the values for the Navasota River area. The values for Millican Creek, which is within the Millican Transect Area, are slightly lower than those for the river.

Kinds of Prehistoric Sites

The number and relative frequency of the kinds of prehistoric archeological sites identified within the valleys of major lateral river tributaries are summarized for each transect area in Table 42. The values for all transect areas reflect the differences for campsites and limited activity areas noted for the Navasota River valley. There appear to be significantly fewer campsites and more limited activity areas associated with the tributary streams. A more complex distribution of kinds of prehistoric sites, however, is indicated by the values for each transect area. Within the Millican Transect Area, the absence of prehistoric campsites within the river valley and their presence within the valleys of both Millican and Rocky creeks appear to be significant. The density of limited activity areas, however, is slightly higher within the river valley. The number and apparent density of limited activity areas within the Ferguson #3 Transect Area are largely responsible for the higher density of these sites as a whole, although the values for the Clear Creek Transect Area also reflect an increase of limited activity areas and a corresponding decrease of campsites within the Clear Creek valley.

Kinds of Historic Sites

The kinds and relative frequency of the kinds of historic sites identified within the valleys of major lateral tributary streams are

TABLE 41

APPARENT SITE DENSITY, MAJOR LATERAL TRIBUTARY STREAMS

Transect Area	Acreage	Prehistoric # of Components	Prehistoric Density per 100 Acres	Historic # of Components	Historic Density per 100 Acres	Total # of Sites	Total Density per 100 Acres
Millican Creek Millican Transect	1215	16	1.32	1	0.08	17	1.40
Rocky Creek Millican Transect	1888	22	1.165	9	0.48	27	1.43
Wickson Creek Ferguson #3 Transect	1361	10	0.73	1	0.07	10	0.73
Clear Creek Clear Creek Transect	618	15	2.39	2	0.32	17	2.70
TOTAL	5082	63	1.24	13	0.26	71	1.40

TABLE 42

KINDS OF PREHISTORIC SITES, MAJOR LATERAL TRIBUTARY STREAMS

Transect Areas	Campsites #	Campsites %	Multiple Activity Areas #	Multiple Activity Areas %	Specialized Activity Areas #	Specialized Activity Areas %	Limited Activity Areas #	Limited Activity Areas %	Isolated or Dubious Finds #	Isolated or Dubious Finds %	Total Number of Sites
Millican Creek Millican Transect	6	37.5	2	12.5	2	12.5	6	37.5	0	-	16
Rocky Creek Millican Transect	2	10.0	6	30.0	1	5.0	7	35.0	4	20.0	20
Wickson Creek Ferguson #3 Transect	0	-	0	-	0	-	8	88.9	1	11.1	9
Clear Creek Clear Creek Transect	8	57.1	1	7.1	0	-	4	28.6	3	7.1	16
TOTAL	16	26.2	9	14.75	3	4.9	25	41.0	8	13.1	61

summarized in Table 43. These values show the apparent absence of standing structures, stream crossings and artifact scatters within tributary stream valleys and the preference for this environmental stratum for housesites, clusters of historic remains and/or communities, commercial sites and cemeteries. The sample of historic sites, however, is not sufficient to characterize particular tributaries except to note the apparent diversity of such sites within the valley of Rocky Creek.

Age of Prehistoric Sites

Major lateral tributaries of the Navasota River contain the entire span of prehistoric occupation noted within the project area, namely the early Archaic through the Neoarchaic periods. As noted in the preceding discussion of the Navasota River valley, relatively higher percentages of Neoarchaic and lower percentages of late Archaic sites have been identified within the valleys of tributary streams.

Prehistoric Site Assessments and Recommendations

The number and percentage of prehistoric sites within tributary stream valleys which are felt to have high, moderate and low information yield potentials are summarized in Table 44. The values for all transect areas indicate that a relatively lower percentage of sites with a high information yield potential and correspondingly higher percentage of sites with both moderate and low information yield potentials can be expected compared to site information yield potential for the Navasota River valley. The values also indicate, however, that a significant percentage of the prehistoric sites identified in association with tributary streams has a high information yield potential and appear to warrant further work. The values for each transect area indicate that this overall trend reflects a more complex reality. The percentages of high potential sites within the Millican Transect Area are essentially the same for both tributary streams and the Navasota River; however, the percentage of sites with a moderate potential is significantly higher and that of low potential sites significantly lower. The noted overall lower percentage of high potential sites is a reflection of the values for the Ferguson #3 and Clear Creek transect areas, as is the overall higher percentage of sites with a low potential. The differences between the Millican and Clear Creek transect areas appear to reflect the different prehistoric adaptations within these areas. The values for the Ferguson #3 Transect Area may reflect sampling error (since only a limited sample of the Navasota River valley was available) or represent real differences in the use of each environmental stratum.

Historic Site Assessments and Recommendations

A summary of the information yield potential of historic sites identified within each transect area is provided in Table 45. These values indicate that the percentage of historic sites with a high potential, which appear to warrant further investigations, is essentially the same regardless of stream ranking. The percentage of sites with a low potential, however, appears to be significantly lower within the valleys of major lateral tributaries. This difference is related primarily to

TABLE 43

KINDS OF HISTORIC SITES, MAJOR LATERAL TRIBUTARY STREAMS

Transect Area	Standing Structures		House Sites		Isolated Wells		Clusters or Communities		Commercial Sites		Stream Crossings		Artifact Scatters		Cemeteries		Total # of Sites
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	
Millican Creek																	
Millican Transect	0	-	0	-	1	100.0	0	-	0	-	0	-	0	-	0	-	1
Rocky Creek																	
Millican Transect	0	-	2	33.3	1	16.7	2	33.3	0	-	0	-	0	-	1	16.7	6
Wickson Creek																	
Ferguson #3 Transect	0	-	1	100.0	0	-	0	-	0	-	0	-	0	-	0	-	1
Clear Creek																	
Clear Creek Transect	0	-	0	-	0	-	0	-	2	100.0	0	-	0	-	0	-	2
TOTAL	0	-	3	30.0	2	20.0	2	20.0	2	20.0	0	-	0	-	1	10.0	10

TABLE 44

SUMMARY OF PREHISTORIC SITE ASSESSMENTS,
MAJOR LATERAL TRIBUTARY STREAMS

Transect Areas	Information Yield Potential: High #	High %	Moderate #	Moderate %	Low #	Low %	Total # of Sites
Millican Creek Millican Transect	4	25.0	10	62.5	2	12.5	16
Rocky Creek Millican Transect	5	22.7	12	54.5	5	22.7	22
Wickson Creek Ferguson #3 Transect	4	44.4	2	22.2	3	33.3	9
Clear Creek Clear Creek Transect	4	25.0	8	50.0	4	25.0	16
TOTAL	17	27.0	32	50.8	14	22.2	63

TABLE 45

SUMMARY OF HISTORIC SITE ASSESSMENTS,
MAJOR LATERAL TRIBUTARY STREAMS

Transect Areas	Information Yield Potential: High #	High %	Moderate #	Moderate %	Low #	Low %	Total # of Sites
Millican Creek Millican Transect	0	-	0	-	1	100.0	1
Rocky Creek Millican Transect	2	22.2	3	33.3	4	44.4	9
Wickson Creek Ferguson #3 Transect	0	-	0	-	1	100.0	1
Clear Creek Clear Creek Transect	1	50.0	1	50.0	0	-	2
TOTAL	3	23.1	4	30.8	6	46.15	13

the kinds of historic sites noted within each stratum, namely, the presence of stream crossings which have a low information yield potential within the Navasota River valley.

THE NAVASOTA RIVER VALLEY FLOOR

The valley floor of the Navasota River can be subdivided into three distinct areas on the basis of information contained within USGS 7.5' topographic maps and the Geologic Atlas of Texas, Waco Sheet (Bureau of Economic Geology 1973) and Geologic Atlas of Texas, Austin Sheet (Bureau of Economic Geology 1974); these are: (1) portions of the modern floodplain which contain major relict channel systems, (2) portions of the modern floodplain where no major relict channel systems are visible, and (3) low terraces situated above the modern floodplain. These areas represent management units which can be used to predict site density, kinds of sites and information yield potential which can be expected to occur within the valley floor of the Navasota River.

Observations made during the present survey indicate that within portions of the Navasota River valley floor containing identifiable relict channel systems, portions of the modern floodplain surrounding and between the channel systems are generally featureless. In other words, the visible relict systems represent the only features present within the area which otherwise consists of flat unbroken terrain that exhibits evidence of seasonal flooding and deposition of fine-grained sediments. Additional observations indicate that portions of the valley floor of the Navasota River where no relict channel systems are visible on USGS 7.5' topographic maps nonetheless contain relict channel segments. The relict channels, however, are generally less numerous and less well defined, and most of the modern floodplain correspondingly is generally featureless. The presence of low terraces which are situated above the modern river floodplain can, in some instances, be determined from mapped data. Such terraces, however, are not readily definable in other instances and, as a management unit, are not applicable to all portions of the river valley. Where low terraces can be defined, these features provide significant data concerning the predicted occurrence of cultural resources and are included as a management unit on that basis.

Apparent Site Density

The apparent density of sites identified within the valley floor of the Navasota River is provided in Table 46. Areas immediately surrounding relict channel systems of the Navasota River, which are visible on USGS 7.5' topographic maps, can be isolated from other portions of the modern floodplain as areas of high prehistoric site locational probability. The density values for the Bundic Crossing and Clear Creek transect areas which contain identifiable relict channel systems are significantly higher than the overall density for each transect area. The differences between the apparent site densities for the two transect

TABLE 46

APPARENT SITE DENSITY, NAVASOTA RIVER VALLEY FLOOR

Area	Situation	Acreage	Prehistoric # of Components	Prehistoric Density per 100 Acres	Historic # of Components	Historic Density per 100 Acres	Total # of Sites	Total Density per 100 Acres
	Modern floodplain, undifferentiated	271	2	0.70	0	-	2	0.70
Area A	Millican Transect	271	2	0.70	0	-	2	0.70
	Modern floodplain, featureless	485		-	2	0.41	2	0.41
Area A	Bundic Crossing Transect	196		-	2	1.02	2	1.02
Area A	Clear Creek Transect	289	0	-	0	-	0	-
	Modern floodplain, relict system	499	12	2.40	1	0.20	12	2.40
Area B	Bundic Crossing Transect	335	6	1.79	0	-	6	1.79
Area B	Clear Creek Transect	99	4	4.04	0	-	4	4.04
Area B	Clear Creek Transect	65	2	3.08	1	1.54	2	3.08
	Low terraces	426	5	1.17	1	0.23	6	1.41
Area C	Bundic Crossing Transect	333	2	0.60	1	0.30	3	0.90
Area C	Clear Creek Transect	93	3	3.11	0	-	3	3.11
	VALLEY FLOOR TOTAL	1616	17	1.05	4	0.24	20	1.24

areas are more related to the arbitrary division of the river valley floor than to the cultural intensity of prehistoric occupation and use. The apparently high density of prehistoric sites may actually reflect a more intensive use of this portion of the modern floodplain, as well as a similarity of prehistoric adaptation within the Bundic Crossing and Clear Creek transect areas. A single historic site was identified in association with a portion of a relict channel system.

No prehistoric archeological sites were identified within the featureless modern floodplain which surrounds visible relict channel systems. This is not surprising given the recent deposition within this area which provides no visible sample of buried sediments possibly containing archeological remains. Although the presence or absence of recognizable sites within this area has not been conclusively demonstrated, indirect evidence which may indicate that no significant cultural resources are present was gathered during the present survey. This evidence, which concerns the dating of the relict channel systems with temporally diagnostic artifacts from sites directly associated with specific relict courses, is discussed within a subsequent section on prehistoric site age. The featureless modern floodplain does contain historic archeological sites occurring at relatively high density but limited to the Bundic Crossing Transect Area.

Portions of the valley floor of the Navasota River which do not contain visible relict channel systems are limited to the Millican Transect Area. The present survey indicates that prehistoric sites can be expected to occur within such areas but at significantly lower apparent densities than in areas where relict channel systems are visible. The sites occur in association with relict channel segments, although no recognizable prehistoric sites are present within the featureless modern floodplain which surrounds these segments. No historic archeological sites were identified within the Millican Transect Area portion of the valley floor of the Navasota River.

Low terraces of the Navasota River were surveyed within the Bundic Crossing Transect Area where the terrace was identifiable on the basis of mapped data, and within the Clear Creek Transect Area where they were not identifiable from available data. In both areas, significant numbers and apparent densities of prehistoric sites can be expected on low terraces of the Navasota River. Differences between the values for each transect area appear to reflect real differences in the intensity of use of low terraces. The difference, however, may be related to the presence of seep springs within the Clear Creek Transect Area which are discussed in this report. A single historic site was identified on a low terrace of the Navasota River.

Kinds of Prehistoric Sites

The number and relative frequency of the kinds of prehistoric sites identified within the valley floor of the Navasota River are provided by transect area in Table 47. In this instance, the valley floor is not subdivided since the kinds of sites are similar regardless of their specific situation. The values indicate a strong overall preference for

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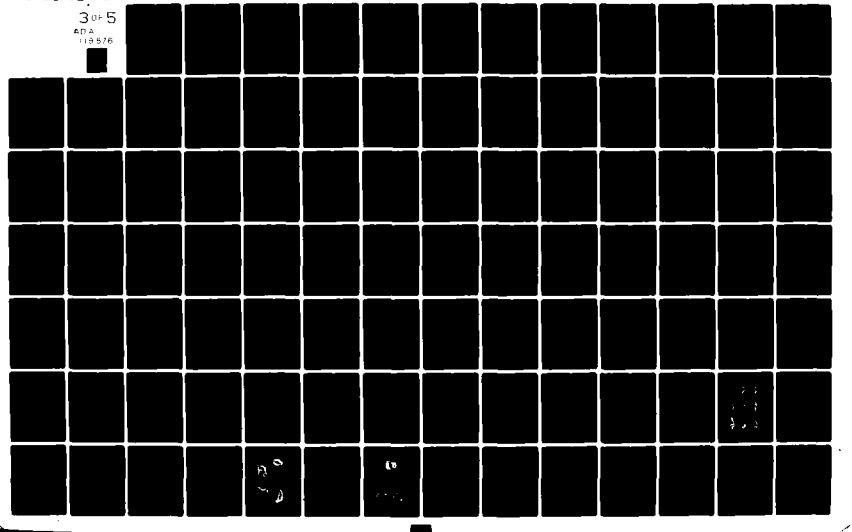


TABLE 47

KINDS OF PREHISTORIC SITES, NAVASOTA RIVER VALLEY FLOOR

Transect Areas	Campsites #	Campsites %	Multiple Activity Areas #	Multiple Activity Areas %	Specialized Activity Areas #	Specialized Activity Areas %	Limited Activity Areas #	Limited Activity Areas %	Isolated or Dubious Finds #	Isolated or Dubious Finds %	Total Number of Sites
Millican	0	-	2	100.0	0	-	0	-	0	-	2
Bundic Crossing	5	62.5	0	-	0	-	0	-	3	37.5	8
Clear Creek	6	100.0	0	-	0	-	0	-	0	-	6
TOTAL VALLEY FLOOR	11	68.75	1	12.5	0	-	0	-	3	18.75	16

the location of campsites within the valley floor of the Navasota River which is a reflection of a similar preference within the Bundic Crossing and Clear Creek transect areas. All of the sites identified within this portion of the Millican Transect Area, on the other hand, are multiple activity areas. Given the presence of campsites within other portions of the Millican Transect Area, their absence here and their high apparent density in the more northern transect areas may represent significant differences in the use of the river valley floor and correspondingly in area prehistoric adaptations.

Kinds of Historic Sites

Two kinds of historic sites, stream crossings and a homesite, were identified within the valley floor of the Navasota River. Historic sites within the modern floodplain are limited to stream crossings (two in the Bundic Crossing Transect Area and one in the Clear Creek Transect Area). A single housesite was identified within the Bundic Crossing Transect Area on low terraces associated with the river. The apparently limited kinds of historic sites is not surprising in view of the limitations on modern use of the river valley floor imposed by severe seasonal flooding. The necessity of stream crossings within this area is obvious. The location of the one housesite identified is unusual but so are the circumstances of its use (i.e., by a "hermit" living on a subsistence level and dependent on resources gathered from the riverine environment) (Bink Manning, personal communication, 1981).

Age of Prehistoric Sites

The temporally diagnostic artifacts noted within the valley floor of the Navasota River are limited to the middle and late Archaic and Neoarchaic periods (see Table 38). The apparent absence of early Archaic sites may be the result of the limited sample of sites identified within the valley floor or, since both of the early Archaic components are situated within valley walls (one associated with the river and the other with a major lateral tributary), may reflect differences in the use of this environmental stratum through time. The former explanation is preferred here since very low numbers of both phases of the early Archaic were noted on isolated features within the river valley floor in the Lake Limestone area (Prewitt 1974; Mallouf 1979).

Of more immediate and critical importance to the management and assessment of cultural resources within the valley floor of the Navasota River is the potential for dating relict river channel systems. If it can be demonstrated that these systems are associated with prehistoric sites which include the entire span of occupation within the project area, the likelihood that featureless portions of the modern floodplain contain significant cultural resources is correspondingly decreased. The available data indicate that certain relict channel systems and/or segments include components from the middle Archaic through the Neoarchaic periods, and a major goal of assessment testing of sites within the valley floor of the Navasota River should be to locate earlier occupations and demonstrate the full range of occupations which are associated with specific relict systems.

Prehistoric Site Assessments and Recommendations

The number and percentage of sites within the valley floor of the Navasota River which are felt to have a high, moderate and low information yield potential are summarized in Table 48. The values for all transect areas indicate that slightly less than three-fourths of the sites contained within the modern floodplain can be expected to have a high research potential and that sites with a low research potential will be few in number. In contrast, only 20 percent of prehistoric sites situated on low terraces of the river appear to have a high information potential and 80 percent of the sites can be expected to have only a moderate information yield potential. Sites with a low potential will be few in number. The values for the entire valley floor can be used to approximate the percentage of high and moderate potential sites within portions of the river valley where no low terraces are recognizable from mapped data. Although the specific values for each of the transect areas exhibit some variation, high percentages of prehistoric sites with high information yield potential can be expected in all portions of the project area.

TABLE 48

SUMMARY OF PREHISTORIC SITE ASSESSMENTS,
NAVASOTA RIVER VALLEY FLOOR

	Information Yield Potential						
	High		Moderate		Low		Total #
Transect Areas	#	%	#	%	#	%	of Sites
Millican	2	100.0	0	-	0	-	2
Modern floodplain	2	100.0	0	-	0	-	2
Bundic Crossing	5	62.5	3	37.5	0	-	8
Modern floodplain	4	66.7	2	33.3	0	-	6
Low terraces	1	50.0	1	50.0	0	-	2
Clear Creek	4	44.5	5	55.5	0	-	9
Modern floodplain	4	66.7	2	33.3	0	-	6
Low terraces	0	-	3	100.0	0	-	3
TOTAL ALL TRANSECTS	11	57.9	8	42.1	0	-	19
Modern floodplain	10	71.4	4	28.6	0	-	14
Low terraces	1	20.0	4	80.0	0	-	5

Historic Site Assessments and Recommendations

None of the historic sites identified within the modern floodplain of the Navasota River are felt to have a high information yield potential. The single historic site identified on low river terraces, however, does represent a significant cultural resource and low numbers and apparent densities of such sites can be expected to occur within the project area.

THE VALLEY FLOORS OF TRIBUTARY STREAMS

The valley floors of major lateral tributaries of the Navasota River are subdivided into two distinct areas: (1) modern floodplain, and (2) low terraces above the modern floodplain. Although relict channels can be identified in some instances, the generally constricted nature of the valley floor associated with tributary streams and the apparent low densities of identified archeological sites does not appear to warrant the separation of relict channels as management and/or predictive units. Low terraces which were recognized only within the Wickson Creek valley floor (Ferguson #3 Transect Area) were identifiable in this instance on the basis of mapped data. The major portion of each stream valley floor is featureless modern floodplain similar to that associated with the Navasota River.

Apparent Site Density

The numbers and apparent densities of archeological sites identified within the valley floors of tributary streams are provided in Table 49. Identifiable sites were noted only within the valley of Wickson Creek (Ferguson #3 Transect Area) where low apparent site densities occur within the modern floodplain and very high site densities occur within a low terrace above the modern floodplain. The absence of archeological sites within other tributary streams is the result of the absence of sites within the modern floodplain and of low terraces associated with these other streams. An explanatory note is necessary for both Rocky and Clear creeks. Three prehistoric sites identified on isolated bedrock features are included in the discussion of the valley walls of Rocky Creek. A single prehistoric site was identified within the modern floodplain of Clear Creek, but the cultural materials are apparently out of context and it is not included as a predictive indicator.

Kinds of Prehistoric Sites

All of the prehistoric sites identified within the Wickson Creek valley floor appear to represent limited activity areas. The general absence of identifiable archeological sites and the apparent limited nature of the activities noted may represent a real and significant preference for the valley walls of tributary streams and all portions of the Navasota River compared to the valley floors of lateral tributaries. The limited sample of sites, however, makes any characterizations tentative in nature.

TABLE 49

APPARENT SITE DENSITY, VALLEY FLOORS OF TRIBUTARY STREAMS

Transect Area	Acreage	Prehistoric # of Components	Prehistoric Density per 100 Acres	Historic # of Components	Historic Density per 100 Acres	Total # of Sites	Total Density per 100 Acres
Modern floodplain Millican Creek Millican Transect							
Area D	446	0	-	0	-	0	-
Rocky Creek Millican Transect							
Area H	552	0	-	0	-	0	-
Wickson Creek Ferguson #3 Transect							
Area E	583	2	0.34	0	-	2	0.34
Clear Creek Clear Creek Transect	see discussion						
Low Terraces	33	4	12.12	0	-	4	12.12
Wickson Creek Ferguson #3 Transect							
Area E	33	4	12.12	0	-	4	12.12
TOTAL VALLEY FLOOR	1614	6	0.37	0	-	6	0.37

Age of Prehistoric Sites

Only one prehistoric site contains temporally diagnostic artifacts: a ceramic sherd which indicates a Neoarchaic occupation (see Table 38).

Prehistoric Site Assessments and Recommendations

All of the prehistoric sites identified within the valley floors of major lateral tributaries of the Navasota River are within the Ferguson #3 Transect Area which limits the characterizations that can be made concerning the project area as a whole. Although 50 percent of the sites identified within the modern floodplain and 75 percent of the sites identified on low terraces above the modern floodplain are felt to have a high information yield potential, the values are inflated by the absence of sites in other situations which could have a high potential. The remainder of the sites identified within tributary valley floors appear to have a moderate information yield potential.

THE NAVASOTA RIVER VALLEY WALLS

The valley walls of the Navasota River are subdivided into portions which are dominated by Quaternary fluviatile terrace deposits and portions which are dominated by surficial exposures of geologic bedrock strata. These subdivisions are readily determined on the basis of mapped data and were felt to represent the best method of differentiating portions of the river valley walls in order to provide the most accurate and specific assessments of the cultural resources present. Divisions within particular portions of the valley wall into lower and upper use areas were generally not recognizable on the basis of the sites identified. Such divisions do not correspond to those made on the basis of geologic data due to the widespread distribution of fluviatile terrace deposits on the one hand and their absence within portions of the valley wall on the other hand.

Apparent Site Density

The number and relative frequency of sites within portions of the valley walls dominated by Quaternary fluviatile terrace deposits and bedrock strata are summarized by transect area and descriptive areas within each transect in Table 50. The values for all portions of the valley walls of the Navasota River indicate that significant numbers and apparent densities of prehistoric archeological sites can be expected to occur within this portion of the project area. The total values for each recognized subdivision are not significantly different, and the high variability noted within different areas appears to be more related to the unequal distribution of sites within particular areas and possibly geographic variability than to differing geologic units. The similarity of apparent density is probably the result of the physical similarity between the two subdivisions, namely the presence of sandy surface soil layers and clayey and/or gravelly subsoils.

TABLE 50

APPARENT SITE DENSITY, NAVASOTA RIVER VALLEY WALLS

Area	Situation	Acreage	Prehistoric # of Components	Prehistoric Density per 100 Acres	Historic # of Components	Historic Density per 100 Acres	Total # of Sites	Total Density per 100 Acres
	Quaternary fluviatile terrace deposits	946	14	1.48	1	0.11	14	1.48
Area B	Millican Transect	188	1	0.53	0	-	1	0.53
Area C	Millican Transect	95	5	5.26	1	1.05	5	5.26
Area B	Ferguson #3 Transect	243	3	1.13	0	-	3	1.13
Area E	Bundic Crossing Transect	306	2	0.66	0	-	2	0.66
Area E	Clear Creek Transect	114	3	2.63	0	-	3	2.63
	Bedrock strata	654	11	1.68	1	0.15	12	1.83
Area F	Bundic Crossing Transect	481	2	0.42	1	0.21	3	0.63
Area D	Clear Creek Transect	130	7	5.025	0	-	7	5.025
Area F	Clear Creek Transect	43	2	4.65	0	-	2	4.65
TOTAL VALLEY WALLS		1600	25	1.56	2	0.125	26	1.625

As noted above, the values for specific descriptive areas exhibit considerable variability. The values for the Millican Transect Area, where Area B has an apparent density significantly lower than the average for the total transect area and Area C has a much higher apparent density, are particularly illustrative of the unequal distribution of prehistoric sites within a particular area. The values indicate that although averaged apparent densities are useful management tools, they do not help define the actual occupation of an area. The apparently significant difference between the densities values for terrace and bedrock areas within the Clear Creek Transect Area are more related to the presence of a few extensive sites within areas dominated by terrace deposits rather than differences in the intensity of occupation.

A single historic archeological site was identified within each of the divisions of the valley wall of the river. Although the apparent density of historic sites within specific physiographic areas may be high (Millican Transect Area), in general low numbers and densities of sites can be expected.

Kinds of Prehistoric Sites

The number and relative frequency of the kinds of prehistoric sites identified within the valley walls of the Navasota River are summarized by transect area in Table 51. The values for all transect areas indicate that a lower percentage of campsites and a higher percentage of limited activity areas can be expected compared to the values for the river valley floor. Differences are also represented by the presence of multiple activity areas only within the valley floor which may be the result of differences between northern (Clear Creek Transect Area) and southern (Millican Transect Area) portions of the project area. Differences also may be attributed to the presence of specialized activity areas only within the valley walls, which is the result of localized outcrops of siliceous gravels. The percentages of isolated and/or dubious finds are essentially the same.

The values for each transect area indicate that the differences between the kinds of prehistoric sites identified within the valley floor and valley walls noted above are the result of the averaging of two distinct use areas. The trend toward higher percentages of limited activity areas and lower percentages of campsites is pronounced within both the Millican and Bundic Crossing transect areas. The values for the Clear Creek Transect Area, on the other hand, indicate that although a slight trend toward more limited use of the valley walls appears to be represented, campsites still predominate within this area. Both the tendency for more limited use of the valley walls of the Navasota River within the southern portion of the project area and the differences between the northern and southern portions of the project area appear to represent significant differences in prehistoric adaptations and/or land-use strategies.

TABLE 51

KINDS OF PREHISTORIC SITES, NAVASOTA RIVER VALLEY WALLS

Transect Areas	Campsites		Multiple Activity Areas		Specialized Activity Areas		Limited Activity Areas		Isolated or Dubious Finds		Total Number of Sites
	#	%	#	%	#	%	#	%	#	%	
Millican	0	-	0	-	2	33.3	4	66.7	0	-	6
Ferguson #3	1	33.3	0	-	0	-	2	66.7	0	-	3
Bundic Crossing	0	-	0	-	0	-	0	-	4	100.0	4
Clear Creek	11	78.6	0	-	0	-	3	21.4	0	-	14
TOTAL VALLEY WALLS	12	44.4	0	-	2	7.4	9	33.3	4	14.8	27

Kinds of Historic Sites

The historic sites identified within the valley walls of the Navasota River include a standing structure (Bundic Crossing Transect Area) and the remains of a housesite (Millican Transect Area). The kinds of historic sites which can be expected to occur within the project area apparently are very limited.

Age of Prehistoric Sites

The entire span of prehistoric occupation as noted within the project area can be expected to occur within the valley walls of the Navasota River, and includes a single early Archaic component identified during the earlier survey for the Millican Project conducted by the Texas Archeological Survey (Sorrow and Cox 1973).

Prehistoric Site Assessments and Recommendations

The numbers and percentages of prehistoric archeological sites within the valley walls of the Navasota River which appear to have high, moderate and low information yield potentials are summarized by transect area in Table 52. The values indicate that significant percentages of sites which have a high potential and appear to warrant further work can be expected only within the northern portion of the project area. The majority of sites will have only a moderate potential and may warrant additional investigations only if specific questions concerning the use of the river valley wall or land-use strategies in general arise as a result of the initial testing of sites with a high information yield potential. A significant percentage of the sites can be expected to have a low potential and warrant no further work.

TABLE 52

SUMMARY OF PREHISTORIC SITE ASSESSMENTS,
NAVASOTA RIVER VALLEY WALLS

Transect Areas	Information Yield Potential: High #	High %	Moderate #	Moderate %	Low #	Low %	Total # of Sites
Millican	0	-	3	50.0	3	50.0	6
Ferguson #3	0	-	3	100.0	0	-	3
Bundic Crossing	0	-	3	75.0	1	25.0	4
Clear Creek	5	45.45	3	27.3	3	27.3	11
TOTAL	5	20.8	12	50.0	7	29.2	24

Historic Site Assessments and Recommendations

None of the historic sites identified during the present survey within the valley walls of the river are felt to have a high information yield potential. In general, historic sites can be expected to have low potential and warrant no further work.

THE VALLEY WALLS OF TRIBUTARY STREAMS

As with the valley walls of the Navasota River, the valley walls of tributary streams can be subdivided on the basis of the nature of the kind of surficial geologic units. The major portions of tributary valley walls are composed of geologic bedrock strata, although in a few instances Quaternary fluviatile terrace deposits associated with the river are sufficiently extensive to form portions of tributary valley walls. Areas dominated by surficial exposures of bedrock strata can be further subdivided into areas composed of sandy surface soil layers, which predominate, and areas composed of clayey surface soil layers, which occur within one area of the Millican Transect Area. One area within the valley of Millican Creek was not differentiated on the basis of an exposed geologic unit due to the complexity of the exposure of the different kinds of units. Divisions made on the basis of the relative location of sites within the valley wall profile are recognized only within Area E of the Millican Transect Area and are not generally applicable.

Apparent Site Density

The number and apparent density of archeological sites identified within the valley walls of major lateral river tributaries are summarized in Table 53 by stream and descriptive areas within each stream. The value for all areas and tributary streams indicates that relatively high apparent densities of both prehistoric and historic archeological sites can be expected to occur within the valley walls of major lateral tributaries of the Navasota River. The apparent density of prehistoric sites is similar to that of the river valley walls which implies that the intensity of occupation and use of these two areas was similar. Comparison with the values for the valley floors of tributary streams indicates that prehistoric use of these streams apparently was concentrated within the valley walls.

The site density values for specific streams and portions of each stream show considerable variation. Possibly significant differences can be noted for Quaternary terrace deposits and sandy bedrock strata; however, the localized nature of the area dominated by clayey bedrock unfortunately limits other comparisons. It appears that most of the variation between specific areas of stream valley walls is the result of geographic distribution within the project area and of the unequal distribution of sites within the same environmental stratum. The Millican Transect Area exhibits the greatest variation in values and is particularly illustrative of this point.

TABLE 53

APPARENT SITE DENSITY, VALLEY WALLS OF TRIBUTARY STREAMS

Area	Situation	Acreage	Prehistoric # of Components	Prehistoric Density per 100 Acres	Historic # of Components	Historic Density per 100 Acres	Total # of Sites	Total Density per 100 Acres
	Quaternary fluviatile terrace deposits	180	3	1.66	1	0.55	4	2.22
Area G	Millican Creek, Millican Transect	77	3	3.89	1	1.3	4	5.19
Area D	Wickson Creek, Ferguson #3 Transect	103	0	-	0	-	0	-
	Bedrock strata (sandy)	2739	41	1.50	7	0.255	47	1.72
Area E	Millican Creek, Millican Transect	340	12	3.53	0	-	12	3.53
Area F	Millican Creek, Millican Transect	352	1	0.28	0	-	1	0.28
Area K	Rocky Creek, Millican Transect	349	6	1.72	1	0.29	7	2.01
Area L	Rocky Creek, Millican Transect	315	2	0.63	3	0.95	5	1.58
Area F	Wickson Creek, Ferguson #3 Transect	745	4	0.54	1	0.13	4	0.54
Area D	Clear Creek, Clear Creek Transect	20	1	5.00	0	-	1	5.00
Area I	Clear Creek, Clear Creek Transect	618	15	2.39	2	0.32	17	2.70
	Bedrock strata (clayey)	274	6	2.19	1	0.36	6	2.19
Area J	Millican Creek, Millican Transect	274	6	2.19	1	0.36	6	2.19
	Mixed composition	398	5	1.25	4	1.0	9	2.25
Area I	Millican Creek, Millican Transect	398	5	1.25	4	1.0	9	2.25
TOTAL VALLEY WALLS		3582	55	1.53	13	0.42	68	1.89

The number and apparent density of historic archeological sites are higher within the valley walls of tributary streams than in any other defined environmental strata. Although the reasons for the noted differences are not known at this time, the preference for tributary valley walls appears to represent a real and significant resource preference. The apparently higher density of historic sites is reflected in the totals for each of the bedrock types and, to a lesser degree, for each of the major lateral tributaries examined during the present survey.

Kinds of Prehistoric Sites

The kinds of prehistoric sites identified during the present survey within the valley walls of tributary streams of the Navasota River are summarized in Table 54 by stream. The values for all tributary streams are significantly different from those for the valley walls of the Navasota River. The percentage of campsites is lower and the percentage of multiple activity areas is higher within the valley walls of the tributaries; other values are similar.

More important differences, however, can be noted between the values for specific stream valleys. All campsites identified within the Millican Transect Area are associated with tributary streams, while the percentage of stream-associated limited activity areas is significantly lower. The presence of both multiple activity and limited activity areas indicates a high diversity of kinds of prehistoric sites. Within the Clear Creek Transect Area, apparent differences in the percentage of campsites within the valley walls of tributary streams are primarily the result of the identification of a number of isolated or dubious finds, and the significance of the results is uncertain. The presence of a multiple activity area, however, may indicate a trend toward greater diversity of kinds of sites within tributary valleys.

Kinds of Historic Sites

The number and percentage of the kinds of historic archeological sites identified within the valley walls of major lateral tributaries of the Navasota River are summarized in Table 55 by stream. Since only one site, a commercial site, was identified within the valley floor, the values and any subsequent discussions are essentially the same as those for the stream valleys as a whole. The relatively large number of historic archeological sites within tributary stream valley walls, particularly within Rocky Creek, however, should be emphasized.

Age of Prehistoric Sites

Major lateral tributary streams contain the entire span of prehistoric occupation noted within the project area (see Table 38). All of the prehistoric sites which can be dated are situated within the valley walls.

TABLE 54

KINDS OF PREHISTORIC SITES, VALLEY WALLS OF TRIBUTARY STREAMS

Transect Areas	Campsites #	Campsites %	Multiple Activity Areas #	Multiple Activity Areas %	Specialized Activity Areas #	Specialized Activity Areas %	Limited Activity Areas #	Limited Activity Areas %	Isolated or Dubious Finds #	Isolated or Dubious Finds %	Total Number of Sites
Millican Creek Millican Transect	6	37.5	2	12.5	2	12.5	6	37.5	0	-	16
Rocky Creek Millican Transect	2	9.1	6	27.3	1	4.5	7	31.8	6	27.3	22
Wickson Creek Ferguson #3 Transect	0	-	0	-	0	-	6	85.7	1	14.3	7
Clear Creek Clear Creek Transect	8	50.0	1	6.25	0	-	4	16.4	3	18.75	16
TOTAL VALLEY WALLS	16	26.2	9	14.75	3	4.9	23	37.7	10	16.4	61

TABLE 55

KINDS OF HISTORIC SITES, VALLEY WALLS OF TRIBUTARY STREAMS

Transect Area	Standing Structures		House Sites		Isolated Wells		Clusters or Communities		Commercial Sites		Stream Crossings		Artifact Scatters		Cemeteries		Total # of Sites
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	
Millican Creek Millican Transect	0	-	0	-	1	100.0	0	-	0	-	0	-	0	-	0	-	1
Rocky Creek Millican Transect	0	-	2	33.3	1	16.7	2	33.3	0	-	0	-	0	-	1	16.7	6
Wickson Creek Ferguson #3 Transect	0	-	1	100.0	0	-	0	-	0	-	0	-	0	-	0	-	1
Clear Creek Clear Creek Transect	0	-	0	-	0	-	0	-	1	100.0	0	-	0	-	0	-	1
TOTAL	0	-	3	33.3	2	22.2	2	22.2	1	11.1	0	-	0	-	1	11.1	9

Prehistoric Site Assessments and Recommendations

The assessments of the prehistoric sites identified within the valley walls of tributary streams are essentially the same as those for the streams as a whole (see Table 44). Differences exist only within Wickson Creek (Ferguson #3 Transect Area) where the two sites which are assessed as having a moderate information yield potential are situated within the valley floor.

Historic Site Assessments and Recommendations

The similarity between the assessments within the valley walls of tributary streams and streams as a whole also applies to historic archeological sites (see Table 45). The only difference is in the Clear Creek area where the site which is assessed as having high information yield potential is situated within the valley floor.

SPRING-ORIENTED AREAS

Two of the descriptive areas within the Clear Creek Transect Area are situated immediately above an area dominated by seep springs and spring-fed lakes; these are Area C which is a low terrace of the Navasota River and Area D which is a portion of the river valley wall composed of bedrock strata. Although the results of the present survey within these areas are combined with other areas in the preceding discussions, spring-oriented areas are contrasted with other areas in this section of the report.

Apparent Site Density

The number and apparent density of sites within spring-oriented areas and other areas which contain sites are provided in Table 56. The values for prehistoric sites indicate that significantly higher densities of sites can be expected within areas immediately above seep springs; however, the values are within the range of variation exhibited by other areas (see Table 9). No historic sites were identified within the areas which are designated as being spring-oriented.

Kinds of Prehistoric Sites

The kinds of prehistoric sites identified within spring-oriented and other areas are summarized in Table 57. The value indicates that the use of these two areas is essentially the same if the isolated finds are lumped with limited activity areas.

Age of Prehistoric Sites

A single ceramic sherd is the only temporally diagnostic artifact noted within the areas associated with seep springs, implying a Neoarchaic date for the site and possibly for the area.

TABLE 56

APPARENT SITE DENSITY, SPRING-ORIENTED VERSUS OTHER AREAS, CLEAR CREEK TRANSECT AREA

Area	Situation	Acreage	Prehistoric # of Components	Prehistoric Density per 100 Acres	Historic # of Components	Historic Density per 100 Acres	Total # of Sites	Total Density per 100 Acres
	Spring-oriented Areas	203	3	4.43	0	-	9	4.43
Area C		93	3	3.11	0	-	3	3.11
Area D		110	6	5.05	0	-	6	5.05
	Other areas	959	27	2.82	3	0.31	29	3.02

TABLE 57

KINDS OF PREHISTORIC SITES, SPRING-ORIENTED VERSUS OTHER AREAS, CLEAR CREEK TRANSECT AREA

	Campsites		Multiple Activity Areas		Specialized Activity Areas		Limited Activity Areas		Isolated or Dubious Finds		Total Number of Sites
	#	%	#	%	#	%	#	%	#	%	
Spring-oriented areas	6	66.6	0	-	0	-	0	-	3	33.3	9
Other areas	19	70.4	1	3.7	0	-	4	14.8	3	11.1	27

Prehistoric Site Assessments and Recommendations

The number and percentage of prehistoric sites within spring-oriented and other areas which are felt to have high, moderate and low information yield potentials are provided in Table 58. The values indicate that significantly lower percentages of high potential and higher percentages of low potential prehistoric sites can be expected within areas associated with seep springs. The spring-oriented areas surveyed, however, may be more disturbed than other areas.

TABLE 58

SUMMARY OF PREHISTORIC SITE ASSESSMENTS,
SPRING-ORIENTED VERSUS OTHER AREAS,
CLEAR CREEK TRANSECT AREA

	Information Yield Potential						
	High		Moderate		Low		Total # of Sites
	#	%	#	%	#	%	
Spring-oriented areas	2	22.2	4	44.4	3	33.3	9
Other areas	11	40.7	12	44.4	4	14.8	27

MANAGEMENT SUMMARY

RESERVOIR ASSESSMENTS

The results of this survey indicate that significant cultural resources and/or information are present within all portions of the project area. Regardless of the reservoir alternative selected, the implementation of the proposed Millican Project will result in adverse effects to cultural resources. Archeological investigations beyond the survey level will be required to mitigate their loss. A main purpose of the present investigation is to provide the data necessary to assess the relative impact of each proposed reservoir alternative. Government planners can then use these data in their selection of a specific damsite and reservoir. This section summarizes the data pertinent to the selection process by discussing a number of aspects where notable differences exist between the various reservoir alternatives. First, however, several general statements are appropriate.

The term cultural information was used within the first sentence of this section in specific reference to the project area. It should be clear from the site assessments provided within Part II of this report that few archeological sites within the project area may fulfill the

requirements for nomination to the National Register of Historic Places. These few sites are all prehistoric in nature and are situated within the modern floodplain of the Navasota River. No National Register nominations are made on the basis of the present survey because in all instances the sample of buried cultural materials was not sufficient to be certain that all criteria for nomination to the Register are present. The cultural information contained within the aggregate of archeological sites, however, may be sufficient to warrant nomination as a district and clearly is sufficient in certain areas. It is the total of cultural information which must be taken into account in the assessment of the proposed reservoir alternatives.

Any area contains information which is potentially important to the interpretation of regional cultural history and adaptations. If the information is negative in nature, the archeological sites few in number, and they obviously are not significant on their own merits, then investigations are still necessary to explain the apparent absence of intensive occupation and/ or use. The necessity of investigations within areas which contain abundant significant cultural resources is obvious, as is the fact that the level of these investigations will be considerably higher. The objectives of investigations within either of these kinds of areas, however, will be the same although specific orientations and strategies may differ. All areas and all sites that are not totally destroyed have the potential to provide important information concerning local and regional cultural history, and all portions of the project area represent a unique opportunity to *define and characterize* this history.

Reservoir Extent

The pool, project elevations and extent of each proposed reservoir alternative are provided in Table 59. Although obviously an oversimplification, the greater the extent of the reservoir alternative the greater the number of archeological sites and geographic variability which can be expected to occur within its boundaries. On this basis, the Bundic Crossing Damsite can be expected to result in the least adverse effects to cultural resources, and the Millican Damsite the greatest.

General Reservoir Impact

The selection of a proposed reservoir alternative on the basis of its general impact on cultural resources involves the specific kinds of impacts which may be expected to occur and their placement relative to the defined divisions within the valleys of area streams. Each of the proposed reservoir alternatives, except for that formed by the Millican Damsite, are constant level lakes. The use of the reservoir formed by the Millican Damsite for flood control purposes will create an extensive area above the conservation pool which will be subject to severe erosional processes. The adverse effects to cultural resources which can be expected to occur from the selection of the Millican Damsite, therefore, are significantly greater than the other alternatives.

TABLE 59

FINAL RESERVOIR ELEVATIONS AND EXTENT

Reservoir Alternative	Conservation Pool Elevation	Flood Pool Elevation	Maximum Project Elevation	Project Extent
Millican	219 feet MSL	234.2 feet MSL	239.9 feet MSL	76,420 acres
Panther Creek I	263 feet MSL	-	269 feet MSL	70,669 acres
Panther Creek II	233.8 feet MSL	-	244.5 feet MSL	43,335 acres
Bundic Crossing	276 feet MSL	-	288.2 feet MSL	23,520 acres

The relative locations of each of the impact areas defined for each reservoir alternative, except for the corresponding damsites and the Millican floodpool, are similar. The conservation pool will inundate portions of the valley floors of the Navasota River and its major lateral tributaries. The upper limit of this pool will fall within the upper portion of the valley walls near the proposed damsites and the lower valley walls near the upper end of each reservoir. Since the kinds of cultural resources identified within each of these physiographic divisions are generally similar, no notable differences in the adverse effects to cultural resources can be expected which might provide a basis for reservoir selection.

Status of Cultural Information

The status of the cultural information concerning specific areas within the project area varies considerably. The previously known and newly recorded archeological sites for each of the proposed reservoir alternatives are provided in Tables 60 through 63. These tables show that previous investigations, and therefore previously known sites, are concentrated within the southern portion of the project area and decrease toward the northern end where no investigations had been conducted prior to the present survey. The greater number of known archeological sites within the proposed reservoir formed by the Millican Damsite is the result of a number of different investigations within an area of high apparent site density. However, the absence of similar numbers of sites within the other proposed reservoir alternatives, especially that formed by the Bundic Crossing Damsite, is the result of absence of extensive investigations rather than the absence of great numbers of archeological sites. The number of known sites, then, should

TABLE 60

MILLICAN RESERVOIR, MILLICAN DAMSITE
SUMMARY OF RESERVOIR MANAGEMENT UNITS

	Damsite	Conservation Pool	Floodpool	Project Boundaries
Previously known sites	41BZ8	41BZ16	41BZ25	41BZ17
	41BZ9	41BZ18	41BZ27	41BZ21
	41BZ10	41BZ19	41BZ29	41BZ26
	41BZ11	41BZ22		41BZ28
	41BZ12	41BZ24	41GM7	
	41BZ13	41BZ30	41GM13	41GM9
	41BZ14		41GM15	41GM10
	41BZ15	41GM2	41GM18	41GM16
		41GM8	41GM22	41GM17
	41GM12	41GM11	41GM23	41GM21
	41GM14	41GM24	41GM29	41GM38
	41GM19	41GM25	41GM31	
	41GM20	41GM26	41GM32	
		41GM27	41GM33	
		41GM28	41GM52	
		41GM36	41GM53	
		41GM40	41GM68	
		41GM49	41GM80	
		41GM50		
		41GM51		
		41GM54		
		41GM55		
		41GM57		
		41GM58		
		41GM64		
		41GM65		
Newly identified sites	41BZ39 through 41BZ57	41BZ65	41BZ58	41BZ64
			41BZ59	
			41BZ60	41MA6
			41BZ61	
	41GM86 through 41GM115		41BZ62	
			41BZ66	
			41BZ69	
			41BZ70	
			41BZ71	
			41MA11	

TABLE 61

MILLICAN RESERVOIR, PANTHER CREEK DAMSITE (ALTERNATIVE I)
SUMMARY OF RESERVOIR MANAGEMENT UNITS

	Damsite	Conservation Pool	Project Boundaries
Previously known sites	41BZ18	41BZ17	
	41BZ19	41BZ20	
	41BZ28	41BZ21	
	41BZ29	41BZ22	
		41BZ23	
	41GM21	41BZ25	
		41BZ26	
		41BZ27	
		41GM2	
		41GM8	
		41GM16	
		41GM17	
		41GM18	
		41GM22	
		41GM32	
		41GM33	
		41GM40	
Newly identified sites		41BZ58	
		41BZ59	
		41BZ60	
		41BZ61	
		41BZ62	
		41BZ63	
		41BZ64	
		41BZ65	
		41BZ66	
		41BZ67	
		41BZ68	
		41BZ69	
		41MA5	
		41MA6	
		41MA7	
		41MA8	
		41MA9	
		41MA12	
		41MA13	
		41MA17	
		41MA18	
		41MA19	

TABLE 62

MILLICAN RESERVOIR, PANTHER CREEK DAMSITE (ALTERNATIVE II)
SUMMARY OF RESERVOIR MANAGEMENT UNITS

	Damsite	Conservation Pool	Project Boundaries
Previously known sites	41BZ18	41BZ22	41BZ17
	41BZ19	41BZ25	41BZ21
	41BZ28	41BZ27	41BZ26
	41BZ29		
		41GM2	
	41GM21	41GM8	
		41GM16	
		41GM17	
		41GM18	
		41GM22	
		41GM32	
		41GM33	
		41GM40	
Newly identified sites		41BZ58	41BZ64
		41BZ59	41BZ66
		41BZ60	
		41BZ61	41MA5
		41BZ62	41MA6
		41BZ65	41MA7
		41BZ67	41MA9
		41BZ68	41MA18
		41BZ69	41MA19

TABLE 63

NAVASOTA RESERVOIR, BUNDIC CROSSING DAMSITE
SUMMARY OF RESERVOIR MANAGEMENT UNITS

	Damsite	Conservation Pool	Project Boundaries
Newly identified sites	41MA5	41LN194	41RT134
	41MA20	41LN199	41RT136
		41LN200	41RT137
		41LN201	41RT144
		41RT132	
		41RT133	
		41RT135	
		41RT143	

not be used as a criterion for reservoir selection; the apparent density values for specific areas provide a more useful indication of the number of sites which can be expected.

It should be noted that due to changes in the elevations and extents of the proposed reservoir alternatives subsequent to the establishment of the transect areas covered during the present survey, not all of the newly identified archeological sites will be adversely affected by the proposed alternatives. This is especially true of sites within the Clear Creek Transect Area which is located at the extreme northern end of the project area.

Differences in the state of the cultural information, other than known archeological sites, between specific portions of the project area are important in the selection of the proposed reservoir alternative. The major portion of the project area is primarily unknown, despite the numerous known archeological sites, due principally to the absence of investigations beyond the survey level. The dearth of cultural information is not alleviated by the presence of similar areas where such information is better known. On the other hand, despite the absence of extensive investigations within the northern portion of the project area, the status of the cultural information concerning this area is more complete. Investigations within Lake Limestone, which are directly applicable to the northern portion of the project area, provide an interpretive framework that can be used during further investigations within this area. This means that less work will be required to bring the level of cultural information to an acceptable level, whereas investigations within the southern portion of the project area must begin without the benefit of an existing interpretive framework.

Apparent Density and Kinds of Sites

Management data provided previously indicate that the apparent density and kinds of sites which can be expected to occur within the northern and southern portions of the project area vary considerably and are important to the selection of the proposed reservoir alternatives. As has been shown, the southern portion (as represented by the Millican Transect Area) apparently represents an area of intensive prehistoric and historic occupation and use, both of which exhibit distinct adaptations. Previous investigations apparently indicate that this cultural area can be extended northward to include the Panther Creek Damsite. The results of the present investigation in the northern portion of the project area (as represented by the Clear Creek Transect Area) represent another area which is distinct from the southern cultural area. The southern extent of the northern cultural area is not known, but certain characteristics of the northern area extend at least as far south as the Bundic Crossing Transect Area. The portion of the project area which is located between these two defined cultural areas apparently contains few archeological sites and a more limited variety of cultural materials and kinds of sites. The presence of this transitional zone, where at least prehistoric occupation and use are less intensive, is of major importance in the selection of a proposed reservoir alternative.

Site Assessments

Despite the noted differences in the apparent density and diversity of archeological sites, a significant percentage of the sites in all portions of the project area is assessed as having a high information yield potential or as warranting further investigation. This fact is related to the need to explain both intensive cultural activity and negative results within specific areas. Both aspects are felt to be important in explaining local and regional cultural adaptations. Differences in the number of sites identified within particular areas, however, mean that fewer sites will warrant further work in areas of low site density. On this basis, the transitional zone between the northern and southern cultural areas will require less effort to mitigate any loss of significant cultural information.

Summary and Recommendations

The previous discussion indicates that although adverse effects to cultural resources will result from the selection of each of the proposed reservoir alternatives, significant differences in the severity of these effects provide a basis for the consideration of specific alternatives. The following proposed reservoir alternatives are listed in ranked order from the alternative which may result in the least adverse effects to cultural resources to the alternative which could result in the most severe adverse effects; these are:

(1) Millican Reservoir, Panther Creek Damsite, Alternative II;

(2) Millican Reservoir, Panther Creek Damsite, Alternative I;

(3) Navasota Reservoir, Bundic Crossing Damsite; and

(4) Millican Reservoir, Millican Damsite.

GENERAL PROJECT RECOMMENDATIONS

Future Scientific Research

The kinds of information concerning the cultural resources present within the project area which are felt to be important to future scientific research have been discussed previously in general terms and will not be repeated. Specific recommendations for research on prehistoric resources are discussed in the section on the mitigation of adverse effects. Specific recommendations are provided concerning the areal history and for additional archeological surveys within the project area.

Although definite recommendations are presented concerning only one aspect of any additional terrain survey, other aspects are discussed where changes in technique might be more efficient. The present survey has demonstrated the difficulties involved in obtaining land access

within the project area where the incidence of both absentee landownership and newly subdivided areas is high. Further, the long-standing controversy concerning the placement of a reservoir along the lower portion of the Navasota River, which severely hampered survey efficiency, is felt to be best handled in-house by the government agencies involved. It is therefore recommended that the Corps of Engineers should obtain access permission from landowners prior to the initiation of any additional field investigations.

Specific changes in survey technique which may result in more efficient terrain coverage and/or higher quality of data include: (1) limited subsurface sampling of specific sites; and (2) an airphoto analysis of the floodplain of the Navasota River. The results of the present survey indicate that a significant portion of the sites are identified on the basis of a very small sample of cultural materials (less than 20 specimens per site). In such instances, informal but carefully screened shovel tests made in conjunction with the survey might be most efficient in providing critical assessment data (Edward Baxter, personal communication, 1981). If it is decided by the government that survey within featureless portions of the modern floodplains of area streams is profitless and that the significant cultural resources which appear to be contained within the valley floors of these streams can be located by an intensive examination of the modern and relict channels, an airphoto analysis of these areas might be cost efficient. Locating major relict channel systems and segments using such an analysis would enable the researcher to eliminate extensive portions of the valley floor from intensive survey coverage.

The present investigations for the Millican Project have demonstrated that although the apparent density of historic archeological sites is highly variable, such resources may be locally abundant. The majority of the historic sites, however, either contain features and other cultural materials which are undiagnostic (such as stream crossings) or are severely disturbed. On the other hand, investigations by the Project Historian have shown that significant historical information which is both general in nature and concerns specific archeological sites identified during the survey is known by certain local area residents (Appendix I, Historical Background). On this basis it seems that the most promising approach for reconstructing area-specific histories, at least history since A.D. 1900, is a combination of normal survey techniques, records searches and intensive interviews with local informants. This approach is recommended. This approach is all the more critical since the majority of the informants are at least 70 years of age and significant historical information is in imminent danger of being lost.

Since the approach described above is the most labor-intensive, and therefore the most expensive, more specific justifications are felt to be necessary. Two pertinent examples of potentially lost information are found in the Clear Creek Transect Area. Local residents knew the exact location and general history of the agriculturally based community of Egypt, and although the existence of this community could have been determined by a records and/or literature search, it is doubtful that

its location could have been inferred from data gathered during the survey of this area. The visible remains were too scattered and fragmentary in nature, and the community would probably have been recorded as two separate housesites (both of which are too badly disturbed to warrant additional investigation on their own merits) and as a thin artifact scatter which may have been mentioned during the description of a prehistoric site. Clearly, highly significant information would have been lost except for information provided by local residents.

Also, although the cane syrup press recorded during the present survey was readily identifiable as such, its relationship to the local area could not be determined. As a community-oriented, rather than a company-oriented, processing site, it is doubtful that a records and/or literature search would have provided any, or at best only a general, history of the site. However, local informants who had worked at the site during the early portion of the twentieth century were located and could provide data concerning its ownership and work force, the area served by the press, and its economic importance to area residents.

Further Investigations for the Millican Project

It should be restated prior to the discussion of further investigations suggested for the Millican Project that the primary purpose of the present investigation is to provide the data necessary to assess the effects within four reservoir alternatives. These investigations have provided good site locational data but only limited assessment data. The attained assessments are not of sufficient scope for a final determination of eligibility for nomination to the National Register of Historic Places. Those sites which are assessed as having a limited research potential in this report do not appear to be worthy of nomination. All other sites may be worthy of nomination but critical assessment factors are unknown.

Further investigations, then, are necessary to complete the identification and assessment of significant cultural resources within the boundaries of the Millican Project. The accomplishment of this phase will require extensive subsurface testing at many of the sites identified. Testing may be done either as part of an intensive survey of the selected damsite alternative or subsequent to an intensive survey. Accurate assessments of sites from a surficial examination is not possible at most of the sites identified during the current project.

The following outline of future investigations indicates the kinds of information which should be sought and the kinds of sites and archeological investigations which are felt to have the highest potential for providing this information. Specific sites and/or emphases may change as a result of investigations within the selected reservoir alternative. Assessments of sites relative to eligibility for nomination to the National Register of Historic Places should be made within a framework of data gathering. This will require several phases of investigation which are outlined below. The first of these phases should be of sufficient scope to provide final determinations of eligibility for nomination to the National Register of Historic Places.

Phase I - Assessment Testing and Excavations for Basic Cultural Information

Phase I of the mitigation program should assess those archeological sites within the project area which appear to have a high information yield potential concerning area-specific cultural sequences and adaptations, and temporally specific artifact assemblages and adaptations. On the basis of these assessments, more extensive testing and/or excavation could be conducted at certain sites to define and/or characterize the cultural data.

For prehistoric cultural resources, the primary goals of this phase should include: (1) defining the distinct adaptations which appear to be represented by the northern and southern portions of the project area; (2) establishing cultural sequences for each of these areas; (3) characterizing temporal divisions recognized within each area in terms of specific artifact assemblages and adaptations; and (4) defining and characterizing the transitional and/or buffer zone between these areas. Since the majority of the prehistoric sites investigated during this phase will be within the valley floor of the Navasota River, other goals of this phase should include: (1) dating the visible relict channel systems in order to assess the potential for significant prehistoric cultural resources within featureless portions of the modern floodplains; and (2) characterizing the resource strategies employed within the riverine environment.

Toward these ends, archeological sites should be selected which: (1) sample the geographic range within the project area; (2) sample the apparent temporal range within the project area; (3) contain a number of prehistoric occupational episodes and have a high potential for the vertical separation of these episodes; and (4) appear to represent primary loci of occupation within specific areas.

The historic archeological sites which appear to warrant further on-site investigations and/or which are expected to have a positive assessment following initial on-site investigations are relatively few in number. The assessment of all historic sites which appear to warrant further work, therefore, may be accomplished during Phase I, although testing a number of these sites during Phase II may be economically or strategically beneficial. The basic strategy which should be used follows that for the prehistoric cultural resources; however, a special emphasis should be placed on communities and early sites.

Phase II - Assessment Testing and Excavations for Land Use and Resource Strategy Information

Phase II of the mitigation program should assess those archeological sites which appear to have the highest potential for defining the entire range of activities and adaptations present within the limits of the project area. On the basis of these assessments, more extensive testing and/or excavation should be conducted at certain sites to define and/or characterize these kinds of cultural data.

For prehistoric cultural resources, the primary goals of this phase should include: (1) defining temporally specific differences in the occupation and use of the Navasota River and its major lateral tributaries; (2) defining temporally specific differences in the occupation and use of the valley walls of these streams; and (3) investigating specific clusters of sites and/or apparently intensive loci of prehistoric activities. Since the majority of the sites investigated during this phase of the mitigation program will be within the valley walls, other goals should include: (1) characterizing the resource strategies employed within the valley wall resource area; and (2) characterizing the occupation and use areas possibly associated with seep springs.

During this phase, sites should be selected which: (1) sample the geographic range within the project area; (2) sample the apparent temporal range within the project area; (3) represent a single occupational episode; (4) contain cultural materials which have the highest potential to define specific activities and/or groups of activities; and (5) sample all kinds of prehistoric sites.

Phase III - Final Mitigation and the Investigation of Specific Cultural Questions

Phase III represents the final mitigation of the adverse effects to cultural resources within the project area. Although new sites may be investigated during this phase, the primary focus should be to further investigate those sites which appear to have the highest potential to provide data concerning specific cultural questions raised by the earlier phases of mitigation. Also, since these earlier phases were concerned primarily with the definition and characterization of cultural resources within the project area, Phase III should also focus on defining the relationship between the project area and other surrounding cultural areas, although such data should be gathered incidentally during the earlier phases.

Other Considerations and Limitations of Research and Mitigation

Future scientific research and the mitigation of adverse effects to cultural resources, as presented above, will be modified by two factors. First, the selection of a specific reservoir alternative will limit the geographic range of the project area, and only those aspects of prehistoric and historic occupation which can be addressed for the particular area selected will be pertinent. Thus, if the Bundic Crossing Damsite is selected, the definition and characterization of the cultural area apparently represented within the southern portion of the present project area will not be possible.

Second, the location of sites relative to the defined impact areas within each reservoir will affect the selection of sites. Those sites within the conservation pools and/or floodpools of the reservoir should be given the highest priority during mitigation. For sites which are above these levels, and can therefore be successfully managed on a long-term basis, time will not be as critical a factor.

Limitations of Land Use and Site-Specific Preservation

Portions of each reservoir alternative above the level of the conservation pool will require management plans limiting visitor and government land use and protecting specific significant cultural resources. The majority of the reservoir alternatives will maintain a stable water level, and the necessary management plans will be relatively straightforward. The selection of the Millican Damsite alternative, however, will require a plan which takes into account those adverse effects which can be expected to occur as a result of a continually changing water level.

The major kinds of land-use activites which are expected to result in adverse effects to significant cultural resources include: (1) the leasing of government land for ranching and/or farming activities; (2) the extraction and distribution of minerals; (3) the establishment of public use areas; and (4) unauthorized use by the public. In general, the use of land within the project area for ranching and/or farming activities will not result in significant losses of cultural resources. However, land improvements associated with these activitites, particularly the clearing of trees and shrubs, can result in adverse effects which will require management decisions by the government. This is equally true of activities associated with the extraction and distribution of mineral resources.

It is recommended, therefore, that the leasing of land for ranching and/or farming activities and the extraction of mineral resources should be allowed but regulated. Those activities which might result in adverse effects to significant cultural resources should be preceded by archeological investigations which determine the presence and significance of prehistoric and historic sites within the immediate area of the impact. On the basis of the results of these investigations, those sites which are felt to represent significant cultural resources should be avoided or the loss of such resources should be mitigated. Sites which are felt to have a low information yield potential will require no special precautions during the proposed land improvements or other construction.

The use of established authorized public use areas is likely to be intensive, and adverse effects to cultural resources will result from the construction of facilitites as well as their use. Although the establishment of such areas is encouraged, management decisions by the government will be required during the selection of the locations and placement of facilities within these areas. The unauthorized use of areas outside of established public use areas can be expected to occur with access from both the land and the reservoir. It is recommended that steps be taken by the government to limit the use of land outside of established public use areas as much as is feasible. Access from the landward side may be adequately controlled by fencing, including gates limiting road access, and by patrols or threatened punitive actions. Limiting access from the reservoir is much more difficult, and the total

elimination of unauthorized use of shore areas may be impossible. Intensive archeological investigation should be conducted within established authorized public use areas, which will locate and assess the identifiable archeological sites within these areas. Recreational planning should include the locations of recognized significant cultural resources which should be avoided by both facility construction and use wherever possible. Adverse effects to those significant cultural resources which cannot be avoided or otherwise protected should be mitigated. Sites which appear to have a low potential will require no special precautions during recreational planning.

If it can be demonstrated (see General Project Recommendations, Future Scientific Research) that featureless portions of the modern floodplains of both the Navasota River and its major lateral tributaries do not contain recognizable prehistoric archeological sites, such areas will not require special precautions during construction.

The use of the Millican Damsite reservoir alternative for flood control will exaggerate the adverse effects which could result from the activities discussed above. Erosion and the resulting exposure of cultural materials will make any significant cultural resource both more noticeable and more fragile in nature. Archeological investigations which mitigate any loss of significant cultural information, therefore, will be correspondingly more critical.

The majority of the archeological sites which will be included within land-use management plans are situated within the valley walls of the Navasota River and its major lateral tributaries. These sites are generally buried, are contained within loosely consolidated sand, and are considered to be extremely fragile. For these reasons, the preservation of sites within the floodpool of the Millican Damsite reservoir alternative is not expected to be practical from either an economic or an engineering point of view. The preservation of archeological sites not subject to variations in water level can generally be accomplished by avoiding these site areas. Those sites which represent significant cultural resources, which includes sites that appear to have a high information yield potential, should be preserved if at all possible.

Other Considerations

The selection and construction of the proposed reservoir alternatives for the Millican Project does not appear to concern any known North American Indian associations or individuals.

ARCHEOLOGICAL SUMMARY

The present investigations of the Millican Project provide a small sample of the cultural diversity within the lower portion of the Navasota River Basin. Although the following summary of the prehistoric

occupation and use is written using positive terms, none of the statements made have been demonstrated. Rather, the statements are hypotheses, the validity of which should be tested during a later, more extensive survey, and by testing and excavation of specific sites. Within this section of the report, general remarks are followed by summaries of the transect areas, specific examples of prehistoric cultural diversity within the project area, and a discussion of the placement of the project area within a regional cultural framework.

GENERAL REMARKS

The present survey indicates that the lower portion of the Navasota River Basin has been the location of significant prehistoric activity since at least the early Archaic period. Although most of the datable archeological sites are from the late Archaic and Neoarchaic periods, this trend may be more apparent than real due to the absence of subsurface investigation within the area. This is not meant, however, to deny a florescence during these later periods which appears to represent a real cultural phenomenon but rather to affirm the probably significant occupation of the area during the earlier periods.

The current work also demonstrates that the prehistoric archeological sites within this area and the cultural adaptations which they represent are neither too limited in nature nor too nebulous to be defined and characterized by archeological investigations. Although most of the sites have little or no potential for the vertical separation of occupational components and many appear to be the result of limited and undefined activities, a significant number have a high potential for vertical stratigraphy and/or contain a variety of diagnostic artifacts and other cultural materials. Similarly, the preliminary sample of sites which is available indicates that well-defined distinctive cultural adaptations and traits can be identified, and they can be integrated into a regional cultural framework. Both of these aspects are discussed in detail later in the report.

Perhaps the most significant results of the investigations concern overall prehistoric land-use strategies. The identification of extensive multiple activity areas and campsites situated on depositional features within the modern river floodplain and of a variety of sites within the valley walls of major lateral tributary streams apparently differs from the results of previous investigations within the Navasota River Basin. The modern floodplain was not only inhabited by prehistoric groups of people, but apparently prehistoric activity was centered within portions of the river basin. This fact is significant since archeological hypotheses concerning the use of the modern floodplain must be restructured because of the greatly increased information yield potential of areas containing sites situated within the modern floodplain. The absence of prehistoric sites on rapidly alluviating surfaces, which thus have high potential for vertical stratigraphy, has been noted and lamented within the Lake Limestone area (Prewitt 1974) and East Texas (Story 1981). The sites identified during the present survey, therefore, have regional as well as local importance.

Limited occupation of depositional features within the modern floodplain of major lateral tributary streams and relatively intensive use of tributary valley walls, which were also documented, contrast with the results of investigations in the Lake Limestone area. The intensity of use exhibits considerable variation between drainages, and, on the basis of the results of investigations within Gibbon's Creek, may extend only a short distance away from the river. The limitations imposed by investigations of reservoir areas preclude more complete data concerning the use of the valley walls of tributary streams.

TRANSECT AREA SUMMARIES

An indication of cultural diversity within the lower portion of the Navasota River Basin and summaries of adaptations and cultural traits which characterize this area are best provided by data for the Millican and Clear Creek transect areas. Each of these areas represents distinct adaptations which are at geographic extremes from one another and are loosely defined as cultural areas on that basis. Investigations in the Ferguson #3 and Bundic Crossing transect areas, which are located between the Millican and Clear Creek transect areas, provide significant data that augment the discussions of the northern and southern extremes.

Millican Transect Area

The Millican Transect Area samples an area within the southern portion of the Navasota River Basin 7 miles north of the river's confluence with the Brazos River. It is the largest of the areas surveyed and includes extensive and diverse portions of the Navasota River valley and two major lateral tributary streams.

The wide modern river floodplain contains few relict channel segments and is generally featureless; no low river terraces were recognized. The two prehistoric sites identified on depositional features of the river (Group I), which represent multiple activity areas, indicate purposeful but limited exploitation of the riverine environment from such a situation, at least during the late Archaic period. That the riverine environments of both the river and its tributaries were more intensively used is demonstrated by the presence of significant numbers of prehistoric sites within the lower portion of the valley walls of area streams, on ridgecrests, and on knolls immediately above the valley floor.

The valley walls of the river and both tributaries provide a diversity of situations and environmental settings, and the kinds of prehistoric sites and situations are correspondingly diverse. Sites are not randomly distributed but tend to form definite clusters, although their occurrence may be randomly distributed within particular portions of the area. The results of the present survey were negative within other areas. The hypothesis that the area has been occupied at least from the early Archaic period is based on findings during the present survey and artifact collections from the area (Texas Archeological Research Laboratory, County Files).

The prehistoric sites within the valley walls of the Navasota River (Groups II and III) include only limited and specialized activity areas. Three limited activity areas and two lithic resource processing sites which occur on hard sandstone form a cluster within the right valley wall of the river. Across the river, a single limited activity area was identified on a low extension of the valley wall. Although the kind and density of cultural materials present indicate sporadic and limited use of these areas, the incidence of sites is high. No temporally diagnostic artifacts were noted at the sites identified within the valley walls of the Navasota River.

Two site clusters occur within the valley walls of Millican Creek; however, there are extensive areas where no prehistoric archeological sites were identified. Fourteen prehistoric sites (Groups IV and VII) include all of the kinds of sites recognized within the portion of the right valley wall of Millican Creek above the confluence of the creek and the Navasota River. The majority of the sites, however, appear to be associated with the creek; and a full profile of the creek valley wall is represented by the sites within this area. Campsites occur within lower, middle and upper portions of the valley wall; however, the only campsite which is extensive in size occurs immediately above the valley floor of Millican Creek. Gravel concentrations at the heads of slope drainages, which occur within the upper portion of the valley wall, were utilized. Areas surrounding outcrops of hard sandstone which occur immediately above the floodplain appear to have been preferred site locations, probably due to the presence of abundant hearth material in an otherwise resource-rich ecotonal situation. Although multiple and limited activity areas occur throughout the valley wall, multiple activity areas in this cluster of sites are more numerous within the middle portion of the valley wall. No temporally diagnostic artifacts were noted in this area.

A number of prehistoric campsites and limited activity areas were identified on rises within a low landform which occurs above and parallels the left bank of Millican Creek. The sites (Group VIII) are small in size and thinly distributed. Use of this area appears to have been sporadic and/or of limited duration. The presence of campsites which contain a number of different kinds of artifacts, however, indicates that the sites within this area represent a center of prehistoric activity. No temporally diagnostic artifacts were noted.

Extensive portions of the valley walls of Millican Creek contain no identifiable archeological sites. The absence of sites here and the clusters of sites within other areas appear to represent real differences in prehistoric use. Site absence may be attributed to the area's situation away from the channel of Millican Creek and the confluence with the Navasota River, the absence of outcrops of either hard sandstone or lithic gravels, or the overall featureless nature of the area.

The known prehistoric sites within the left valley wall of Rocky Creek are more equal in their distribution; however, clusters of sites and/or areas of prehistoric activity can still be isolated. The use of landforms immediately above the valley floor of the creek near the

confluence with the river apparently was rather intensive. Four multiple activity areas and an isolated projectile point (Group X) were identified on low-lying ridgecrests and appear to represent a distinct area of prehistoric use. The relative density and variety of the cultural materials present, the absence of any indications of camp maintenance activities, and the possible early Archaic occupation of one of the sites are distinctive. The late Archaic age of an isolated projectile point appears to indicate the repeated use of this area.

A series of prehistoric sites was identified on isolated knolls within the valley floor of Rocky Creek (Group IX) and on knolls immediately above the valley floor (part of Group XI). Here again, outcrops of hard sandstone occur and may be a positive factor in site selection. Except for a single multiple activity area, the sites appear to represent limited activity areas. The relative thinness and uniformity of the cultural materials indicate sporadic use of a limited nature, although the use of knolls in this area was rather intensive. No temporally diagnostic artifacts were noted on these sites.

The remainder of the sites within Group XI occur on sandy rises within the upper portion of the valley wall in an area otherwise dominated by clayey surface soils. Each sandy rise within this area contains evidence of prehistoric use, although an apparent absence of prehistoric remains was noted within similar areas both to the east and west. The sites represent limited activity areas and/or isolated or possibly unrelated finds and either long-term sporadic use or limited use during one specific time period (an arrow point was noted at one of the sites). The function of the sites and the reasons for their presence here cannot be determined from the available data; however, the sites do not appear to represent a center of prehistoric activity.

Eight prehistoric sites were identified within the portion of the valley wall of Rocky Creek which surrounds Little Flock Creek (Groups XII and XIII). The intensive use of landforms immediately above the valley floor is indicated here as well, and a more widespread exploitation of this area is suggested. In fact, the two campsites identified within this area, which include a variety of densely distributed cultural materials, are situated above the valley floor. The remainder of the sites include a lithic resource procurement site, limited activity areas and isolated or dubious finds. Except for the campsites which are obvious centers of prehistoric activity, area use appears to be sporadic and/or limited in nature. The widespread and rather uniform distribution of these sites appears to be significant. No temporally diagnostic artifacts were noted within the area.

Ferguson #3 Transect Area

The area surveyed within the Ferguson #3 Transect Area, which is located a little over 40 miles north of the confluence of the Navasota and Brazos rivers, is limited primarily to the Wickson Creek valley. Although a portion of the right valley wall of the river was included, the limited data concerning the prehistoric use of the river valley limit the nature of any summary statements.

The three sites identified in association with the river, which include a campsite and two limited activity areas, apparently comprise a definable area of prehistoric use. The presence of a campsite (the only such site identified within this transect area) is particularly significant, although the small extent and thin distribution of each of the sites indicate sporadic and/or limited use. No temporally diagnostic artifacts were noted.

More intensive and varied use of the Wickson Creek valley is apparently indicated by the identification of eight prehistoric sites which comprise Groups II, III and IV. The presence of sites situated on depositional features of the creek (Group II) and the definite clustering of sites on a low creek terrace (Group III) are distinctive aspects of prehistoric adaptation within this area. Lithic tools and ceramics are present in small numbers, although the majority of the sites appear to represent limited activity areas. The terrace sites in particular apparently represent a center of prehistoric activity, although the absence of campsites and the generally limited density and variety of cultural materials suggest sporadic or otherwise limited use of this area.

The portion of the valley wall of Wickson Creek which is above the low-lying area and contains the prehistoric sites discussed above shows little evidence of prehistoric use (Group V). Although numerous outcrops of lithic gravels were noted within this area which may have been used prehistorically, the difference in the intensity of occupation between the area and the portion of the valley wall immediately above the valley floor of the creek appears to represent a real resource preference. The possible presence of isolated prehistoric burials within the loosely consolidated sand which caps the higher ridgecrests (Mike Davis, personal communication, 1981) may represent a distinctive cultural trait within a major portion of the project area.

Bundic Crossing Transect Area

The Bundic Crossing Transect Area, located approximately 75 miles north of the confluence of the Navasota and Brazos rivers, samples a portion of the river valley where no major lateral tributary streams occur. A small portion of the river valley floor in this area, which is dominated by relict channels and other similar features, and extensive portions of the left valley wall were included in the present survey.

The most striking feature of the prehistoric occupation and use of this area is the greater number and apparently high density of sites associated with a major relict channel system of the Navasota River. This apparent concentration of sites includes those which occur on depositional features of the relict channel (Group I), on a low river terrace which the channel abuts (Group II), and on knolls within the valley wall and immediately above the channel (Group III). The high percentage of campsites within the valley floor is apparently characteristic of the prehistoric adaptation within this area and may indicate that the valley floor is a center of prehistoric activity. Several of these sites, and the sites within the lower portion of the valley wall, are isolated

finds which imply more limited use of certain areas within the overall concentration of sites and activities. Both late Archaic and Neoarchaic occupations within these areas are indicated.

In contrast, the upper portion of the river valley wall included within the present survey is generally devoid of prehistoric remains. Although use of this area is implied by the presence of an isolated late Archaic dart point, this use was apparently very limited in nature. The differences between the use of areas closely associated with the relict channel and more upland areas appear to represent a real resource preference characteristic of the prehistoric adaptation within this portion of the Navasota River valley. The reasons for this preference, however, are obscure at the present time.

Clear Creek Transect Area

The Clear Creek Transect Area, approximately 90 miles north of the confluence of the Navasota and Brazos rivers, samples extensive portions of the valleys of the Navasota River and Clear Creek and is the northernmost area included within the present survey. The river valley within this area exhibits a diversity of microenvironments and specific situations and includes areas dominated by or associated with seep springs. Although extensive portions of the Clear Creek valley were examined during the present survey, the sample of specific situations is limited to the modern floodplain and portions of the valley wall immediately above the floodplain.

The constricted valley floor of the Navasota River within this area contains a number of major relict channels. Depositional features associated with these relict channels apparently were intensively used as campsites, at least during the middle and late Archaic and Neoarchaic periods. These campsites (Group I), which contain a variety of relatively densely distributed cultural materials, appear to indicate an intensive and varied use of the environment near the river banks.

The diversity of environments and situations which were included within the present survey of this portion of the Navasota River valley were used rather intensively during prehistoric times. The description of site distributions within this area, therefore, concerns the use of particular locations rather than the clustering of sites. In general, prehistoric sites can be divided into those which are apparently associated with the river and those within an area containing seep springs and spring-fed lakes.

The five prehistoric sites (Group III) identified within the valley walls of the river include four sites above the left bank and a single site above the right bank. These potentially extensive sites appear to represent campsites. The four sites within the left valley wall were separated primarily for descriptive purposes and essentially represent a single, distinct area of intensive prehistoric use. The sites contain thinly distributed cultural materials which include few lithic tools, and site use appears to have been both sporadic and limited in nature. The single site identified within the right valley wall contains similar but more densely distributed cultural materials.

Prehistoric sites which appear to be associated with seep springs and/or spring-fed lakes are located on a low river terrace and within the right valley wall. Three limited activity areas were identified on the low terrace immediately west of Wilburn Lake, two above the bank at the margin with the modern floodplain, and one near the margin with the valley wall. These sites seem to indicate sporadic and/or otherwise limited use of this area during the Neoarchaic period.

Six prehistoric campsites (Group IV) were identified on low-lying landforms within a portion of the river valley wall which surrounds a number of lakes and seep springs. The majority of these sites are badly disturbed and apparently provide only an indication of the prehistoric use of this area and higher ridgecrests above the area. The results of the present survey within this area appear to indicate that at least major areas of spring activity were centers of intensive prehistoric use including camp maintenance activities.

No prehistoric sites were identified within the modern floodplain of Clear Creek. Although the creek channel has moved within the valley floor, obvious relict features were not noted during the present survey. Physiographic interpretations are limited by the effects of stream channelization during recent times. The only cultural materials noted within the modern floodplain are of dubious context and the location of sites here is questionable. Intensive use of the riverine environment associated with Clear Creek, however, is indicated by the presence of numerous sites on landforms immediately above the valley floor.

Sixteen prehistoric sites were identified within the valley walls of Clear Creek, nine within the right wall and seven within the left wall. The sites, which appear to be more or less uniformly distributed, are situated on rises, isolated knolls and other distinctive landforms immediately above the modern floodplain. The sites may represent portions of larger areas of prehistoric activity located on ridgecrests above the sites.

The distribution of these sites, which include campsites, a multiple activity area, limited activity areas, and isolated and dubious finds, indicates that prehistoric activity differs in both kind and intensity within specific portions of the Clear Creek valley. Areas of intensive and diverse activities are indicated by the locations of campsites and multiple activity areas. Two such sites, located near the confluence with the Navasota River, apparently are part of the area of prehistoric activity which includes the campsites identified within the left valley wall of the Navasota River. Two additional areas of intensive prehistoric activity are apparently represented within the right valley wall; one includes two archeological sites and one includes a single site. In this area these sites occur above the extremes of the inside and outside meander curves of the creek valley floor. Areas of more limited activity are interspersed between the more intensively used areas.

The sites situated within the left valley wall of Clear Creek appear to form two clusters of three sites each. Three campsites, which apparently represent a single area of prehistoric activity, were identified immediately downstream from an area used for more limited activities.

CULTURAL ADAPTATION AND DIVERSITY

Differences between prehistoric sites within the northern and southern portions of the project area were readily apparent from field observations made during the survey. Within the northern area, burned rocks are often the most obvious indication of prehistoric activity, and both cultural materials and sites are more densely distributed (at least within the Clear Creek Transect Area). Within the southern area, burned rocks are neither numerous nor widespread and there is less overall density of both sites and cultural materials. This initial view of cultural diversity has been modified by more detailed analysis. Although the above trends are generally true, a more complex picture of prehistoric occupation and use is apparently indicated.

The Millican and Clear Creek transect areas, which occur at the southern and northern extremes of the project area, apparently represent distinct prehistoric adaptations. Due probably both to the distinctive nature of adaptations involved and/or the sample of sites and situations included within the present survey, similarities and differences between adaptations can be relatively clearly defined. The areas containing the Bundic Crossing and Ferguson #3 transect areas are less clearly defined, again due to the apparent transitional nature of the prehistoric cultural resources and the more limited sample of environmental strata. The Bundic Crossing Transect Area, however, appears to fall within the northern adaptation while the Ferguson #3 Transect Area may be similar to the southern adaptation.

A discussion of the specific relationships between the transect areas and the characteristics of and differences between the northern and southern adaptations follows.

Apparent Intensity of Use

Indications of the intensity of use of specific portions of the Navasota River Basin can be obtained from the apparent density of prehistoric archeological sites. These values indicate that the extreme northern end of the project area is characterized by the high intensity of prehistoric occupation and/or use of environmental strata. Although significantly lower than the Clear Creek Transect Area, the apparent site density within the Millican Transect Area is higher than in the transect areas located between the two. This, and other aspects which are discussed later, appear to indicate that the northern and southern extremes of the project area represent areas of intensive prehistoric activity while portions of the project area between the extremes may have been used sporadically and/or for more specific and limited activities.

Kinds and Density of Cultural Materials

Real differences in the kinds of cultural materials noted between the northern and southern cultural areas are described in detail in Appendix II, Artifact and Feature Descriptions, of this report. The analysis verified significant differences in the previously noted abundance and distribution of burned rocks, as well as the availability and use of the various kinds of lithic materials. The data are not sufficient to state whether the noted differences in kinds of chipped lithic artifacts are due to style-use differences in tool assemblages or to the use of certain kinds of lithic material. The results of the present survey appear to indicate separate chipped stone traditions to which the working properties of petrified wood undoubtedly contribute within the southern and northern areas that are sufficiently distinct to include differences in adaptation.

Certain more specific kinds of cultural materials provide further data concerning differences in adaptation. For example, the presence of a pitted stone closely associated with a battered stone and grinding slab within the Clear Creek Transect Area, a possible boiling stone concentration within the Bundic Crossing Transect Area, and their apparent absence within the more southern areas are significant. These cultural materials are characteristic of the Lake Limestone area and other areas to the north and east. The concentration of ceramic sherds within the Clear Creek Transect Area and their apparent affiliation may also indicate differences in both adaptation and history within the northern area. Also, although the majority of the projectile points noted during the survey are either indigenous or ubiquitous, a Steiner type arrow point which is characteristic of northeast Texas was noted within the northern area.

Artifacts and other cultural materials noted within the southern area are more generalized in nature, and the characteristic aspects of the assemblages concern lithic material selection and tool manufacturing. The use of chert for projectile points and other formal tools and the significant use of petrified wood for incidental tools can be noted within both the Millican and Ferguson #3 transect areas. The thin biface of petrified wood noted within the Bundic Crossing Transect Area is apparently characteristic of both views concerning different kinds of lithic materials and their uses.

The density of cultural materials at a particular site provides indications of the intensity of specific occupations and/or the intensity of area use over a period of time. Although both southern and northern areas contain sites which are relatively densely distributed, these sites predominate in the northern area. All of the sites identified within the Ferguson #3 Transect Area contain thinly distributed cultural materials. The apparent pattern of relatively densely distributed cultural materials may indicate that within the northern area both the area as a whole and specific situations were more intensively utilized and that intensive use was limited to specific situations within the southern area.

Kinds of Sites

Percentages of the kinds of prehistoric sites recognized within each transect area (see Table 31) provide additional evidence of distinct adaptations within the northern and southern areas. The Millican Transect Area is characterized by closer frequencies for a variety of sites, and high percentages of multiple and specialized activity areas which are distinctive. Although the Ferguson #3 Transect Area is similar to the Millican Transect Area in containing low percentages of campsites, other activities are more limited in nature. High percentages of campsites and the limited activities represented by other sites characterize both of the northern transect areas (the isolated finds identified within the Bundic Crossing Transect Area apparently represent limited activities).

The pattern of the distribution of kinds of prehistoric sites appears to indicate that, except for the Ferguson #3 Transect Area, each of the areas surveyed contained evidence of purposeful and relatively long-term use during prehistoric times. Sufficient numbers and kinds of cultural materials were present to indicate that relatively large groups of people (at least larger than nuclear family groups) obtained a majority of their resources within these areas at least on a seasonal basis. This indicates that the two northern transect areas and the Millican Transect Area are within the annual territorial ranges of indigenous groups of people centered within portions of the Navasota River valley. The results within the Ferguson #3 Transect Area may indicate that an area between these two territories is present where evidence of relatively long-term camp maintenance and a variety of other activities is absent.

The pattern of distribution also provides an indication of the nature of the adaptations within the northern and southern areas. Within the Clear Creek and Bundic Crossing transect areas, prehistoric sites which contain evidence of a variety of activities also may be primarily campsites, and sites which are not campsites may represent areas of generalized and limited activities. Within the Millican Transect Area, the numbers of multiple activity sites with and without evidence of camp activities are approximately equal. Areas of limited prehistoric activity contain both specialized and generalized kinds of cultural materials. Significant numbers of a variety of kinds of sites appear to indicate a more diversified and less concentrated adaptation within the southern area.

Resource Orientation

The location of prehistoric sites within and near the defined environmental strata provides an indication of the use of specific resource areas. In general, each of the major resource areas, which include the valley floor and walls of the Navasota River and the valley floor and walls of major lateral tributary streams, was relatively intensively used during prehistoric times. The specific intensity and kinds of activities represented, however, do exhibit significant differences which appear to be related to both actual preferences for specific

resource areas within a particular area and differences between the northern and southern adaptations.

Within a particular portion of the river basin, the apparent density of sites within the valley of the Navasota River and portions of the valleys of its tributaries near the river are approximately equal. The greater number of sites situated within the modern floodplain of the Navasota River, however, apparently indicates more intensive use of the riverine environment. In most instances, the use of the riverine environment associated with tributary streams is indirectly indicated by the presence of sites immediately above the valley floor. The apparent intensity of use of the valley walls of the tributary streams is similar or somewhat higher than the river valley walls which may be partially the result of differences in the use of the respective valley floors. The number and diversity of prehistoric sites within the valley walls of area streams, however, indicate that the walls are not merely areas from which to exploit the riverine environment. Important resources other than suitability of situation (i.e., relative to flooding, etc.) were apparently present within the valley walls, and evidence of the purposeful exploitation of these resources can be noted at least within the Millican Transect Area.

Significant differences in the use of the major resource areas are apparent between the northern and southern adaptations. The occupation and use of the riverine environment based within the modern floodplain are significantly more intensive within the northern area. Within the Clear Creek Transect Area, the higher percentage of campsites may indicate that the intensity of use includes the river valley as a whole, although the available sample from tributary valley walls is small. Within the Millican Transect Area, all of the campsites and the majority of the sites which contain varied or densely distributed cultural materials are situated within the valley walls of tributary streams. At least in this instance, both a preference for tributary over river resources and greater use of the resources available within valley walls may be indicated. The diversity of activities represented is apparently only partially the result of activities associated with the procurement and processing of lithic materials.

The results of the survey within the Clear Creek Transect Area indicate that major areas of spring activity represent definable resource areas. The apparent density of sites and the high percentage of campsites indicate purposeful exploitation of such areas during prehistoric times.

Land Use

Specific examples of prehistoric land use, which can be recognized within each of the transect areas on the basis of the distribution of numbers and kinds of prehistoric sites, indicate both the diversity of use of specific environmental situations and difference in land use between northern and southern adaptations. Within the Clear Creek Transect Area, each of the sites identified within the Navasota River valley is a campsite, which may indicate that the exploitation of this area was

sufficiently intensive and long term to require camp maintenance activities. The diversity and relative density of cultural materials indicate that the primary loci for the exploitation of the riverine environment are located within the modern river floodplain. The apparent density and extensive size of the prehistoric sites within the river valley walls, however, also indicate intensive use of this resource area. The scarcity of tools and relative lack of other cultural materials here contrast with those sites within the valley floor and appear to indicate different land-use strategies.

The pattern of prehistoric use within the Clear Creek valley is clearly different than that within the river valley. Campsites and other areas which exhibit a variety of activities are apparently systematically located. Areas of more limited activity were identified between prehistoric use site concentrations. Both kinds of sites are situated within the lower portion of the valley wall, and exploitation of the riverine environment associated with the creek from within the valley floor is rare. The overall importance of the resources available within tributary streams is indicated by the presence of campsites and the relative variety and density of cultural materials at specific sites.

Land-use strategies observed within the Bundic Crossing Transect Area appear to be limited to the concentrated use of relict river channels. Although the prehistoric sites identified within the modern floodplain and in direct association with the relict channels are particularly indicative of this use, both sites situated on low river terraces and within the valley wall are apparently associated with the relict channels. The primary loci for exploitation of this area, which are represented by campsites, occur within the modern floodplain; and it appears that the primary strategy of land use concerns the exploitation of the riverine environment from such a situation. The limited nature of the majority of the sites identified above the modern floodplain appears to indicate a secondary use of these areas to augment those resources obtained within the modern floodplain. The apparent sparsity of use of more upland portions of the river valley wall contrasts markedly with the use of areas associated with the relict channels and provides additional evidence of resource concentration.

The apparent land-use strategies recognized within the Ferguson #3 Transect Area are similar to those within the Bundic Crossing Transect Area in that a concentration of sites on and surrounding a low terrace of Wickson Creek contrasts with the sparsity of prehistoric sites within other portions of the transect area. The overall absence of diversified and densely distributed cultural materials, however, contrasts with the Bundic Crossing and other transect areas. The very low numbers of campsites are particularly indicative of limited land use within the Ferguson #3 Transect Area. The exploitation of the riverine environment from within the modern floodplain of Wickson Creek is distinctive and raises questions concerning the use of the resource potential within this and other areas. The reported use of sandy surface soil layers within the upper portion of the valley walls for single and/or group burials may also be distinctive within this area.

Use of the Navasota River valley within the Millican Transect Area contrasts markedly with use within the more northern transect areas by being more limited in both intensity and kinds of activities. Although the presence of low numbers of multiple activity areas within the river modern floodplain indicates purposeful exploitation of the riverine environment, the absence of campsites and the limited use of the river valley walls do not indicate a concentrated exploitation. Campsites and other sites which contain a variety of relatively densely distributed cultural materials are apparently associated with major lateral tributary streams.

Specific distribution of both numbers and kinds of prehistoric sites indicates that the primary loci of exploitation within the Millican Transect Area are clusters of sites which occur within the valley walls of these tributaries. Although the use of riverine environments of area streams is indicated by the presence of sites situated immediately above the valley floor, the purposeful exploitation of resources within the valley walls is also indicated. The distribution of kinds of prehistoric sites within each site cluster appears to indicate that the clusters represent specific use areas, including campsites and other areas of varied and intensive use in addition to limited and specialized activity areas. This pattern of site distribution appears to be the result of the intensive use of situations and resources available within a particular area in the Millican Transect Area. Although the reasons for the selection of particular areas for exploitation over other areas are not clear at this time, a preference for areas which contain outcrops of hard sandstone may be involved.

INTERREGIONAL COMPARISONS

A summary of all data necessary to compare the results of the present survey of the lower portion of the Navasota River Basin with surrounding areas pertinent to the discussion is beyond the scope of this report. The following discussion, then, is general and concerns possible areas of further investigation rather than known relationships. This is necessitated by both the preliminary findings of the present survey and the sparsity of data concerning many of the surrounding areas.

The most obvious concern is the relationship between the lower portion of the Navasota River Basin and areas to the north and east. Throughout much of the Archaic and early Ceramic periods, regional distinctions are recognized within this area (Story 1981). Two of these are pertinent to the study area: (1) southeastern Oklahoma and northeastern Texas, and (2) the central and southern portions of East Texas. The cultural differences between these two areas are felt to result from the greater diversity and abundance of certain critical resources within the more northern area, namely, nut-bearing oak and hickory trees, bison and lithic raw materials (Story 1981). These differences are reflected in the artifact inventories and apparent subsistence strategies and social organization which characterize each area. The recognized

cultural areas break down during later Ceramic periods with the introduction of agriculture and the development of a Formative economy within portions of the area. This later period is not particularly pertinent to the discussion since the lower portion of the Navasota River Basin is not included within this development.

The results of the present survey appear to indicate that throughout much of the Archaic and early Ceramic periods the lower portion of the river basin can be included within cultural areas centered both to the north and east. Also differences noted between the northern and southern portions of the project area appear to correspond to the regional distinctions recognized within eastern Texas. Specifically, the northern area appears to be near the southern margin of the cultural area characterized by more abundant resources and correspondingly more intensive utilization. The close relationship with the northern portion of the study area apparently does not extend into later Ceramic periods when the relationship is characterized by trading and other more indirect influences.

The southern portion of the project area is clearly different from the northern area and appears to fall within a regionally distinct adaptation which includes the central and southern portions of East Texas. Unfortunately, this cultural area is poorly defined and may represent the lumping of areas on the basis of differences with other more distinctive areas (including northeast Texas, coastal Texas and Central Texas) rather than cultural similarities within the area. Until surrounding areas are better understood, the specific placement of the southern portion of the project area within a regional framework is tentative at best.

Although in general the Navasota River Basin appears to be within cultural areas centered to the north and east, the area is near the eastern margin of cultural areas located to the west and has undoubtedly been influenced by the prehistoric groups of people from the Central Texas region. The relationships do not appear to include the full-scale movement of people or extension of the primary territory of Central Texas groups but are indicative of more limited and/or indirect influence. This influence, which is indicated primarily by the presence of projectile points characteristic of Central Texas, appears to have been of similar intensity throughout much of prehistory. Although vagaries in the intensity of influence may actually be represented, changes are probably relative in nature and may be attributed to fluctuating intensities of influence from northeast Texas.

The recognized cultural area which occurs within portions of coastal Texas does not appear to have had a significant effect on the adaptations and history within the Navasota River Basin.

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APPENDIX I: HISTORICAL BACKGROUND

Sally S. Victor

INTRODUCTION

This appendix presents general historical information and research concerning Brazos, Grimes, Leon, Madison and Robertson counties, Texas, as well as specific areas and sites in the Navasota River Basin. Sections providing an historic background to these counties are followed by histories of specific towns and descriptions of specific historic sites near the surveyed transect areas. Four historic periods are discussed; these include:

(1) European exploration of the project area;

(2) Spanish settlement in the vicinity of the project area;

(3) Anglo-American settlement from 1820 to 1860; and

(4) Anglo-American settlement from 1860 to 1890.

Locational data for the major expeditions, roads, streams, railroads, towns, cemeteries and other historic sites are provided in Figure 19, Selected Pre-Nineteenth-Century Routes Through Texas, and Figure 20, Selected Nineteenth Century Routes and Towns Within the Project Area and Surrounding Counties.

EUROPEAN EXPLORATION IN THE VICINITY OF THE PROJECT AREA

European exploration of the area began not with its Spanish owners but with a French intruder, Rene Robert Cavelier, Sieur de la Salle. Following the establishment of a settlement in present Victoria County, La Salle and a group of followers set off in search of the Mississippi River, hoping to follow it to Canada. Their wanderings led them in 1687 into the project vicinity. La Salle was killed, perhaps near Navasota, by one of his own men (Anderson and Wooster 1972:66). La Salle's exact route is uncertain.

News of the La Salle intrusion into Texas led to increased Spanish interest in establishing their claim to the East Texas area in order to counter claims to the area by the French in Louisiana (Richardson 1958: 17). In 1689 Alonso de Leon, leading an expedition to establish Spanish missions in East Texas, passed through the project area. His route became the La Bahia Road, one of the Caminos Reales[1] (Yoakum 1855:380). The La Bahia Road extended from southwestern Louisiana to Goliad and intersected the Old San Antonio Road at Robbin's Ferry, which was established on the Trinity River in northeastern Madison County in 1821 (Webb 1952:I, 483). From its junction with the Old San Antonio Road, the La Bahia Road ran southwest across Grimes County to the Brazos River just below its confluence with the Navasota River.

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[1]The Caminos Reales were the King's Highways created by order of the King of Spain.

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Another Camino Real -- the Old San Antonio Road, laid out along the route of Domingo Teran's expedition in 1691 -- crosses near the center of the study area. It now marks the boundaries between Robertson and Brazos counties as well as Leon and Madison counties. This road was the link between Saltillo, Mexico, and Natchitoches, Louisiana.

Lack of success of the East Texas missions led to their abandonment in 1693 (Richardson 1958:18), and it fell to another Frenchman, Louis Juchereau de St. Denis, to again stimulate Spanish interest in the area. The Spanish garrison at San Juan Bautista near the Rio Grande was paid a surprise visit by St. Denis, who traveled from Louisiana on the Old San Antonio Road, just south of the project area. He arrived at the Rio Grande on July 18, 1714 (Richardson 1958:19; Yoakum 1855:48). The Spanish dispatched another expedition to East Texas led by Domingo Ramon, who passed through the project area in 1716. Two years later, an expedition under Martin de Alarcon traveled the La Bahia Road.

The Marques de Aguayo led an expedition of approximately 500 men from San Antonio to East Texas in 1721. He was commissioned to reoccupy the missions of East Texas as well as to investigate French activity in the area. The expedition traveled from San Antonio northeast to a crossing over the Brazos River near present Waco. It then proceded southeast to the Old San Antonio Road through the project area and on to East Texas. The expedition increased the number of Texas missions from two to ten and firmly established the Spanish claim to Texas (Bolton 1970:34; Webb 1952:I, 17).

In 1746 Don Joaquin de Orobio Bazterra, the commander at the presidio La Bahia del Espiritu Santo, was sent by Spanish authorities to investigate French settlement and trade activities in East Texas and along the Gulf of Mexico. His expedition traveled along the La Bahia Road to Nacogdoches, passing just south of the confluence of the Navasota and Brazos rivers. From Nacogdoches, his expedition traveled southwest to Matagorda Bay and returned to La Bahia. He then went on to explore the Rio Grande Valley in the latter half of 1746 (Bolton 1970: 328-331).

Athanase de Mezieres y Clugny was a French officer at Natchitoches who also served the Spanish government. He made several expeditions from Natchitoches to San Antonio passing through or near the project area from 1772-1779. His activities were directed toward pacification of Indian tribes in North and Central Texas. He also established licensed traders between the Indian tribes and the Spanish. He was appointed acting governor of Texas in 1778. In 1779 he was appointed governor; however, he died in San Antonio prior to taking office (Bolton 1970:122-127; Webb 1952:I, 486-487).

SPANISH SETTLEMENT IN THE VICINITY OF THE PROJECT AREA

Pilar de Bucareli, a settlement for exiles from Los Adais Mission near Natchitoches, Louisiana was designated by Colonel Juan Maria

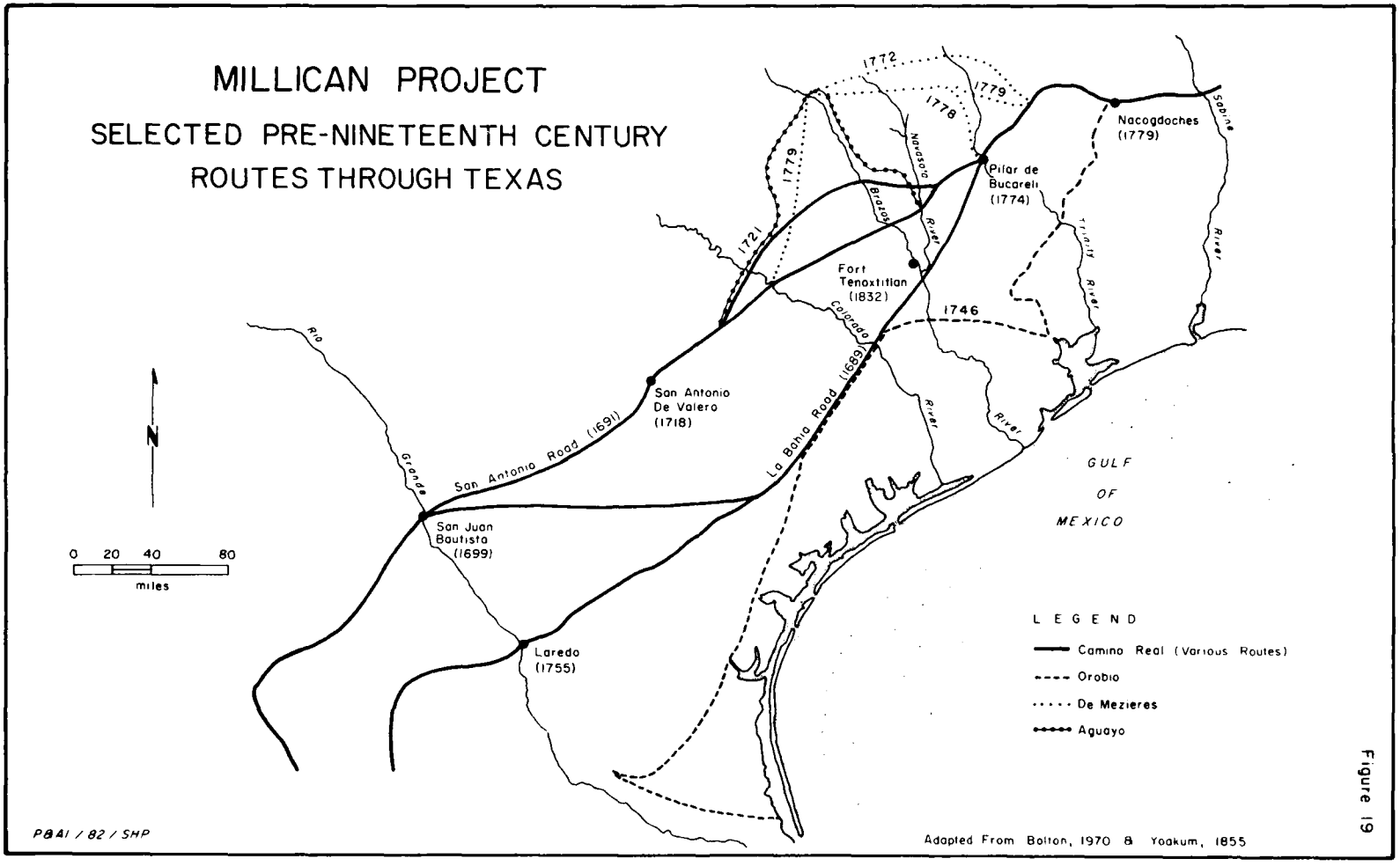

MILLICAN PROJECT
SELECTED PRE-NINETEENTH CENTURY
ROUTES THROUGH TEXAS
1772
1779
1778
1779
1721
1746
Nacogdoches
(1779)
Pilar de
Bucareli
(1774)
Fort
Tenoxtitlan
(1832)
San Antonio
De Valero
(1718)
San Antonio Road (1691)
La Bahia Road (1699)
San Juan
Bautista
(1699)
Laredo
(1755)
Rio Grande
Colorado River
Brazos River
Navasota River
Trinity River
Sabine River
GULF
OF
MEXICO
N
0 20 40 80
miles
LEGEND
Camino Real (Various Routes)
Orobio
De Mezieres
Aguayo
P841 / 82 / SHP
Adapted From Bolton, 1970 & Yoakum, 1855

Figure 19

Ripperda in 1774 near the project area. The location was at the intersection of the Old San Antonio Road and the La Bahia Road on the right bank of the Trinity River. It was as far from San Antonio as possible and as close to the northeastern frontier as allowable (Bolton 1970: 405). In later times it is believed to have been located near Robbin's Ferry at Randolph in Madison County (Bolton 1970:406). Bucareli was established to help the Spanish in at least five ways. It was to aid communications between San Antonio and Natchitoches; provide horse stock for the presidios at San Antonio (Bexar) and Goliad (Bahia); check illicit French trade; become a missionary outpost for friendly Indian tribes; and serve as a lookout for British activity along the Gulf of Mexico (Bolton 1970:407). Not all of these well-intentioned goals were realized. Bucareli was populated and remained in existence under the command of Antonio Gil Ybarbo until February 1779, when Indian raids, fire, and floods forced settlers and militia to abandon the frontier outpost. Most of the Bucareli settlers moved with Ybarbo to the old abandoned mission of Nacogdoches, where they found water, farm lands, and building materials for shelter (Bolton 1970:437-438).

The Mexican revolt against Spanish rule in 1810, coupled with rising American interest in the area, led to the first Anglo-American intrusion into the project area -- the Gutierrez-Magee Expedition in 1813. The town of Trinidad in Madison County was sacked by the 700 members of the expedition (Webb 1952:II, 128).

One of the final Mexican attempts to hold onto the fertile lands in the five counties within the project area was the construction of Fort Tenoxtitlan. Pursuant to the law of April 6, 1830, General Manuel Mier y Teran ordered a fort built within present Robertson County to impede the flow of settlers from the United States (Webb 1952:I, 38; II, 633). Lieutenant Colonel Francisco Ruiz arrived in the fall of 1830, selecting six leagues of land for settlement near the western bank of the Brazos River at the Old San Antonio Road. The Mexican government populated the fort with convicts and families. The settlers given land and farming implements were said to number 40 families by the end of 1830. Ruiz reported in 1831 that the fort was completed and that he had 170 soldiers under his command; however, in 1832 Ruiz and his soldiers were ordered back to San Antonio. After the soldiers left, the Mexican families left also. Tenoxtitlan became an American settlement and center of Indian fighting activities by 1834 (Baker 1970:241-242).

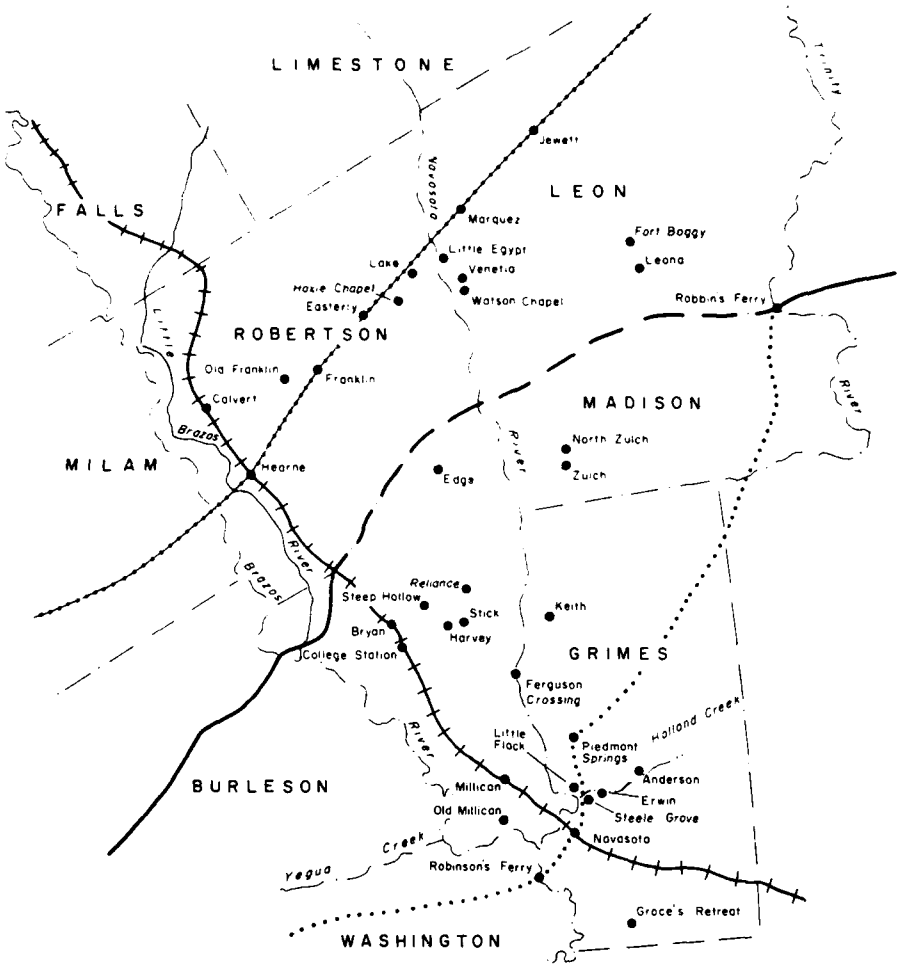
ANGLO-AMERICAN SETTLEMENT IN THE VICINITY OF THE PROJECT AREA TO 1860

The initial phase of Anglo-American settlement within the project area began in approximately 1820 with Stephen F. Austin's Old Three Hundred settlers and continued until 1860. The first settler to enter the Brazos-Navasota River Basin area was probably Andrew Robinson, one of Stephen F. Austin's Old Three Hundred. Robinson established a ferry across the Brazos River in 1821 (Webb 1952:II, 490). Andrew Millican settled in Grimes County in the area of Holland Creek for a short time

Figure 20

MILLICAN PROJECT

SELECTED NINETEENTH CENTURY ROUTES & TOWNS WITHIN PROJECT AREA & SURROUNDING COUNTIES



LEGEND

- County Line
- Old San Antonio Road
- La Bahia Road
- Houston & Texas Central Railway
- International & Great Northern Railroad

N

0 5 10 20
miles

PBAI/82/SHP

Adapted From Nance, 1962

beginning in early 1821 before migrating to Brazos County in late 1822. Francis Holland followed the next year (Webb 1952:I, 738). Francis Holland purchased Andrew Millican's land and cabins at Holland Creek in 1822, settling his family and a large number of relatives in the area. Henry Fanthorp purchased land from Francis Holland and built an inn near the site of present Anderson in 1834; the next year the Provisional Government of Texas established the first post office in Grimes County at the site (Webb 1952:I, 583-584).

Jared E. Groce established a plantation in southern Grimes County in 1821. Groce's Retreat (1833) became the first stage stop in Grimes County. Jared Groce brought the first cottonseed to Texas and set up the first cotton gin in 1828 (Webb 1952:I, 738).

Brazos County was settled in two stages. During the first stage, the Millican family played a prominent role in the settlement of the southern tip of Brazos County, where a community still bears the family name. Andrew Millican was the first Anglo-American settler to establish a home in Brazos County. He arrived at Old Millican (3 miles south of present-day Millican) in 1822 with his wife, nine sons and one daughter (Marshall 1937:17). Andrew Millican and his sons, James and William T., were all members of Austin's Old Three Hundred. Andrew received two and one-half leagues of land, and his two sons received one league each on the same date in 1824 (Wallace and Vigness 1963:56). Elliott Millican, another son, became the first sheriff of Brazos County and served five terms in the Congress of the Republic of Texas (Webb 1952:II, 199). The second stage of development was in conjunction with Robertson County from which Brazos County was created.

The settlement of Robertson County and parts of Brazos County was begun largely through the efforts of the Texas Association of Nashville, Tennessee, which obtained a contract to settle 800 families in the area. The contract was approved in 1825, but little settlement had been made by 1830. Stephen F. Austin and Samuel May Williams then obtained a contract to bring settlers to the same area, and litigation ensued. Sterling C. Robertson, the agent for the Association, prevailed in 1834, but the colony was returned to Austin and Williams in 1835. Robertson receives credit for settling about 600 families in the area, and the colony bore his name. The coming of the Texas Revolution late in 1835 put an end to the dispute (Baker 1970:46; Webb 1952: I, 488-489).

James Dunn settled in Robertson County in 1834, building a fort just southwest of the present location of Wheelock. Southern planters led in the settlement of Robertson County, concentrating along the river bottoms in the vicinity of the Brazos and Little Brazos rivers. Cotton was the chief crop by 1834 (Webb 1952:II, 489). Lands farther to the west and north in the county, which until 1846 included lands west of the Brazos, were settled following the signing of a treaty with the Indians in 1843 (Webb 1952:I, 489). After the county assumed its present boundaries in 1846, the county seat was moved from Old Franklin (south of present Franklin) to Wheelock. The county seat was moved thereafter to Owensville, thence to Calvert, and later to Franklin (called Morgan at that time).

Leon County lay to the north of Grimes and Madison counties and was settled somewhat later than Grimes County. Part of the Stephen F. Austin and Samuel May Williams grant, the area was not settled until the beginning of 1840. A group of settlers built a fort north of the San Antonio Road near the site of Leona. The settlement was called Fort Boggy (Gates and Fox 1936:5).

Of the five counties in the project vicinity, Robertson County was the first to be created -- on December 14, 1837. The dates of the creation for the other four counties are as follows: Brazos County, 1841; Grimes County, 1846; Leon County, 1846; and Madison County, 1853.

ANGLO-AMERICAN SETTLEMENT IN THE VICINITY OF THE PROJECT AREA FROM 1860-1890

The second phase of settlement in the project area began with the completion of the Houston and Texas Central Railway to Navasota and Millican in 1860. The Civil War (1861-1865) halted construction at Millican, making it the northernmost terminus of all railroad activity in Texas. A more in-depth discussion of Millican is presented later in this appendix. After the Civil War, railroad activity continued. The Houston and Texas Central Railway reached Bryan in 1867 and Calvert in 1869 (Baker 1970:61; Reed 1941:71).

Settlement in Robertson and Leon counties was promoted by the International and Great Northern (I&GN) Railroad to establish a firm economic base for shipping along its lines. In 1880 the Matthews, Northrup and Company published a magazine for the I&GN extolling the fertility of the soil and abundance of salable crops in Leon County. An excerpt from that article reads as follows:

> The bottom lands are well adapted to the cultivation of cane. The Louisiana or ribbon cane, as well as Chinese and African canes, has been thoroughly tested, and with perfect success. During the past few years quite an industry has sprung up in the county in the way of manufacture of sugar and syrups for these canes. As high as 250 gallons of syrup have been made to the acre, 200 gallons being the ordinary yield. This syrup readily commands 50-75 cents per gallon in the market. Upon 180 acres of land so cultivated in the country in 1875, about 4,000 gallons of syrup was manufactured, besides a considerable amount of marketable sugar, and this with very few of the conveniences for manufacture. (Matthews, Northrup & Company 1880:75).

Ribbon cane farming survived into the twentieth century. The identification of site 41LN187 (cane press) in the Clear Creek Transect Area and interviews with numerous informants support this fact. By the 1940s, however, the cane crops were primarily for domestic use with limited bartering among neighbors for other products. There does not seem to be conclusive evidence that any type of large commercial cane syrup manufacturing was successful.

The population changes of the five counties within the project area involve some developments and occurrences which are common to all five counties and others which are unique. The general trends will be discussed first and individual trends within two counties will be addressed next. Data for the discussion is provided in Table 64, a comparison of ethnic populations for the five-county project area, and Table 65, a comparison of the total populations for each county (U.S. Department of the Interior, Superintendent of the Census 1850, 1864, 1872, 1883; U.S. Department of the Interior, Census Office 1895, 1902; U.S. Department of Commerce, Bureau of the Census 1913, 1922, 1931, 1943, 1952, 1963, 1971).

From the date Texas was admitted into the United States in 1846 until Texas seceded from the U.S. and joined the Confederate States of America in 1861, there was a dramatic increase of population within the state. The foundation for new settlement was already in place under the earlier empresario system and the ensuing headright system. It was possible for settlers to purchase or receive grants for "fresh" undeveloped lands for a relatively small amount of capital. The census records of 1850-1880 report heavy migration from Southern states into the five-county project area. Statistics tend to indicate that these settlers were predominantly planters from Alabama (Arbingast et al. 1979:30-31). The Brazos, Navasota, and Trinity river valleys were especially well suited to the plantation system of agriculture. The five counties within the project area were noted in the census reports from 1860-1930 primarily for their substantial cotton production.

The letters "GTT" (Gone to Texas) were emblazoned on cabin doors all across the South. Some people left property, family, and debts to make a new start on the Texas frontier. Communications via promoters and word-of-mouth tended to romanticize and glorify Texas as the newest Mecca. In addition, Texas' annexation into the United States brought it added protection from foreign powers. After the Civil War, these trends continued and many people sought to rebuild fortunes and families devastated by the conflict.

Railroad construction and the auxiliary commerce and population associated with its construction and operation significantly affected the five counties in the project area. The Houston and Texas Central (H&TC) Railway reached Navasota in 1860, Millican in 1860, Bryan in 1867, and Calvert in 1869 (Baker 1970:61; Reed 1941: 71). Jay Gould's International and Great Northern (I&GN) Railroad began construction from Hearne to Longview in 1874. By 1875 the line was completed (Reed 1941: 319-320). Railroad towns sprang up all along the lines. Bryan, Navasota, Hearne, Calvert, Marquez, and Jewett are among those which prospered and are still active today. Millican, Lake, Ridge, and Hoxie Chapel are but mere remnants of what used to be centers of activity.

There are two counties, Brazos and Robertson, which had additional developments affecting their population growth during the last half of the nineteenth century. In Brazos County, Millican and Bryan were significant shipping points between 1860-1870, increasing the requirements for ancillary goods and services in both towns. In 1867, Texas A&M was

TABLE 64

COMPARISON OF ETHNIC POPULATION FOR COUNTIES WITHIN PROJECT AREA, 1850-1970

Counties	Total	White	Foreign-born White	Black	Free	Slave	Indian	Chinese	Other
1850									
Brazos	614	466	-	-	-	148	-	-	-
Grimes	4,008	2,326	-	-	2	1,680	-	-	-
Leon	1,946	1,325	-	-	-	621	-	-	-
Madison	NO REPORT								
Robertson	934	670	-	-	-	264	-	-	-
1860									
Brazos	2,776	1,713	-	-	-	1,063	-	-	-
Grimes	10,307	4,832	-	-	1	5,468	6	-	-
Leon	6,781	4,161	-	-	-	2,620	-	-	-
Madison	2,238	1,563	-	-	-	675	-	-	-
Robertson	4,997	2,739	-	-	-	2,258	-	-	-
1870									
Brazos	9,205	5,446	-	-	3,759	-	-	-	-
Grimes	13,218	5,294	-	-	7,921	-	3	-	-
Leon	6,523	3,815	-	-	2,708	-	-	-	-
Madison	4,061	2,591	-	-	1,470	-	-	-	-
Robertson	9,990	5,457	-	-	4,530	-	-	3	-

Table 64, continued

Counties	Total	White	Foreign-born White	Black	Free	Slave	Indian	Chinese	Other
1880									
Brazos	13,516	7,325	-	6,250	-	-	1	-	-
Grimes	18,603	8,323	-	10,276	-	-	4	-	-
Leon	12,817	7,707	-	5,102	-	-	8	-	-
Madison	5,395	3,693	-	2,070	-	-	-	-	-
Robertson	22,383	11,386	-	10,925	-	-	-	72	-
1890									
Brazos	16,650	8,213	-	8,433	-	-	3	1	-
Grimes	21,312	9,648	-	11,664	-	-	-	-	-
Leon	13,841	8,464	-	5,377	-	-	-	-	-
Madison	8,512	6,439	-	2,070	-	-	3	-	-
Robertson	26,506	12,326	-	14,142	-	-	-	38	-
1900									
Brazos	18,859	10,005	-	8,845	-	-	-	-	9
Grimes	26,106	11,779	-	14,327	-	-	-	-	-
Leon	18,072	11,135	-	6,937	-	-	-	-	-
Madison	10,432	7,974	-	2,458	-	-	-	-	-
Robertson	31,480	14,707	-	16,747	-	-	-	26	-
1910									
Brazos	18,919	10,091	-	8,827	-	-	-	1	-
Grimes	21,205	11,343	-	9,858	-	-	-	-	4
Leon	16,583	9,705	-	6,878	-	-	-	-	-
Madison	10,318	7,561	-	2,757	-	-	-	-	-
Robertson	27,454	12,878	-	14,371	-	-	-	-	5

Table 64, continued

Counties	Total	White	Foreign-born White	Black	Free	Slave	Indian	Chinese	Other
1920									
Brazos	21,975	11,130	1,697	9,148	-	-	-	-	-
Grimes	23,101	12,502	785	9,810	-	-	-	-	4
Leon	18,286	10,665	337	7,284	-	-	-	-	-
Madison	11,956	8,527	161	3,127	-	-	-	-	141
Robertson	27,933	13,769	1,68[illegible]	12,474	-	-	-	-	5
1930									
Brazos	21,835	10,817	662	9,064	-	-	-	-	1,292
Grimes	22,642	11,987	359	9,700	-	-	-	-	596
Leon	19,898	10,890	31	8,362	-	-	-	-	615
Madison	12,227	8,566	27	3,456	-	-	-	-	178
Robertson	27,240	13,044	528	11,416	-	-	-	-	2,252
1940									
Brazos	26,977	16,061	885	10,011	-	-	-	-	20
Grimes	21,960	12,715	427	8,814	-	-	-	-	4
Leon	17,733	10,184	34	7,515	-	-	-	-	-
Madison	12,029	8,146	19	3,863	-	-	-	-	1
Robertson	25,710	14,147	807	10,756	-	-	-	-	-
1950									
Brazos	38,390	28,382	796	9,192	-	-	-	-	20
Grimes	15,135	8,805	211	6,116	-	-	-	-	3
Leon	12,024	7,263	23	4,737	-	-	-	-	1
Madison	7,996	5,354	19	2,618	-	-	-	-	5
Robertson	19,908	11,229	464	8,212	-	-	-	-	3

Table 64, continued

Counties	Total	White	Foreign-born White	Black	Free	Slave	Indian	Chinese	Other
1960									
Brazos	44,895	35,410	-	9,340	-	-	-	-	145
Grimes	12,709	7,859	-	9,844	-	-	-	-	6
Leon	9,951	6,153	-	3,796	-	-	-	-	2
Madison	6,749	4,503	-	2,236	-	-	-	-	10
Robertson	16,157	9,612	-	6,543	-	-	-	-	2
1970									
Brazos	57,978	47.994	-	9,341	-	-	-	-	643
Grimes	11,855	7,640	-	4,127	-	-	-	-	88
Leon	8,738	5,991	-	2,733	-	-	-	-	14
Madison	7,693	5,322	-	2,349	-	-	-	-	22
Robertson	14,309	9,229	-	5,114	-	-	-	-	46

TABLE 65

COMPARISON OF TOTAL POPULATION FIGURES FOR
COUNTIES WITHIN PROJECT AREA

Census	Brazos	Grimes	Leon	Madison	Robertson
1850	614	4,008	1,946	-	934
1860	2,776	10,307	6,781	2,238	4,997
1870	9,205	13,218	6,523	4,061	9,990
1880	13,576	18,603	12,817	5,395	22,383
1890	16,650	21,312	13,841	8,512	16,506
1900	18,859	26,106	18,072	10,432	31,480
1910	18,919	21,205	16,383	10,318	27,454
1920	21,975	23,101	18,286	11,956	27,933
1930	21,835	22,642	19,898	12,227	27,240
1940	26,977	21,960	17,733	12,029	25,710
1950	38,390	15,135	12,024	7,996	19,938
1960	44,895	12,709	9,951	6,749	16,157
1970	57,978	11,855	8,738	7,693	14,389

founded near Bryan. The administration, faculty, students, and associated infrastructure of this institution increasingly contributed to the growth and development of Brazos County from the school's beginning to the present time. In Robertson County, the boom in cotton production required more laborers than there were available in the area. A local informant reported that Chinese were brought in to work in the cotton fields around 1872 (Joyce Petty, personal communication, 1981). J. W. Baker reports that Negro labor was recruited from North Carolina and Alabama during the 1870s (1970:30).

HISTORIES OF SPECIFIC TOWNS NEAR THE TRANSECT AREAS

Towns Near the Millican Transect Area

Millican, 1.5 miles southwest of the Millican transect area, was founded by Elliott Millican in 1859. It is approximately 3 miles north of the settlement established by his father, Andrew Millican, in 1822. Elliott Millican sold property to the Houston and Texas Central Railroad and subdivided the Millican townsite into lots. The railroad reached Millican in 1860. In 1864 Millican was incorporated by a vote of 14 to 1 according to the minutes of the Commissioners Court (Marshall 1937: 89).

The beginning of the Civil War halted the northern construction of the railroad, leaving Millican as the northern terminus until 1866. The town was a distribution point for commercial and agricultural products within a 200-mile radius, competing with such towns as Jefferson, Shreveport, and Clarksville (Marshall 1937:69). Teamsters with oxen and wagons delivered goods to and from destinations as far away as Dallas and Fort Worth (Reed 1941:71). During the Civil War, Millican was an important shipping point for troops and supplies. Marshall (1937:78) states that Company I, 21st Texas Cavalry from Brazos County may have traveled by rail from Millican to Shreveport to join Carter's Brigade under General John Bankhead Magruder. Cotton from north Texas and the Brazos-Navasota river valleys was shipped through Millican to Alleyton (south of Columbus) by rail and by wagon to Matamoros over the Cotton Road (Texas Historical Commission, Brazos County Files). Numerous roads leading to and from Millican are shown on Pressler's 1867 Travelers Map of the State of Texas and Pressler and Langermann's 1879 Map of the State of Texas.

Mercantile establishments sprang up quickly. The Sanger brothers, whose sons later established Sanger Brothers in Dallas, opened a store in Millican (Marshall 1937:69).

Millican grew to be a very prosperous and populous town until the railroad was extended to Bryan in 1866. At that time Bryan became the most important town in the area. The population of Millican dropped substantially after 1866 as many of the business establishments followed the railroad north to Bryan (Ragsdale 1976:15). In 1867 a yellow fever epidemic and race riots further decimated the population of Millican.

Federal troops occupied the area during this time to keep peace (Marshall 1937:85c).

Erwin, approximately 0.6 mile south of the Millican project area, was established by planters ca. 1835. In the 1890s Will H. Fuqua began operating a cotton gin and a general store (Webb 1952:I, 542). Steele Grove and Little Flock cemeteries which are within the immediate area are discussed later in this appendix.

Towns Near the Ferguson #3 Transect Area

There are five communities within a 2.5-mile radius of the Ferguson #3 Transect Area which have historical significance--Reliance, Steep Hollow, Harvey, Ferguson's Crossing and Keith. Reliance, Steep Hollow, and Harvey were established in the late 1870s; however, an 1859 Brazos County map of plantations indicates that several plantations existed in the area already (Marshall 1937:unnumbered page between pages 131 and 132). These communities provided planters, farmers and sharecroppers in the vicinity with commercial, religious, and educational facilities. Each had a cotton gin, general store, grist mill, syrup mill, several churches, and schools (Schultz 1973:39-42). Ferguson's Crossing, situated where State Highway 30 crosses the Navasota River, is said to have been the home of Joseph Ferguson and the site of the first court in Brazos County, presided over by Judge R. E. B. Baylor, a traveling circuit court judge (Webb 1952:I, 209). It is also shown as the site of a river crossing on an historical map of the region (Nance 1962:35). Keith was named for an early family which settled in the area in the mid-1840s. It served as a commercial, religious, and educational center for surrounding farms and ranches (Webb 1952:I, 941).

Towns Near the Bundic Crossing Transect Area

Edge, 2.3 miles southeast of the Bundic Crossing Transect Area, was named for Dr. John Edge, who practiced medicine in the area. He built a general store and post office in 1894 (Ragsdale 1976:27-28). Edge was the center of a farming community with churches and schools. The earliest church was founded in 1873 (Schultz 1973:27-30).

North Zulch is approximately 6.5 miles south of Bundic Crossing. It is the new townsite established in 1907 when the Trinity and Brazos Valley Railroad bypassed Zulch. Zulch, known as Willow Hole Post Office between 1870 and 1903, was renamed for Dr. Julius Zulch, an area physician (Webb 1952:II, 953).

Towns Near the Clear Creek Transect Area

Little Egypt was located north of Sulphur Creek and east of the Navasota River. A local resident, Vernon Watson, states that his uncle, Harold Watson, named the settlement because the ample cotton crop grown there reminded him of similar crops in Egypt. Watson and several tenants are said to have lived at Little Egypt around 1900. Four houses with brick chimneys, a large barn, and a dug well lined with brick are said to have existed in Little Egypt while Watson's father owned the property (Vernon Watson, personal communication, 1981).

Watson Chapel was located approximately 1 mile south of Venetia on Leon County Highway 3. It was the site of a Black church and school for area residents.

Venetia, approximately 9 miles southwest of Marquez on Leon County Highway 3, was also known as New Hope before 1900. A building at this site was the meeting place of the New Hope Alliance #1213, Leon County, Texas, a Masonic society established in 1888 by men and women in the area (Beulah Donelson, personal communication, 1981).

Farmers grew ribbon cane, corn, cotton, and peanuts in the vicinity of Venetia. A water mill on Clear Creek north of Roger Watson's property was used to grind local corn and gin cotton. A cane press (described more fully in the historic sites section of this appendix) was utilized by the Watson family and other residents in the area. Pigeon Roost Creek, immediately north of Watson's property, attracted thousands of pigeons each year until commercial hunters decimated the birds altogether (Joyce Petty, personal communication, 1981). Several area residents substantiated this annual occurrence but could not give an exact date for the demise of the pigeon population (Ozelle Williams and Vernon Watson, personal communications, 1981).

Hoxie Chapel, approximately 4 miles southeast of Easterly in Robertson County, was named for Colonel A. M. Hoxie, the General Superintendent of the I&GN Railroad (Joyce Petty, personal communication, 1981; Woolford 1962:504; Reed 1941:319). The cemetery on the site is described in more detail in the historic site section of this appendix. The I&GN Railroad published a magazine advertising and promoting acreage for sale or tenant farming on lands accessible to their lines (Matthews, Northrup & Company 1880:75). A school was built at Hoxie Chapel according to John W. Baker; however, he does not provide a date (Baker 1970: 354).

Lake was established when the I&GN Railroad came through Robertson County. A number of Southerners settled in the low area around Lake Creek in southeastern Robertson County. In 1872 they had a post office known as Lake Station. In 1874 malaria developed and survivors moved west to what is now known as Easterly (Baker 1970:347-348).

SPECIFIC HISTORIC SITES

Little Flock Cemetery and Other Cemeteries within the Project Areas

Joseph White sold 4 acres of land to be used as a cemetery and church site to July Norwood, et al (the trustees of Freedman's Baptist Church, known also as Little Flock Church) for $1.00 on May 22, 1872 (Grimes County Deed Records, Vol. H:196). It is stated in the deed that this acreage was out of the James Cox Headright League and a part of the land upon which Joseph White resided. On October 22, 1883, Joseph White sold an additional 10 acres for $50.00 to Jerry Andrews, et al, out of the James Cox League (Grimes County Deed Records, Vol. 36:494).

Spencer Davis, who once pastored the Green Valley Baptist Church between Erwin and Navasota, stated that Little Flock Baptist Church was once at the cemetery site. In 1906 the church split. One faction moved west to Piedmont, carrying the name of Little Flock Baptist Church with them. Another faction moved south between Erwin and Navasota on Highway 3090 to form Green Valley Baptist Church. Both congregations bury their dead in the Little Flock Cemetery to the present date (Spencer Davis, personal communication, 1981).

Research in Robertson County has located another Little Flock Church. J. W. Baker states that Little Flock Church in Hearne was established as a shelter for Negroes from Navasota traveling by foot to Kansas. When many of these travelers died from the cold upon their arrival in Kansas, word was sent back to Hearne. Those who had remained in the shelter decided to remain in Hearne and establish Little Flock Church. Unfortunately, Mr. Baker does not give any dates for the founding of this congregation (1970:282). Additional research to establish possible associations between the two sites should be undertaken.

Little Flock Cemetery is one of the numerous active and inactive cemeteries within the project areas and the Navasota River Basin. The size of these cemeteries ranges from one grave site to several hundred grave sites. Many of the small historic cemeteries are not recorded in deed records or on available maps of the area. It can be assumed, therefore, that investigations to date have not exhausted the search for all private and/or historic cemeteries within the Navasota River Basin.

Those cemeteries located and identified by the historian are listed below.

(1) Stick Cemetery is approximately 5.5 miles northeast of Harvey Community in Brazos County. This site is immediately across the dirt road from the Ferguson #3 Transect Area. Two gravestones are intact. One of the graves has been severely disturbed and parts of the remains looted and removed to Bryan. The site was originally associated with a Black church and school. The church has been moved to Bryan. A water pump installed by the county served the school at the site and is still operable (Bubba Peters, personal communication, 1981). No structures are extant at the present time; however, a community existed within a 2-mile radius and it is possible that remains of housesites may exist within the project area. It is also possible that the community was related to a plantation site immediately north of Wickson Creek which is shown on an 1859 map of Brazos County (Marshall 1937: unnumbered page between pages 131 and 132).

(2) Steele Grove Cemetery is located approximately 0.25 mile west of Erwin Community in Grimes County at the intersection of Grimes County Highway 3090 and 149. The cemetery, enclosed by a chain link fence, has eight stone markers and four upturned rocks which resemble crude headstones. It was deeded from W. A. Steele to the Methodist Episcopal Church South Trustees, E. W. Cawthorn, et al. on September 3, 1885. The two acres transferred were out of the William Holland headright (Grimes County Deed Records, Vol. 28:608).

(3) Hoxie Chapel Cemetery is located approximately 4 miles southeast of Easterly in Robertson County. Enclosed by a barbed wire fence, it includes approximately 20 gravesites.

Future excavations and disturbances of these and other cemeteries in the Navasota River Basin should be preceded by extensive archeological and historical research. The purpose of such research would be to locate and identify burial sites. State records, census data, burial records, and many additional archival sources would need to be researched. It would be an extensive investigation for any large-scale project. Members of local churches and area residents are likely to be opposed to any such project.

Cane Press, 41LN187

The cane press, site 41LN187, near Clear Creek was identified by several residents in the Venetia vicinity as having belonged to Roger Watson, Sr. (Roger Watson, Ozelle Williams, Beulah Donelson, personal communications, 1981). It was purchased second-hand from a neighbor, Bud Snow; however, no exact date of purchase or installation was confirmed. It was thought to have been situated at the Clear Creek location for approximately 60 or more years.

The rationale for its location next to a water source was due to the necessity of water in the manufacturing process. Teams of horses or mules were used to grind ribbon cane and extract a sugar liquid. The bands of steel placed around the rollers exerted a great deal of pressure upon whatever object was being pressed between them. Eight to ten stalks of cane were run through the press at a time. A container placed under the rollers caught the cane juice (Marshall 1937:136). This liquid was then cooked in an adjacent rectangular brick structure sectionalized into vats. As the liquid boiled, a green scum or foam formed on top and was continuously removed. This "cooking down" or "boiling off" produced a thick cane syrup which was placed in kegs, barrels, or jugs for storage (Marshall 1937:136; Roger Watson, personal communication, 1981).

Many of the residents from the surrounding area utilized the cane press for domestic purposes. The syrup was not a commercial product but was occasionally used among residents to barter for various products (Beulah Donelson, personal communication, 1981).

This cane press is the only evidence of manufacturing found in the Venetia vicinity. Roger Watson and Vernon Watson recalled a water mill and another cane press somewhere on Clear Creek, but neither could provide exact locations. The water mill was used to grind corn and gin cotton. Vernon Watson also remembered Bate's Mill on Pigeon Roost Creek but again could not precisely locate the site (Roger Watson and Vernon Watson, personal communications, 1981). It is possible that mapping and limited testing at 41LN187 could provide information about manufacturing processes during the historical period. Additional research into tax records, census data, oral interviews and the like is recommended to further establish the historic nature of the site before limited testing would begin.

Sites Within the Ferguson #3 Transect Area

According to a local informant, the Black family of Mark Dangerfield lived between Wickson's Creek and the Navasota River around the turn of the century (George Ford, personal communication, 1981). They farmed on the higher acreage to avoid the recurring river floods. The two remaining tombstones at Stick Cemetery have the names of M. and N. Dangerfield inscribed on them. This establishes a conclusive link between the ownership of property from Wickson's Creek to the Navasota River, and the gravestone would require additional deed and census research.

Tenant House at Bundic Crossing on Bink Manning Property

The historic house at site 41MA16 is an L-shaped frame structure raised above the ground level on wooden pilings. The exterior is sheathed with board and batten as well as lap siding. In some places, tarpaper with a brick design has been added, covering the wood siding. The northeastern corner of the structure has exposed notched hand-hewn logs as part of the foundation. The roof material is corrugated metal. Wire nails were observed throughout the structure. The existing foundation pilings were installed by the current owner; however, the date of this alteration could not be ascertained (M. Manning, personal communication, 1981).

The structure is locally known as the tenant house of the Windholm family. They occupied the structure approximately 30 years ago (M. Manning, personal communication, 1981). In more recent years the structure has been used as a hunting camp. The condition of the interior suggests heavy usage in the past and lack of usage in recent years. Two log barns are said to have existed east of the house but have been torn down and bulldozed by the present owner.

The differences between the siding treatments on the structure suggests that construction may have taken place at different times. The existence of hand-hewn logs in the foundation does not necessarily mean that the house was constructed at an early date in Texas history. Many times parts of older buildings were reused in later construction. Furthermore, it was not uncommon for tenant houses built during the early part of the twentieth century to use local timber for foundations.

Considering the current condition of the housesite and the lack of conclusive documentation from records research, oral interviews, and surface collections, 41MA16 is not considered to have sufficient historical significance to warrant additional research or testing.

Tenant Farmer Complex, Clear Creek Transect Area

Site 41LN186 consists of eight components, which include a house, concrete wall, three partially collapsed buildings, a barn, gas pump, and garbage dump. The house is a one-story frame structure with a single gable running north-south. It is oriented toward the east. The roof is constructed of corrugated metal, and the foundation consists of

fieldstone piers and hand-hewn log beams. A corrugated metal skirt encloses the area under the house. The exterior is constructed of wood planks in both horizontal and vertical positions. Gray asbestos siding covers the exterior. Wire nails, a few square cut nails, and galvanized nails were used throughout the structure. The planks used for flooring and siding are of widely varying sizes. A front porch with shed roof runs the length of the eastern facade. Windows are of odd sizes. Electricity has been installed. Interior walls are covered with several layers of wallpaper. It appears that most of the building materials were salvaged from older construction or derived from local timber.

The well south of the house was slipped with concrete casings as far as could be seen. No pumphouse or cover of any type was observed.

Southeast of the well is a partially collapsed frame structure. It has a gabled corrugated metal roof oriented in a north-south direction. The exterior is board and batten. The foundation has no piers but is constructed of hand-hewn beams and floor supports laid on top of the ground. The door is oriented to the west. The walls are an assortment of lumber in varying lengths. A wooden box with a handle similar to a bin in a Hoosier cabinet was observed inside the structure. It is possible that the structure was moved onto the site and that it was used as a shed or a smokehouse.

Southwest of the well is a pile of lumber in varying widths, corrugated metal, and one hand-hewn beam. It is not possible to accurately determine the usage of these materials; however, they could have been an outhouse.

South of the smokehouse structure is an extant barn. It is a frame building with a gabled corrugated metal shed type roof in an east-west orientation. The foundation is fieldstone piers and hand-hewn beam construction. Wire nails and a few cut nails were observed. The south room has no flooring and could have been a stable. The central room is notched log construction with a floor of varying board lengths. It seems to have been used as a crib. The north room has a similar type of floor. No specific usage could be determined.

South of the barn are two log structures that once formed a dogtrot building (Helligeist 1981). All nails observed were wire nails. The rooms have only small openings and could have been a storage facility of some type, possibly another crib.

An historic garbage dump is located east of the house and the unimproved road. It is situated in an erosional feature. Materials observed include windowglass, clear bottle glass, brown glass, milky white glass, mason jars, miscellaneous tin cans, buckets, and pieces of metal. There was also a gas stove and children's toys.

Between the house and the garbage dump is an old style gas pump. It is constructed of metal and glass. Currently it is in a very deteriorated condition.

The site is associated with Black tenant farmers until about 1960. After that time, a white tenant farmer lived there (Helligeist 1981). The estimated date of construction is approximately 1920. The site is severely deteriorated at the present time and is not receiving maintenance of any type. The components and type of construction are similar to other farming complexes in the area. Additional research and testing could yield information and materials associated with agricultural enterprises of this area during the first half of the twentieth century. Before any substantial investigations could be conducted at the site, however, the masses of weeds and undergrowth would have to be removed.

Historic Sites Identified by Previous Investigations

(1) 41GM45 -- The Ruben Bennett House, 3 miles northwest of Anderson, is a single-story log and clapboard structure constructed in 1849. It has a Texas Historical Commission Medallion (Sorrow and Cox 1973:44).

(2) 41GM46 -- The Isham D. Davis House, 5 miles from Iola on the Bennett Road, is a single-sto. log structure constructed in 1848 (Sorrow and Cox 1973:44-45).

(3) 41GM44 -- Piedmont Springs Resort is 7 miles northwest of Anderson and approximately 1.3 miles north of the Millican Transect Area. Also known as Sulphur Springs, it began as a health and pleasure resort in the 1850s. During the Civil War, the hotel was used as a hospital for the Confederate Army. It closed in the 1870s. The foundation of the hotel and pools in the springs remain (Sorrow and Cox 1973: 45). It has a Texas Historical Commission Medallion. It was being reviewed by the Texas Historical Commission National Register Review Board for nomination to the National Register of Historic Places but has been removed from consideration at the present time.

(4) The town of Anderson is approximately 3 miles east of the Millican Transect Area (Sorrow and Cox 1973:45). It is a National Register Historical District.

(5) Peach Creek Cemetery (Sorrow and Cox 1973:45) is approximately 3 miles north of the Millican Transect Area.

(6) Little Flock Cemetery (Sorrow and Cox 1973:45) is within the Millican Transect Area. It is a large, currently utilized cemetery that dates to 1872. It is owned by the Little Flock Church in Piedmont and the Green Valley Baptist Church on Highway 3090 between Navasota and Erwin.

(7) 41RT105 -- a Black cemetery located northwest of the Clear Creek Transect Area has several scattered marked graves. A Black church supposedly also existed in the vicinity at one time (Good, Turpin and Freeman 1980:Table IV).

(8) 41GM63 -- Kellum Springs was a health resort similar to Piedmont Springs which operated during the 1850s. It is approximately 3 miles north of Carlos (Bond 1977:38). Currently it is being reviewed by

the Texas Historical Commission National Register Review Board for nomination to the National Register of Historic Places.

(9) A munitions factory was located approximately 2 miles northeast of the Millican Transect Area. It manufactured munitions for the Civil War (Bond 1977:38). The site is marked with a Texas Historical Commission Medallion.

(10) 41GM66 -- This historic homesite was occupied from the turn of the century until the mid 1950s. The structure at the site was demolished by the owners (Ippolito 1979:14-22).

(11) 41GM80 -- A 4-acre historic cemetery is located within the property of A. G. Allen, formerly owned by the Mabry family (Fletcher 1979:45).

(12) Grimes County recognized a cedar log house with hand-hewn, notched, and pegged logs 1 mile west of Keith. William Trant brought five families with him from England and is credited with constructing the house (Texas Historical Commission, Grimes County File).

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APPENDIX II: Artifact and Feature Descriptions

Margaret Ann Howard

INTRODUCTION

This appendix describes prehistoric and historic artifacts and features that were collected and/or observed during the Millican Project survey. Prehistoric materials are dealt with initially. The collected artifacts first are described in detail. Then a study of observed artifacts is made which is focused on both material and tool types, and the differential distributions of these among the transect areas. Prehistoric features observed during the survey are then described. In a summary of the prehistoric data, general trends in artifacts and features are noted. Historic artifacts and features observed during the survey are then described.

PREHISTORIC

COLLECTED ARTIFACTS

The artifacts collected from sites identified during the present survey are described below; these include chipped stone projectile points, bifaces, unifaces and cores, battered stone and ground stone tools, and ceramics. The projectile points are further divided into arrow points and dart points on the basis of observed differences in overall size. The temporal and morphological distinctions between the two have not been firmly established for the region, and the following descriptions employ these without arguing temporal or cultural significance. A firm typological sequence for projectile points and/or ceramics has not been established for the area, and typological associations suggested below are based on analogy with sequences and forms from adjacent regions.

Chipped Stone

Arrow Points

Two projectile points of less than 30 mm in length and 3 mm or less in thickness are included in this class.

Specimen 1 (Fig. 21a) is a triangular blade 33 mm long, 23 mm wide, and 3 mm thick. The lateral edges of the blade are slightly convex. One sharply pointed barb extends proximally to half the length of the stem; the other barb is missing. The stem has slightly contracting lateral edges; the base is slightly convex. The base has been thinned by centrally positioned pressure flakes that extend for one-third of the haft length. Neither the blade nor the stem are beveled. The point is of a yellow chert. Provenience is site 41MA5, Bundic Crossing Transect Area.

Specimen 2 is a fragmentary projectile point; the distal tip, one barb, and most of the stem are lacking. Maximum length is unknown; an estimate of maximum width is 19 mm, and thickness is 2 mm. The blade is

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Figure 21. Projectile Points

Arrow Points

a. Untyped arrow point, 41MA5, Bundic Crossing Transect Area

Dart Points

b. Ellis-like dart point, 41MA10, Bundic Crossing Transect Area

c. Gary type dart point, 41RT135, Clear Creek Transect Area

d. Gary type dart point, 41GM105, Millican Transect Area

e. Neches River type dart point, 41RT134, Clear Creek Transect Area

f. Wells type dart point, 41GM100, Millican Transect Area

g. Untyped dart point, 41MA8, Bundic Crossing Transect Area

h. Untyped dart point, 41BZ45, Millican Transect Area

i. Untyped dart point, 41LN200, Clear Creek Transect Area

Figure 21



triangular with slightly concave lateral edges. The medial portion of these edges are serrated. The extant barb projects at a 30° angle from the main axis and is rounded at its termination. Existing portions of the stem suggest that it is slightly contracting. No beveling is noted. This point of light gray chert is from 41RT134, Clear Creek Transect Area.

Dart Points

Eight projectile points are included in this class; they are greater than 6 mm in thickness and range from 34 to 61 mm in maximum length.

Specimen 1 (Fig. 21b) is a triangular blade 34 mm long, 21 mm wide, and 7 mm thick; it most closely resembles Ellis type projectile points (Suhm and Jelks 1962:187-188). One lateral edge of the blade is straight; the other shows a marked convexity near the distal tip. In cross section the point is moderately planoconvex. Shoulders of the blade terminate squarely. The stem is basally expanding into slight lateral projections or "ears." The base is slightly convex; basal thinning consists of a large flake on one face and numerous centrally placed pressure flakes extending for one-half the stem length on the other face. There is no beveling. The specimen is a yellow-brown translucent chert and is from 41MA10, Bundic Crossing Transect Area.

Specimen 2 (Fig. 21c) is triangular in outline, biconvex in cross section, and generally falls within the description of Gary type projectile points (Suhm and Jelks 1962:197-198). It is 56 mm long, 30 mm wide, and 7 mm thick. Shoulders of the blade form an obtuse angle and are slightly rounded. The stem contracts to an apparently convex base that is partially absent. The distal tip of this specimen is also missing. No beveling is apparent. The specimen of a brown and red translucent mottled chert is from 41RT135, Clear Creek Transect Area.

Specimen 3 (Fig. 21d) is triangular to slightly convex in outline, biconvex in cross section and resembles Gary type projectile points. It is 56 mm long, 30 mm wide, and 7 mm thick. Barbs project proximally to slightly sharpened terminations. The stem appears to be slightly contracting, but it is partially absent. The blade exhibits slight right-hand edge beveling. The specimen is a gray chert; it is from 41GM105, Millican Transect Area.

Specimen 4 (Fig. 21e) is triangular in outline, beveled in cross section, and conforms to the defined Neches River projectile point type (Jelks 1965:140-141; Kent 1961). Further, it is within the range of the oletha variety as described by Prewitt (1974:66-67). It is 41 mm long, 25 mm wide, and 7 mm thick. Shoulders of the blade project slightly in a proximal direction. The stem is contracting; the base is very slightly convex. The base is centrally thinned on one side by a large pressure flake with a stepped termination. A marked right-hand bevel extends the length of the blade and is most pronounced distally. Serrations extend along the lower two-thirds of both lateral edges. The specimen is a yellowish brown chert; it is from 41RT134, Clear Creek Transect Area.

Specimen 5 (Fig. 21f) is ovoid to triangular in outline, plano-convex in cross section, and conforms to the Wells projectile point type (Suhm and Jelks 1962:257-258). It is 47 mm long, 20 mm wide, and 9 mm thick. Shoulders are small and rounded. The stem is nearly equal in length to the blade and contracts slightly to a markedly convex base. The stem edges are lightly smoothed. Basal thinning consists of pressure flaking from the sides and base. No beveling is apparent. The specimen is a pale brown to dark yellowish brown translucent chert; it is from 41GM100, Millican Transect Area.

Specimen 6 (Fig. 21g) is triangular in outline and biconvex in cross section. It is 58 mm long, 24 mm wide, and 6 mm thick. Deep corner notches have created angular shoulders that project slightly in a proximal direction. The neck, extremely constricted below the blade, expands to form moderately sharp basal tangs. The base is slightly convex; it has been thinned by several large pressure flakes extending about one-half of the haft length. The specimen is a very light brown chert; it is from 41MA8, Bundic Crossing Transect Area.

Specimen 7 (Fig. 21h) is narrow and triangular in outline, and biconvex in cross section. It is 44 mm long, 25 mm wide, and 6 mm thick. Lateral edges of the blade are slightly convex; shoulders project laterally and are rather angular. The stem has parallel sides but is slightly constricted. The base is slightly concave and has been thinned by pressure flaking from both the proximal and the lateral stem margins. The specimen is a light brown chert; it is from 41BZ45, Millican Transect Area.

Specimen 8 (Fig. 21i) is triangular to slightly convex in outline and biconvex in cross section. It is 42 mm long, 23 mm wide, and 8 mm thick. Shoulders project laterally and have sharp angular terminations. The stem has parallel sides, terminating in a straight base. It appears to have been reworked; pressure flake scars beginning at the base are oriented parallel to the stem edges and extend the length of the stem. These terminate sharply at the base of the blade. The resultant stem thickness is less than 4 mm, a marked reduction from the blade thickness. The basal surface appears to have been broken by a shear fracture; the surface has subsequently been reduced by the basal thinning. The specimen is a red and pale brown oolitic chert; it is from 41LN200, Clear Creek Transect Area.

Bifacial Implements

Specimen 1 is a distal biface fragment that has been broken by a snap fracture in what appears to be the midsection of the blade. Maximum width of the fragment is 30 mm and the thickness is 9 mm. The blade is triangular to convex in outline and biconvex in cross section. The blade exhibits fine parallel pressure flaking extending from the edge to the center of the blade where flake scars are slightly offset. The specimen is a light gray mottled chalcedony; it is from 41BZ70, Ferguson #3 Transect Area.

Specimen 2 is an irregularly shaped, bifacially flaked piece. It is roughly circular in outline and planoconvex in cross section. The specimen is 39 mm in length, 43 mm in width, and 12 mm in thickness. Three edges exhibit damage; one of these edges has a relatively steep angle and shows extensive step-fracture. The specimen is a grayish brown petrified wood; it is from 41BZ63, Ferguson #3 Transect Area.

Large Unifacial Implements

Specimen 1 (Fig. 22a) is roughly rectangular both in outline and in cross section. It is 51 mm long, 38 mm wide, and 10 mm thick. One end of the piece has been reduced as is evidenced by one large flake scar extending in a transverse orientation across the bit. Three smaller flakes have been removed from the bit edge; all flaking on this specimen appears to be percussion. Edge angle varies from 46-58° on the working edge. This margin shows minimal evidence of utilization in the form of small striations oriented at right angles to the bit edge. The specimen is a dark gray-brown petrified wood; it is from 41MA8, Bundic Crossing Transect Area.

Specimen 2 (Fig. 22b) is rectangular in outline and planoconvex in cross section. It is 79 mm long, 50 mm wide, and 18 mm thick. One end of the specimen is rounded, apparently by natural abrasion. The other end has been reduced by a series of stepped fractures that extend to approximately one-third of the total length of the specimen. The working edge is actually bifacially reduced with step-fractures occurring on a portion of the ventral surface and across the entire dorsal surface. The specimen is a light brown petrified wood with a heavily abraded and patinated cortex. It is from 41BZ62, Ferguson #3 Transect Area.

Specimen 3 (Fig. 22c) is trapezoidal in outline and roughly biconvex in cross section. It is 68 mm long, 50 mm wide, and 17 mm thick. The working edge on this tool is limited to a portion of the larger end. This surface is sharply concave to almost circular in plan view and the edge angle is almost vertical, ranging from 75° to 86°. The edge appears to have been formed by parallel pressure flaking, but details of manufacture are partially obscured by the nature of the material. Some step-flaking on a projection at one end of the concave surface may reflect its utilization. Little evidence of use exists on the concave surface itself. The specimen is a dark reddish brown petrified wood that is heavily abraded and patinated in some areas. It is from 41BZ60, Ferguson #3 Transect Area.

Scrapers

Specimen 1 (Fig. 22d) is leaf-shaped in outline and planoconvex in cross section. It is 61 mm long, 34 mm wide, and 8 mm thick. This tool has been formed from a large percussion flake. The edges appear to have been trimmed to create the present triangular to convex outline. The dorsal portion of both lateral margins has been finely pressure flaked along the total length. Both edges also exhibit evidence of utilization that cross-cuts the flake scars. The specimen is a light gray agatized chert with large inclusions. It is from 41BZ59, Ferguson #3 Transect Area.

Chipping Debris

Specimen 1 is a rectanguloid, partially reduced core. It is 92 mm long, 84 mm wide, and 48 mm thick. Portions of the surface are heavily patinated and unreduced. Other portions exhibit large flake scars; most of these flakes appear to have been removed from natural platforms. Several natural fracture lines are visible on surfaces of the core; these potential flaws may present an explanation for the abandonment of the core. The specimen is a dark gray-brown opalized petrified wood; it is from 41GM86, Millican Transect Area.

Ground Stone

Specimen 1 (Fig. 23a) is a ground stone tool that exhibits secondary bifacial reduction at one end. It is 100 mm long, 58 mm wide, and 36 mm thick. The specimen is oval in outline and planoconvex in cross section. The majority of smoothing occurs on the planar face, but some smoothing is evident on the lateral dorsal surfaces. Pecking or battering is also evident on the intact end and along portions of the lateral margins. One end has been bifacially reduced by the removal of several large percussion flakes from both the planar and the convex faces. The resultant working edge exhibits some step-fracturing. The specimen is a dark red quartzite; it is from 41MA9, Bundic Crossing Transect Area.

Battered Stone

Specimen 1 is a rectanguloid stone that is square to oval in outline and biconvex in cross section. It is 63 mm long, 50 mm wide, and 33 mm thick. This smoothed river cobble exhibits a moderate amount of battering at both ends. The specimen is a pale gray quartzite; it is from 41BZ63, Ferguson #3 Transect Area.

Ceramics

Four ceramic sherds were recovered in the course of this survey. Three sherds (two body sherds and a rim sherd) were recovered from the Clear Creek Transect Area. One decorated body sherd was recovered from the Ferguson #3 Transect Area.

Ross Fields of Prewitt and Associates, Inc. has examined these sherds and offers some opinions regarding possible temporal and areal affiliations. Three of these sherds (41BZ58, 41RT136 and 41LN182) show a strong visual resemblance to Caddoan sherds, and characteristics of the paste and temper are not different from ceramics found in many East Texas collections. The decorated body sherd (41BZ58), however, has a design not characteristically Caddoan. One sherd has extremely sandy paste (41RT139) and is definitely not Caddoan. It does, however, resemble some of the sandy-paste sherds that predate the Caddoan period both in east and southeast Texas.

Figure 22. Other Chipped Lithic Tools

Unifaces

a. Large unifacial implement of chert, 41MA8, Bundic Crossing Transect Area

b. Large unifacial implement of petrified wood, 41BZ62, Ferguson #3 Transect Area

c. Large unifacial implement of chert, 41BZ60, Ferguson #3 Transect Area

Scraper

d. Unifacial scraper on chert flake, 41BZ59, Ferguson #3 Transect Area

Figure 22



a



b



c



d

BH

Figure 23. Other Cultural Materials

Grinding Slab

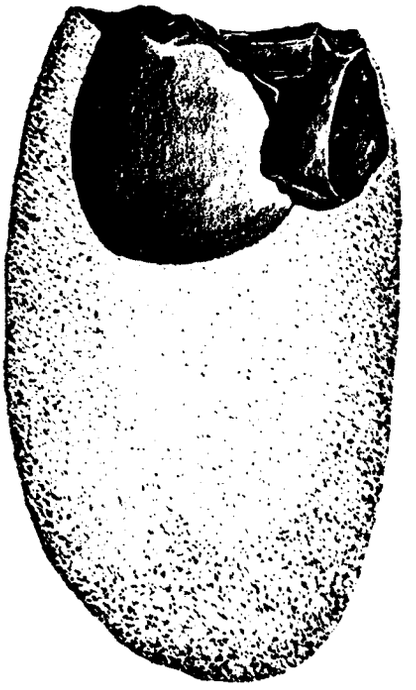
a. Quartzite grinding slab and possible bifacially worked tool, 41MA9, Bundic Crossing Transect Area

Ceramics

b. Decorated ceramic rim sherd, 41LN182, Clear Creek Transect Area

c. Decorated ceramic body sherd, 41BZ58, Ferguson #3 Transect Area

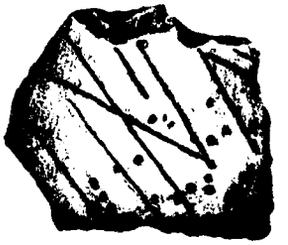
Figure 23



a



b



c

LBH

Rim Sherd

Specimen 1 (Fig. 23b) is an incised rim sherd; it appears to be from a medium-sized jar with outflaring walls. Paste is light brown (7.5YR 6/4) and fine textured containing a moderate amount of sand and grog inclusions. Wall thickness ranges from 7-9 mm. The rim shows a marked interior bevel, diminishing to 4 mm at the lip. The interior surface is heavily burnished, exhibiting faint vertical striations. The exterior surface has been more roughly finished in a horizontal direction. Decoration consists of two horizontal incised lines at distances of 10 mm and 22 mm from the rim. Additional lines may have been present; however, the sherd is too fragmentary to determine this. The incised grooves are asymmetric, the steeper side being toward the rim. Several stray vertical marks of 5 mm in length are present on the exterior of the rim; these do not appear to be decorative and may have occurred after firing. This sherd is from 41LN182, Clear Creek Transect Area.

Decorated Sherd

Specimen 1 (Fig. 23c) is a decorated body sherd; extreme curvature suggests that it is from a small bowl or jar. Paste is light brown (7.5YR 6/4) and coarse textured. Inclusions consist of sand (predominantly quartz) and pulverized bone. These materials form a major part of the paste. Wall thickness ranges from 6 to 7 mm. Both surfaces of the sherd are smoothed, the exterior much more finely than the interior. Decoration consists of incised lines and punctations. The sherd cannot be oriented with confidence, so the direction of incised lines in relation to the vessel is unknown. Incised lines are placed in two orientations and spacings. One set of parallel lines are spaced from 4 to 8 mm apart; these are at an oblique angle to another set of parallel lines spaced from 8 to 9 mm apart. Several lines from both sets terminate before the edge of the sherd. Punctations are approximately 1 mm across and shallow. They appear to be placed in no particular orientation either to the lines or among themselves except for a vaguely semicircular series near one edge. This sherd is from 41BZ58, Ferguson #3 Transect Area.

Body Sherds

Specimen 1 is an undecorated body sherd that is almost flat, possibly representing a large vessel. Paste is brown (7.5YR 5/2) and fine textured. Aplastic inclusions are present in moderate amounts. Sand inclusions are the most numerous, with several large pieces of light-colored grog and one large piece of bone temper also present. Wall thickness is 6 mm. The exterior of the sherd has been smoothed. The interior has been heavily burnished and exhibits a dark stain, possibly carbon. The sherd is undecorated. This sherd is from 41RT136, Clear Creek Transect Area.

Specimen 2 is an undecorated body sherd that is quite flat, probably representing a large vessel. Paste is light yellowish brown (10YR 6/4) and is very coarse in texture. Sand inclusions compose the majority of the paste; these are homogeneously small in size with the exception of several large rounded quartz grains. Wall thickness is 9 mm. Both surfaces of the sherd have been smoothed, but one surface is much more compact and darkly stained. The sherd is undecorated; it is from 41RT139, Clear Creek Transect Area.

OBSERVED ARTIFACTS

A number of artifacts were observed during the present survey which were not collected. A study of the distribution of collected and observed artifacts which concerns their morphological and material aspects is presented here. Following the artifact descriptions is a discussion of areal variation in artifact type and material between and within the four transect areas. Data used as a basis for this discussion are provided in Tables 66 through 69.

Chipped Stone: Bifacial Tools

Arrow Points

Four arrow points were recovered or observed in the Millican, Bundic Crossing and Clear Creek transect areas. All four are made of chert. Two of these were collected (at 41MA5 and 41RT34) and have been discussed previously (see Collected Artifacts). The distal portion of a Steiner arrow point was identified at site 41LN183 in the Clear Creek Transect Area by the presence of characteristic projections along its serrated lateral edges. The fourth arrow point is a distal fragment from site 41GM98, Millican Transect Area, identifiable by its thin cross section.

Dart Points

Eight dart points were recovered from the Millican, Bundic Crossing and Clear Creek transect areas. All of these were made of chert (see Collected Artifacts for more detail on all dart points). Three specimens were recovered from the Millican Transect Area, two from Bundic Crossing and three from Clear Creek. Wells, Gary-like and untyped projectile points are from sites 41GM100, 41GM105 and 41BZ45 respectively in the Millican Transect Area. The Bundic Crossing Transect Area yielded an Ellis-like dart point from 41MA10 and an untyped projectile point from site 41MA8. In the Clear Creek Transect Area a Neches River dart point was found at 41RT134, a Gary-like point at site 41RT135, and an untyped dart point at site 41LN200.

Miscellaneous Bifaces

This category includes bifacially chipped stone that cannot be identified as arrow or dart points. Twenty-one bifacially worked artifacts were observed in the course of this project; half of these were on

TABLE 66

INVENTORY OF ARTIFACTS AND OTHER CULTURAL MATERIALS, MILLICAN TRANSECT AREA

Description	41GM86	41GM87	41GM88	41GM89	41GM90	41GM91	41GM92	41GM93	41GM94	41GM95	41GM96	41GM97	41GM98	41GM99	41GM100	41GM101	41GM102	41GM103	41GM104	41GM105	41GM106	41GM107	41GM108	41GM109	41GM110
CHIPPED STONE																									
Arrow points													C												
Dart points															C					C					
Misc. bifaces			P						X		P										C				
Blades																									
Scrapers																			X						
Misc. unifaces															C/P	C/P			P						C
Retouched flakes																									
Cores	P					C/Q		C	P						X	P					P				
Cortical flakes		C				C		C				P			C/P										
Interior flakes	C		C	C		C	C	Q/C		C			C		C/P										
Flakes, undifferentiated	P		Q						C							C/P			C/P		C				
GROUND AND BATTERED STONE																									
Handstones																									
Grinding slabs																									
Hammerstones																C									
Pitted stones																									
MISCELLANEOUS																									
Prehistoric ceramics																									
Pigment																									
Shell																									
Bone																									
THERMALLY ALTERED																									
Fire-altered rock																									
Burned clay lumps																									
HISTORIC																									
Historic ceramics			X		X		X						X				X					X	X	X	
Glass					X		X						X									X	X	X	
Metal					X								X	X				X				X		X	

P = petrified wood, palmwood, opalized wood; C = chert; Q = quartzite; S = sandstone; X = unspecified.

Table 66, continued

Description	41GM111	41GM112	41GM113	41GM114	41GM115	41BZ39	41BZ40	41BZ41	41BZ42	41BZ43	41BZ44	41BZ45	41BZ46	41BZ47	41BZ48	41BZ49	41BZ50	41BZ51	41BZ52	41BZ53	41BZ54	41BZ55	41BZ56	41BZ57
CHIPPED STONE																								
Arrow points																								
Dart points												C												
Misc. bifaces					C						C			X					X			X		
Blades									C													X		
Scrapers														P										
Misc. unifaces								P	P					P					C					Q
Retouched flakes	C/P								C											C				
Cores						C		C				C					X		C				C	
Cortical flakes		C	C/P	C	C	C		C/P	C	C		C			C'	C		X		C	X	C	Q	C	C
Interior flakes																								
Flakes, undifferentiated	C/P				P		C		P		C	Q		C/P	C/P	P			C/Q			P		P
GROUND AND BATTERED STONE																								
Handstones											S													
Grinding slabs																								
Hammerstones																								
Pitted stones																								
MISCELLANEOUS																								
Prehistoric ceramics																								
Pigment																								
Shell																								
Bone							X																	
THERMALLY ALTERED																								
Fire-altered rock	Q/C				Q				X									X		X	X			Q/C
Burned clay lumps																								
HISTORIC																								
Historic ceramics																								
Glass																								
Metal																								

P = petrified wood, palmwood, opalized wood; C = chert; Q = quartzite; S = sandstone; X = unspecified.

TABLE 67

INVENTORY OF ARTIFACTS AND OTHER CULTURAL MATERIALS, FERGUSON #3 TRANSECT AREA

Description	41BZ58	41BZ59	41BZ60	41BZ61	41BZ62	41BZ63	41BZ64	41BZ65	41BZ66	41BZ67	41BZ68	41BZ69	41BZ70
CHIPPED STONE													
Arrow points													
Dart points													
Misc. bifaces						P			C				C
Blades													
Scrapers		C									C		
Misc. unifaces					P				P	P			
Retouched flakes		C		X									
Cores			Q	C/Q			C						
Cortical flakes			C	C	C	C	C					C	
Interior flakes	C	C	C	X	C	C	C	C				C	
Flakes, undifferentiated		X								C	Q/C		
GROUND AND BATTERED STONE													
Handstones													
Grinding slabs													
Hammerstones	X		C			Q							
Pitted stones													
MISCELLANEOUS													
Prehistoric ceramics	X												
Pigment													
Shell	X												
Bone	X	X											
THERMALLY ALTERED													
Fire-altered rock								C				C/P	
Burned clay lumps													
HISTORIC													
Historic ceramics													
Glass													
Metal													

P = petrified wood, palmwood, opalized wood; C = chert; Q = quartz, quartzite; S = sandstone; X = unspecified.

TABLE 68

INVENTORY OF ARTIFACTS AND OTHER CULTURAL MATERIALS, BUNDIC CROSSING TRANSECT AREA

Description	41MA5	41MA6	41MA7	41MA8	41MA9	41MA10	41MA11	41MA12	41MA13	41MA14	41MA15	41MA16	41MA17	41MA18	41MA19	41MA20
CHIPPED STONE																
Arrow points	C															
Dart points				C		C										
Misc. bifaces				C	Q										P	
Blades																
Scrapers																
Misc. unifaces				P												
Retouched flakes																
Cores	P/C					Q									C	
Cortical flakes	P/C			C	C			C							C	
Interior flakes	P/C	C								C	C		C	C	C	C
Flakes, undifferentiated											P					
GROUND AND BATTERED STONE																
Handstones					Q											
Grinding slabs																
Hammerstones																
Pitted stones																
MISCELLANEOUS																
Prehistoric ceramics																
Pigment																
Shell	X															
Bone																
THERMALLY ALTERED																
Fire-altered rock	C			Q	Q/C								Q		C/Q	
Burned clay lumps																
HISTORIC																
Historic ceramics	X								X							
Glass									X							
Metal									X							

P = petrified wood, palmwood, opalized wood; C = chert; Q = quartz, quartzite; S = sandstone; X = unspecified.

TABLE 69

INVENTORY OF ARTIFACTS AND OTHER CULTURAL MATERIALS, CLEAR CREEK TRANSECT AREA

Description	41IN179	41IN180	41IN181	41IN182	41IN183	41IN184	41IN185	41IN186	41IN187	41IN188	41IN189	41IN190	41IN191	41IN192	41IN193	41IN194	41IN195	41IN196	41IN197
CHIPPED STONE																			
Arrow points					X														
Dart points																			
Misc. bifaces				C															
Blades																			
Scrapers	Q		Q																
Misc. unifaces																			
Retouched flakes																	X		
Cores			C				C/Q										X		C
Cortical flakes		C	C		C											C			C
Interior flakes	C	C	C	C	C/P	C	C			C	C	C	Q/C	Q/C	C	Q/C	Q/C	Q/C	C
Flakes, undifferentiated				P													P		P
GROUND AND BATTERED STONE																			
Handstones																			
Grinding slabs												S							
Hammerstones												Q							
Pitted stones											Q								
MISCELLANEOUS																			
Prehistoric ceramics				X															
Pigment					X														
Shell																			
Bone																			
THERMALLY ALTERED																			
Fire-altered rock	Q			Q	Q/S	X	Q					S/Q	Q	Q		Q	Q		Q
Burned clay lumps												X							
HISTORIC																			
Historic ceramics								X								X			
Glass								X											
Metal								X											

P = petrified wood, palmwood, opalized wood; C = chert; Q = quartz, quartzite; S = sandstone; X = unspecified.

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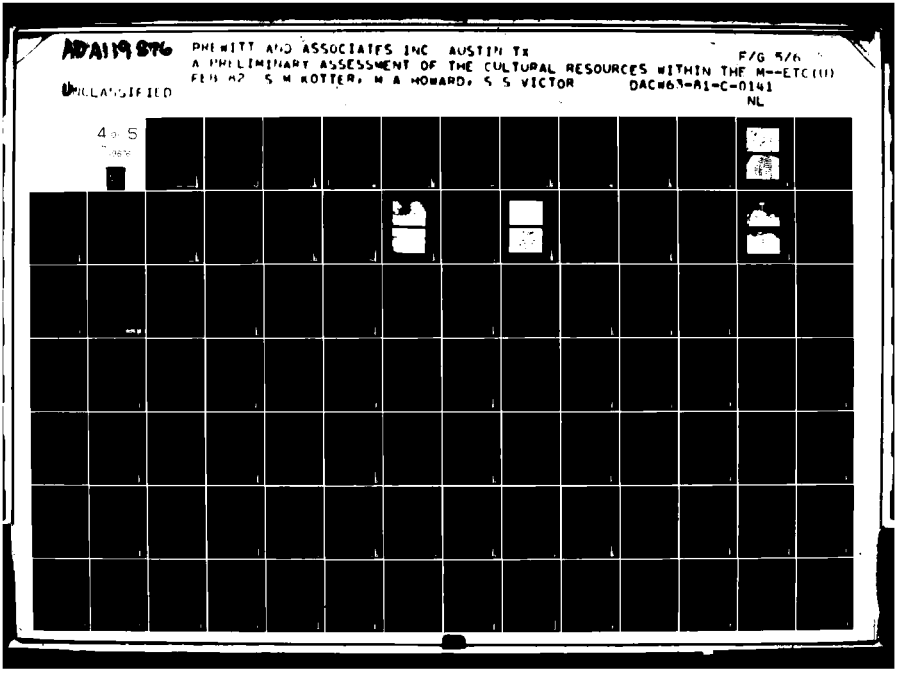


Table 69, continued

Description	41LN198	41LN199	41LN200	41LN201	41LN202	41LN203	41LN132	41LN133	41LN134	41LN135	41LN136	41LN137	41LN138	41LN139	41LN140	41LN141	41LN142	41LN143	41LN144
CHIPPED STONE																			
Arrow points									C										
Dart points			C						C	C									
Misc. bifaces	X									X								X	
Blades																			
Scrapers			S																
Misc. unifaces																			
Retouched flakes																			
Cores	C			Q															
Cortical flakes		C			X	X			X	C									
Interior flakes	C	C	C/Q	C/Q	X	X	C	C	X	C	C	C	C/Q	C	C	C	C/Q		C
Flakes, undifferentiated											P							X	
GROUND AND BATTERED STONE																			
Handstones																			
Grinding slabs														S					
Hammerstones																			
Pitted stones																			
MISCELLANEOUS																			
Prehistoric ceramics											X			X					
Pigment			X	X															
Shell																			
Bone																			
THERMALLY ALTERED																			
Fire-altered rock		C/Q/S	S/Q	C/Q/S	X	X		Q	X	X			Q	Q/C/S	Q	Q	Q	X	
Burned clay lumps																			
HISTORIC																			
Inscribed slab																		S	
Historic ceramics																X			
Glass	X		X																
Metal	X		X																

P = petrified wood, palmwood, opalized wood; C = chert; Q = quarts, quartzite; S = sandstone; X = unspecified.

sites in the Millican Transect Area and the other half were evenly distributed among the other three transect areas. These artifacts can be placed into three general categories based on the extent of bifacial chipping and the stage of manufacture of the specimen.

Seven specimens exhibit bifacial chipping over portions of their surfaces with some cortex remaining on the artifacts. Two of these specimens have bifacial edges created on portions of pebbles (41RT143 and 41BZ52 from the Clear Creek and Millican transect areas respectively). Two larger specimens from the Bundic Crossing Transect Area (41MA8 and 41MA9) are made from chert and quartzite cobbles and exhibit bifacial flaking on the distal ends. Two miscellaneous bifaces are of petrified wood and exhibit bifacial flaking on all or part of their lateral margins, with cortex remaining on the dorsal and ventral faces. These were observed at 41GM96 in the Millican Transect Area and 41MA19 in the Bundic Crossing Transect Area. One specimen has been reduced from a chert nodule; it has one square edge and a thinner edge that exhibits use wear. This artifact is from 41BZ66, Ferguson #3 Transect Area.

Seven specimens are bifacially chipped, without cortex, triangular in outline and thick in cross section. These probably represent biface manufacturing failures; on some specimens the overshot flake or isolated knot is clearly evident. Five of these artifacts are from the Millican Transect Area (41GM88 [2], 41GM106 and 41BZ47 [2]), and one each are from the Ferguson (41BZ63) and the Clear Creek (41LN182) transect areas. Petrified wood and chert were used for these tools. The "toughness" of petrified wood makes it difficult to chip and may have contributed to its tendency to failure, although petrified wood is not over-represented in this artifact class.

The third class of bifacial tools consists of fragments of finished tools. These are characterized by the relatively thin cross section of the fragments and the fineness of their edges. Such specimens could conceivably be classified as arrow points or dart points but for the fact that the diagnostic portions of the specimens are missing, i.e., they are distal or lateral fragments. Six bifaces observed fall into this class; chert is the predominant raw material. Most of the specimens have unbroken distal tips; all edges observed are slightly convex. Four of the tool fragments were observed in the Millican Transect Area (41GM94, 41BZ44, 41GM115 and 41BZ55). One tool fragment was observed on site 41BZ70 in the Ferguson #3 Transect Area, another on site 41LN198 in the Clear Creek Transect Area.

Chipped Stone: Unifacial Tools

Blades

Blades are specialized flakes having parallel edges, with lengths more than twice their width, and triangular or trapezoidal cross sections (Mallouf 1977:287). Two specimens of this description were observed in the Millican Transect Area at sites 41BZ42 and 41BZ55. The specimen from 41BZ42 exhibits unifacial retouch on one edge and is made of chert.

It is suggested here that these artifacts are not formal blades, but fortuitously broken flakes that resemble blades. Neither the cores and flakes from this survey nor the evidence from other surveys in the region give any indication of a blade industry in the area.

Scrapers

Unifacial tools with steeply beveled bits on one or more margins are frequently called scrapers. The term as employed here does not specifically imply function; it refers instead to the formal shaping of tools of this sort. This is in contrast to "miscellaneous unifaces" that may also have steeply beveled edges but are not trimmed to a specific form. Such formal shaping would be more difficult to distinguish on artifacts of petrified wood. Subclassification of scrapers refers to the location of beveled edges, e.g., end and/or side scrapers.

Seven artifacts described as scrapers were recorded during the course of this project, distributed relatively evenly among the Millican, Ferguson #3 and Clear Creek transect areas. At site 41GM104 in the Millican Transect Area, an end scraper was observed. The dorsal surface of this tool is two-thirds covered with cortex. The working edge is steeply beveled and markedly convex. A scraper with beveling on the distal and both lateral edges was observed in the Clear Creek Transect Area at site 41LN179. It is subcircular in outline, and the ventral surface is markedly convex. Lateral or side scrapers were observed at site 41BZ59 in the Ferguson #3 Transect Area and site 41LN181 in the Clear Creek Transect Area. The former has been described in detail in the Collected Artifacts section and is of chert. The latter is of quartzite. A concave scraper was observed at site 41BZ68 of the Ferguson #3 Transect Area. This cortical flake was modified by the removal of flakes from its proximal margin to create a short and markedly concave working surface. The tool is of chert. Two tools have been described as scrapers without further detail. At 41BZ47, Millican Transect Area, a petrified wood scraper was identified; at 41LN200 in the Clear Creek Transect Area a piece of flaked sandstone was tentatively identified as a scraper.

Miscellaneous Unifaces

Tools in this category exhibit steeply beveled bits on one or two margins but are not formally shaped. Twenty-six artifacts of this description were collected or observed during the course of the present survey. Petrified wood has been used to make 20 of the specimens. This material is hard to work and appears to be correlated with the lack of formal shaping of these artifacts as petrified wood predominates the Miscellaneous Unifaces category but is almost absent from the Scraper category.

The majority of miscellaneous unifaces were observed in the Millican Transect Area where 22 were noted (at sites 41GM100 [3], 41GM101 [2], 41GM104, 41BZ41, 41BZ42, 41BZ47 [12], 41BZ52 and 41BZ57). This artifact class diminishes markedly to the north. In the Ferguson #3 Transect Area, three miscellaneous unifaces were collected or observed

(at sites 41BZ62, 41BZ66 and 41BZ67). Two of these have been described in the Collected Artifacts section and are generally representative of the class. One uniface was observed in the Bundic Crossing Transect Area (41MA8; see Collected Artifacts). The Clear Creek Transect Area did not yield any artifacts of this class.

Retouched Flakes

This category includes flakes that exhibit damage to one or more margins, either through removal of small flakes or through crushing and step fracture ostensibly due to use. Five such artifacts were noted during the present survey. This figure probably does not represent the total number of retouched flakes present on sites examined since surveys generally do not allow the time or intensity of examination required to determine whether retouched flakes are present on a site.

Two retouched flakes were observed in the Millican Transect Area. One, from 41GM110, is a chert tertiary flake that is crudely retouched. A secondary utilized flake was observed at 41BZ53. In the Ferguson #3 Transect Area, two sites yielded retouched flakes. One interior chert flake exhibiting pressure flaking and utilization was observed at 41BZ59. A large interior flake at 41BZ61 exhibits possible utilization. The Clear Creek Transect Area has one site, 41LN195, where some of the larger flakes observed were utilized.

Chipped Stone: Debitage

A detailed study of debitage morphology is not appropriate for a no-collection surface survey where data consist of field observations and are not quantitatively representative of site contents. These kinds of data can be compared qualitatively, however, with reference to presence or absence of various stages of manufacturing debris and the type of material of which the debitage is composed. A comparison between transect areas of differences in material and manufacturing stages may reveal areal trends in chipped stone tool manufacture and/or availability of lithic resources.

Cores

Cores are defined as cobbles, pebbles, or large pieces of lithic raw material from which one or more flakes have been removed. Such materials represent the initial stage of lithic manufacture. The extent of core use (tested, expended, etc.) will not be examined here. At least 42 cores were observed on sites during the course of this survey, 20 from the Millican Transect Area, 10 from the Clear Creek Transect Area, 8 from the Ferguson #3 Transect Area, and 4 from the Bundic Crossing Transect Area (for specific site numbers, see tables in this appendix). These figures are roughly in proportion to the number of sites found in each transect area, with the amount of cores in the Millican and Ferguson #3 transect areas being somewhat more than expected. Roughly one-fourth of all the sites encountered during the survey contain cores. One trend in the type of material employed can be observed. Over one-third of the cores from the Millican Transect Area are of

petrified wood, while this material is almost completely absent in the cores observed from the other transect areas.

Cortical Flakes

Cortical flakes have 10 percent or more of their dorsal faces covered with an unmodified surface (cortex) that may bear a weathered rind. Such flakes usually represent the earlier stages of stone tool manufacture, when initial forming and thinning of the tool blank takes place. Cortical flakes themselves may also serve as blanks for unifacial or bifacial tools such as those discussed previously.

Cortical flakes were observed on 31 of the 109 prehistoric sites located during this survey. These are distributed in a fairly even manner among the four project areas in proportion to the number of sites. Chert predominates this artifact class, with petrified wood cortical flakes present at two sites in the Millican Transect Area and one site in the Bundic Crossing Transect Area.

Interior Flakes and Undifferentiated Flakes

Interior flakes have less than 10 percent of their dorsal faces covered with unmodified surface (cortex). Such flakes represent the later stages of stone tool manufacture, reflecting the process of thinning and edge finishing. Undifferentiated flakes refer here to lithic debitage observed during the survey which was not designated as cortical or interior. These two classifications compose a majority of the lithic debitage observed on sites during this project.

Three-fourths of the sites located have materials from this category. The raw materials which are present in this category are chert, petrified wood and quartzite; these show no great variation between the four transect areas. With regard to the number of prehistoric sites on which interior and undifferentiated flakes were observed, however, there is a marked difference between transect areas. Thirty-six of the thirty-seven sites in the Clear Creek Transect Area had artifacts of this classification, while in the other transect areas the proportion was closer to two-thirds of the total number of prehistoric sites.

Ground Stones

Handstones

Extensive smoothing on one or more faces in conjunction with a relatively small size (less than 11 cm long, 9 cm wide, and 5 cm thick) serves to identify this class of stone tools. Two specimens of this description were collected or observed during the present survey. At site 41MA8 in the Bundic Crossing Transect Area, a handstone was collected that also exhibited bifacial chipping (see Artifacts Collected and the previous section on Miscellaneous Bifaces). This specimen is planoconvex in cross section and is made from a dense red quartzite. A handstone was observed at site 41BZ44 in the Millican Transect Area. This specimen is trapezoidal in cross section and is made of sandstone.

Grinding Slabs

These stone slabs are generally planoconvex in cross section, exhibit grinding and are at least twice as long as the handstones described above. Two specimens were observed in the Clear Creek Transect Area and are made of sandstone. One grinding slab fragment was observed in association with a hearth feature at site 41LN190. The approximate dimensions of this fragment are 25-26 cm in length, 18-21 cm in width, and 2.5-6.5 cm in thickness. A large grinding slab was observed at site 41RT139. The dimensions of the specimen are 36x24x10 cm; the area of the polished surface is 24x14 cm.

Battered Stones

Hammerstones

The hammerstones collected or observed during this project are rounded river cobbles which exhibit battering on one or more surfaces. Five such specimens were found, three from the Ferguson #3 Transect Area and one each from the Millican and Clear Creek transect areas. Chert and quartzite were used as raw materials for these tools. Battering on one specimen was located on the distal and lateral margins (site 41GM101 of the Millican Transect Area). Another specimen exhibited pecking on both the proximal and distal margins; this is from site 41BZ63 of the Ferguson #3 Transect Area and has been described in more detail in the Artifacts Collected section. The remaining specimens (from 41LN190, Clear Creek Transect Area, and 41GM86 and 41GM87, Ferguson #3 Transect Area) are described as pecked or battered with no further detail. The predominance of hammerstones in the Ferguson #3 Transect Area should be noted; however, the total number of tools of this type is too small to consider the difference to be a significant one.

Pitted Stones

One pitted stone was observed during the course of this survey at site 41LN190 in the Clear Creek Transect Area. This tool was identified by the presence of shallow cavities in one face of a quartzite cobble. Most of the surface in which the cavities are located exhibits pecking; dimensions of the surface are approximately 18x11 cm, and the rectangular pecked area is 15x10 cm. Mode of manufacture of the three pits themselves could not be distinguished. These varied from 1.5 to 3 cm in diameter and were placed in a linear orientation.

Summary of Ground and Battered Stones

Within the categories of ground and battered stone, ten tools have been described. Three of these come from one site, 41LN190 in the Clear Creek Transect Area. A grinding slab, a hammerstone and a pitted stone occur here in association and may represent a vegetable processing feature (see Features for further discussion).

Prehistoric Ceramics

Four prehistoric ceramic sherds were collected in the course of this survey. Two body sherds and one rim sherd were recovered from sites 41RT136, 41RT139 and 41LN182, respectively, in the Clear Creek Transect Area. One decorated body sherd was recovered from site 41BZ58 in the Ferguson #3 Transect Area. The possible cultural affiliations of these ceramics as distinguished from paste characteristics have been discussed in the Collected Artifacts section.

The distribution of these ceramics shows a concentration in the northernmost portion of the project area. Although the total number of sherds is too small to indicate the statistical significance of this distribution, the data suggest a predominance of prehistoric ceramics in the Clear Creek Transect Area in contrast to a relative lack of such materials in the other transect areas.

Pigment

On three sites in the Clear Creek Transect Area, a substance was observed that was alternately termed red pigment and red ocher. This earthy, often impure iron ore is usually referred to as hematite when red. At site 41LN201, several pieces of red ocher were associated with a possible hearth (see Features for details). Sites 41LN183 and 41LN200 contained red ocher that was not in association with any particular feature, although at site 41LN200 a possible hearth feature was observed.

Specimens of this artifact category were observed only in the northernmost portion of the project area suggesting a possible cultural variation.

Faunal Materials

Shell

Freshwater mussel shells and snail shells were reported from three sites during the current survey. In at least one case it is suggested that this is recent and naturally occurring. Live mussels were observed in the bottom of some dry sloughs during the project. The presence of this material on sites is not, therefore, an assurance of its antiquity or an indication of use of this resource by prehistoric inhabitants, although the presence of the resource should be noted. The same statement can be made for snail shells. No shell artifacts were noted.

Bone

Bone was observed on several sites in the Ferguson #3 and other transect areas but was determined from identification (Bovidae and Cervidae) and context to be of recent origin. One bone artifact was observed on site 41BZ40 in the Millican Transect Area. A slender smoothed fragment was observed; this apparently represents an awl manufactured from an ulna of a medium- or large-sized mammal.

Thermally Altered Materials

Fire-altered Rock

Fire-altered rocks were observed on 39 of the 109 sites located during the course of this survey. Such rocks are identified by morphology of breakage planes and/or changes in color; these characteristics vary with rock type.

The distribution of fire-altered rock within the project universe is unequal. The northernmost transect area, Clear Creek, contained 25 of the 39 sites yielding such materials. The three southern transect areas all have much lower numbers of sites with fire-altered rocks but do not differ appreciably among themselves. This difference can be assessed with the chi-square test. The differential distribution of sites with fire-altered rocks among transect areas has been determined to be statistically significant to the .001 level, $X^2 = 26.3$ (Table 70).

TABLE 70

CHI-SQUARE ANALYSIS OF THE DISTRIBUTION AMONG TRANSECT AREAS OF SITES WITH FIRE-ALTERED ROCKS

Transect Area	Sites with Fire-altered Rocks Present	Absent	Total
Millican	7 (15.03)	35 (26.97)	42
Ferguson #3	2 (5.37)	13 (9.63)	15
Bundic Crossing	5 (5.37)	10 (9.63)	15
Clear Creek	25 (13.24)	12 (23.76)	37
TOTAL	39	70	109

$x^2 = 26.3$ df = 3 significant at .001

The predominant material for fire-altered rocks at these sites is quartzite. On sites where the source rock has been identified (29), quartzite is present on all sites except one (41MA5, Bundic Crossing

Transect Area). It is the sole source material for observed fire-altered rocks on 16 sites. These trends may be a reflection of the fact that quartzite cobbles are the only appropriate and generally available source material for fire-altered rock in this area.

Burned Clay Lumps

Site 41LN190 in the Clear Creek Transect Area is unique in the observed presence of burned clay lumps. The unusual nature of this site has been noted previously with reference to the vegetable processing feature which is located there (see Features). Three golfball-sized burned clay lumps were noted at this site but not in association with the feature. Their presence here seems to indicate a cultural practice as clay soils are present in all of the project areas.

FEATURES

Pebble Concentration

A roughly circular concentration of rounded and cracked chert and quartzite cobbles (Fig. 24a) was noted in the bottom of a dry slough at 41MA19 in the Bundic Crossing Transect Area. The feature is approximately 0.5 meter in diameter with some outlying cobbles at a slightly greater distance. No artifacts are in immediate association with this feature, although a scatter of lithic debitage was observed in an adjoining slough. The surface of the feature is flat; depth and subsurface configuration were not apparent.

This feature appears to be similar to a feature investigated at 41LN21 during the testing phase at Lake Limestone (Mallouf 1979). That lithic concentration was also flat, although the total dimensions were greater. Mallouf suggests that the dull or clouded surface of a number of the stones present is an indication of their use in stone boiling (Mallouf 1979:34) and compares them to stones experimentally modified by Skelton (1977). The stones observed in the feature at 41MA19 also have slightly clouded surfaces, but these do not differ greatly in appearance from stream-worn cobbles observed at other locations within the project area.

Hearth-sized Burned Rock Features

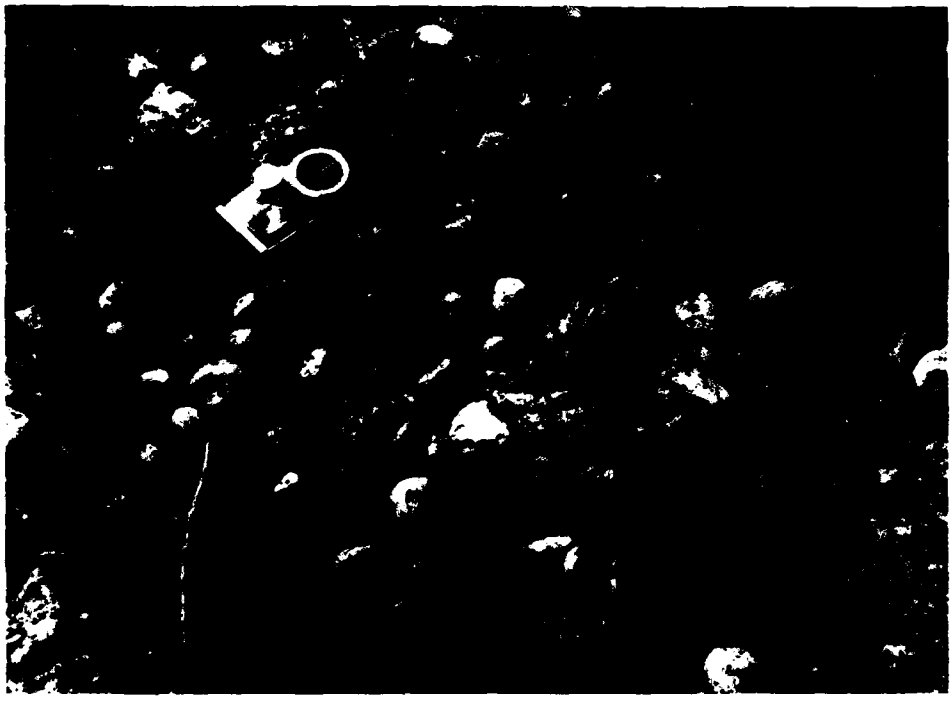
Concentrations of burned rocks which may represent hearths were observed at two sites in the Clear Creek Transect Area. A cluster of fire-altered sandstone and quartzite was observed on the southeastern end of site 41LN200. Exposed by erosion, it appears to represent one or more destroyed hearths; original shape and/or size could not be ascertained. Lithic debitage occurs in association with the concentration. Other artifacts observed at the site include a dart point, red ocher, debitage and some historic materials.

Figure 24. Features

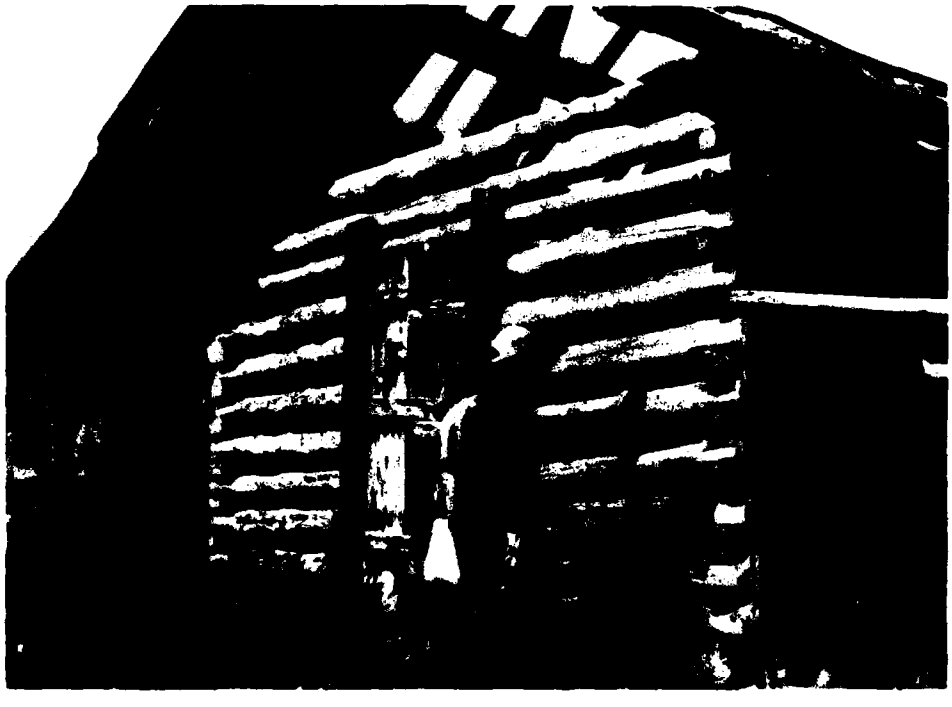
a. Close-up of the pebble concentration noted at site 41MA19 within the Bundic Crossing Transect Area. The feature, which is 50 by 50 centimeters in size, is composed of fire-clouded, but not fractured, chert and quartzite gravels and appears to be similar to boiling stone concentrations identified within the Lake Limestone area.

b. Construction detail of the barn and log crib included within site 41LN186, Clear Creek Transect Area.

Figure 24



a



b

Two concentrations of fire-altered rocks were observed at site 41LN201 in a cutbank of the Navasota River. The northeastern concentration consists of fire-altered sandstone, quartzite and chert. No artifacts appeared to be associated with this concentration. Observed dimensions are 1x2 meters, but the stones appear to have been displaced vertically.

The southwestern concentration at site 41LN201 contained fire-altered quartzite and sandstone. Several pieces of red ocher and chert and quartzite debitage are associated with this concentration. The material is scattered at the base of a cutbank but appears to be from a fairly limited area. Original dimensions and shape of the feature are unknown.

Vegetable Processing Artifact Concentration

A cluster of vegetable processing artifacts, fire-altered materials and debitage was observed in the walls and bottom of a gully at site 41LN190, Clear Creek Transect Area. Extensive disturbance to the feature precluded the identification of its original size and shape. A large sandstone grinding slab fragment, a quartzite pitted stone, and a hammerstone found here may indicate an activity-specific area of vegetable processing within the site. Several pieces of burned sandstone and quartzite, three burned clay lumps, and one tertiary flake are also associated with this feature.

SUMMARY

Prehistoric artifacts and features covering a temporal span from the early Archaic through the Neoarchaic have been recovered or observed in the four transect areas. A discussion of material and spatial distributions at this point must group temporal differences because specific chronological identifications cannot be made for every site. Arrow and dart point distributions suggest an equitable representation of temporal periods between transect areas with a possible exception being the lack of dart points from the Ferguson #3 Transect Area.

An interpretation of the distribution of artifacts and features between the project areas is also limited by the conditions of ground exposure and land use. The cultural phenomena discussed here cannot be considered to be statistically valid samples of all the cultural materials within the project area. However, it is from preliminary data such as that presented here that hypotheses are generated to be subsequently tested under rigorous sampling schemes. This summary serves to point out trends identified during the current survey which may merit further examination.

Trends in Lithic Materials and Artifact Types

A strong correlation between miscellaneous unifaces and the lithic raw material petrified wood has been noted. This is notable in view of the relative absence of this source material in other, more extensively

reduced tool types. This may indicate a cultural preference for more fine-grained material to be used in the manufacture of formal tools. The fact that all of the arrow and dart points observed were made of chert also supports this hypothesis.

Fire-altered rocks observed during this survey were almost completely composed of quartzite cobbles. Such a distribution suggests that this material is the main source that was culturally considered to be suitable for this purpose.

Trends in Lithic Manufacturing Stages

On one-fourth of the 109 prehistoric sites located during the current survey, chipped stone cores were observed. One-third of the sites yielded cortical flakes while three-fourths of the sites had interior or undifferentiated flakes present. The majority of all debitage is of chert.

The lower number of sites exhibiting early manufacturing stages (cores and cortical flakes) versus the later stages appears to suggest that lithic reduction activities were site-specific, with primary reduction of stone being limited to a relatively small number of sites. The postulation of this idea is particularly tenuous, however, without detailed analyses of systematically obtained collections.

Millican Transect Area

This transect differs from the others in chipped stone tool types and in raw material preference. The majority of the classes of miscellaneous bifaces, unifaces and cores were observed in the Millican Transect Area. Almost all of the petrified wood tools, cores and flakes were from this transect area. Such a distribution suggests either proximity to a source of this material or a cultural preference for its use. The only bone tool found during this survey was observed in the Millican Transect Area.

Ferguson #3 Transect Area

This transect area is characterized by the relative scarcity of some materials and the abundance of others. No dart points or ground stones were found here, although the small total number of both of these tool classes suggests that this difference is not significant. A large proportion of all the cores observed were in the Millican Transect Area and almost one-fourth of all hammerstones were found here. The corresponding abundance of these two artifact classes suggests that lithic procurement may have been a major activity in the area. One of the four ceramic sherds found during this project is from the Ferguson #3 Transect Area.

APPENDIX II: ARTIFACT AND FEATURE DESCRIPTIONS

Bundic Crossing Transect Area

This project area is unexceptional in terms of artifact distribution. A lack of hammerstones observed on sites is probably not statistically significant. However, a concentration of pebbles was noted in this transect area which is unique among features observed during the project (although it is not unique to the region; see Features).

Clear Creek Transect Area

This transect area is clearly distinguished from the others in many aspects. Red pigment, burned clay lumps and several feature types (burned rock features and vegetable processing feature) are present in this project area alone, being entirely absent from the others. Almost every site has interior flakes present in contrast to the other transect areas where only two-thirds of the sites have interior flakes. Most of the fire-altered rocks were found in this area, and since most of this artifact type is of quartzite, the Clear Creek Transect Area also contains most of the quartzite observed during this survey. Three out of the four ceramic sherds which were collected are from this area. The conjunction of a number of unique artifacts and features within the Clear Creek Transect Area may indicate a cultural difference between this area and the others.

HISTORIC

OBSERVED ARTIFACTS

The historic artifacts found during this survey fall into four categories: ceramics, glass, metal and other. The majority of these artifacts were observed in the Millican Transect Area. This reflects an unequal distribution between the transect areas of sites with an historic component; the Millican Transect Area has ten of these sites, Bundic Crossing and Clear Creek each have four, and Ferguson #3 has one historic site.

Ceramics

Historic ceramics were observed on seven sites in the Millican Transect Area, two sites in the Bundic Crossing Transect Area, and three sites in the Clear Creek Transect Area (for specific site numbers, see Tables 66 through 69). Most of these ceramics are white glazed stoneware or earthenware sherds which are not decorated. One thin white porcelainlike sherd was observed at 41GM90 in the Millican Transect Area.

A whole stoneware crock was placed in the well at 41GM109, Millican Transect Area. Spongeware was identified at two sites in the Clear Creek Transect Area, 41LN186 and 41RT141. Two transferware sherds were also observed at 41LN186.

Glass

Ten sites recorded during this survey had fragments or vessels of historic glass present. Six of these were in the Millican Transect Area, one in Bundic Crossing and three in Clear Creek (for specific site numbers, see Tables 66 through 69). A number of glass fragments appear to be from vessels; they are clear, manganese-bleached, milk, light green, dark green, brown and dark brown. Some clear windowglass was observed in an historic dump on site 41LN186 in the Clear Creek Transect Area. Several whole vessels were observed at some of the sites. Three complete bottles were noted at 41GM109 in the Millican Transect Area, along with some manganese-bleached pressed glass. A number of glass jars were observed at site 41MA13 in the Bundic Crossing Transect Area; an informant also reported that numerous Garrett snuff bottles had been recovered there by collectors. Several Mason jars were observed in the historic dump at 41LN186 in the Clear Creek Transect Area.

Metal

A number of metal artifacts were observed at ten sites during this survey; six of these sites are in the Millican Transect Area, one in the Bundic Crossing Transect Area, and three in the Clear Creek Transect Area. These artifacts can be divided into general categories based on their use.

Building materials were present at four sites in the Millican Transect Area, 41GM98, 41GM99, 41GM103 and 41GM109. These are pieces of sheet metal for the most part, but square and round nails are also present. A coil of barbed wire was observed inside a well at 41GM103.

Farm equipment was observed in the Millican, Bundic Crossing and Clear Creek transect areas. Several intact pieces of equipment are on 41GM107 in the Millican Transect Area. A broken plowstock was observed at 41MA13 in Bundic Crossing, and a plowshare at 41LN198 in the Clear Creek Transect Area.

Domestic artifacts are the most prevalent of all the historic metal artifacts observed during this survey. These are from two sites in the Millican Transect Area and one site each from the Bundic Crossing and Clear Creek transect areas. An iron kettle fragment was observed on 41GM90, and a solid metal clothes-iron (sad iron) and an enameled tin pot are on 41GM109 in the Millican Transect Area. Tin cans, a cigar can, and a baking powder can are on site 41MA13 in the Bundic Crossing Transect Area. Tin cans and a "Martha Washington" four-burner gas stove (still in good condition) were observed in the historic dump at 41LN186 in the Clear Creek Transect Area. Several toys were also observed at site 41LN186, Clear Creek Transect Area, in the dump; these include a top and a toy kitchen sink with drainboards.

Two other historic metal artifacts were observed in the Clear Creek Transect Area. A rim-fired cartridge casing is from site 41LN198; a 1941 Lincoln penny is from site 41LN200.

APPENDIX II: ARTIFACT AND FEATURE DESCRIPTIONS

Slate

Two pieces of slate were observed on sites in the Millican Transect Area at 41GM92 and 41GM107. Historian Sally Victor believes that these are the remnants of slate roofs, reflecting a building technique that was common among more affluent individuals in the early 1900s.

Inscribed Sandstone

An unusual historic artifact was observed at 41RT143 in the Clear Creek Transect Area. A sandstone slab, possibly a tombstone, is inscribed with the letters MCCOWELL, and following that, REB. Portions of the stone were too abraded to read. All of the other artifacts from this site were prehistoric.

FEATURES

Bridges

The remains of three bridges were identified during this survey; two in the Bundic Crossing Transect Area at sites 41MA7 and 41MA11, and one in the Clear Creek Transect Area at 41RT133. The bridges at Bundic Crossing have washed out, while the bridge in the Clear Creek area is still intact.

Brick, asphalt and concrete were used in the construction of the bridges at 41MA7 and 41RT133. The bridge at 41MA11 is made of wood. Large ropes are present at both of the Bundic Crossing sites; their use is unknown.

The bridge at 41MA7 provided a crossing over a slough running parallel to the Navasota River. The structure at 41MA11 is called Bundic Crossing by local inhabitants; it apparently connected the two public roads that now stop at points opposite from each other across the Navasota River. The bridge at 41RT133 crosses Duck Creek, although no roads go to it.

Structural Remains

Standing Structures

Standing structures were noted within the Millican, Bundic Crossing and Clear Creek transect areas. A house and several outbuildings (Figs. 24b and 25a) were identified at commercial site 41LN186 within the Clear Creek Transect Area. Although these remains are in various stages of collapse, construction details may be noted and are described more fully within Appendix I. Only one relatively intact house structure was identified during the survey, site 41MA16 in the Bundic Crossing Transect Area. This site is also more fully described within Appendix I. A possible railroad section house is included within site 41GM102, Millican Transect Area, which represents a community or cluster of historic remains.

Foundations

A number of house foundations in varying states of disintegration were observed in the Clear Creek and the Millican transect areas (Fig. 25b). Construction material for these foundations is commonly dressed sandstone, although in one case stumps were used. Bricks, sheet metal, and slate are sometimes present on these sites, suggesting that these materials may have also been used for house construction. Artifacts of metal, ceramic and glass accompany the foundation remains at some of these sites.

Three sites have foundation remains that are relatively intact. At site 41GM99 (Millican Transect Area), the north, west and south sandstone wall lines are intact, and three cornerstones are present (Fig. 26a). The association of round nails and sheet metal with this structure suggests that it is relatively recent. The rock foundation at 41GM108 (Millican Transect Area) is also reported to be essentially intact. At 41GM109 (Millican Transect Area), wooden piers were apparently the load-bearing members; both exterior wall lines and interior footings are present (see other feature categories for descriptions of the chimney and well associated with 41GN109).

Sites 41LN194 and 41LN198 (Clear Creek Transect Area) and 41GM92 and 41GM102 (Millican Transect Area) contain remains of foundations that are extensively disturbed. Bulldozing and/or agricultural activities has reduced these features to clusters or heaps of building materials. Identification of these concentrations as foundation remains was frequently suggested by oral reports.

Fireplaces/Chimneys

Several chimney remains have been identified in the Ferguson #3 and Millican transect areas. At 41BZ66 (Ferguson #3 Transect Area), a pile of machinemade brick appears to represent a relatively recent chimney that has collapsed. A well is also present, but no associated foundation is evident. A scatter of sandstone rocks was identified as a chimney by an informant at 41GM90 (Millican Transect Area). This feature is accompanied by a scatter of historic artifacts including a rim-fired shell casing. The chimney mound at 41GM109 (Millican Transect Area) was identified by its proximity to a wooden pier foundation. Historic artifacts are also associated with this feature. None of the fireplace/chimney features observed are in a sufficient state of preservation to provide information on dimensions or mode of construction.

Wells

Five wells were observed during the course of the survey in the Ferguson #3, Clear Creek and Millican transect areas. Three of these are associated with other structural remains. Sandstone was the building material employed for the wells at 41GM103 (Fig. 26b) and 41BZ46 (Millican Transect Area). In the well at 41GM103, some of these stones appear to have been dressed, while at 41BZ46 they are unmodified. Cement served as mortar for the stones at 41GM103; at 41BZ67 (Clear Creek

Figure 25. Features

a. General view of a dual crib outbuilding included within site 41LN186, Clear Creek Transect Area.

b. General view of the construction rubble at site 41GM99. These remains are typical of many of the historic housesites identified during the present survey.

Figure 25



a



b

Figure 26. Features

a. Close-up of a portion of the foundation noted at site 41GM99 within the Millican Transect Area. The remains are more intact than the majority of the historic housesites noted during the present survey.

b. An isolated, rock-lined well recorded as site 41GM103 within the Millican Transect Area.

Figure 26



a



b

Transect Area) the well is completely slipped with concrete casing. Dimensions for the well at 41GM103 are an 80 cm interior diameter with walls 25 cm thick.

Cane Mill and Brick Oven

Site 41LN187 in the Clear Creek Transect Area consists of two historic features associated with syrup manufacturing, a cane mill and a brick fireplace. The site was reported to be in use in the early 1900s (Roger Watson, personal communication, 1981).

The cane mill is essentially intact. It was manufactured by the Chattanooga Plow Company and consists of three rollers (two small rollers and one large one) which are turned by cogs attached to a bar at the top of the mill that was driven by horse-power. The cane mill rests on a wooden stand.

Associated with this mill is a brick fireplace, 3 meters by 1 meter in plan and 30 centimeters high. The fireplace bricks suggest an early construction date. Association with the mill may identify this structure as an evaporator in which the cane juice derived from the mill was boiled. Evaporating pans and/or skimmers are not present, however.

Gasoline Pump

A gasoline pump (Fig. 27a) was observed in proximity to a dump and several historic structures at site 41LN186, Clear Creek Transect Area. The pump is of the "bubble" style, with a glass reservoir supported on a narrow metal stand.

Grave

A pile of rocks 0.5 meters in height was observed adjacent to the southeastern corner of a metal barn at site 41GM102, Millican Transect Area. An informant reports that this is the grave of James Lawson, a former landowner. A wooden cross is also reported to be inside the locked barn (Bill Moody, personal communication, 1981) but was not observed by the survey crew.

Railroad Grade

An abandoned railroad grade (Fig. 27b) that was observed at site 41GM102 extends diagonally through the Millican Transect Area. It is still visible as a linear topographic rise, and may be associated with a standing structure and structural remains of foundations at 41GM102. An informant reports that the frame house now situated on top of the railroad grade may have been a railroad section house (Bill Moody, personal communication, 1981).

The abandoned railroad grade connects with an operational Texas and New Orleans railway line to the south of the project area; this line connects to Navasota. To the north, the abandoned line extends through Carlos and continues in a north-northeasterly direction.

Dump

A dump is located east of a gasoline pump and several structures in an erosional feature on site 41LN186 in the Clear Creek Transect Area. Metal, glass and ceramic materials were observed here along with several intact artifacts including a gas stove and some toys.

Figure 27. Features

a. Gas pump noted at site 41LN186 within the Clear Creek Transect Area in association with a housesite.

b. General view of the abandoned railroad grade and possible section house which are included within site 41GM102, Millican Transect Area.

Figure 27



a



b

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APPENDIX III: SITE DESCRIPTIONS

Steven M. Kotter

INTRODUCTION

Appendix III to the report provides detailed descriptions of the archeological sites identified during the present survey and brief descriptions of previously recorded sites within the project area. Data concerning newly identified sites include general site location, site physical characteristics and environmental setting, cultural materials noted and site assessments and recommendations. Detailed locational data are not included but are available through the sponsoring agency and specified data depositories. The descriptions are presented by transect area from south to north (Millican, Ferguson #3, Bundic Crossing and Clear Creek) and by county within each transect area. Data concerning previously recorded sites are presented in tabular form following the newly identified sites. Site elevation and location relative to the defined management units within each reservoir alternative, a brief site description and the recording institution are included.

MILLICAN TRANSECT AREA
BRAZOS AND GRIMES COUNTIES, TEXAS

41BZ39

Map Reference: USGS Millican 7.5' sheet, 1959

Elevation: 190 feet MSL

Location: The site is located 2.4 kilometers (1.5 miles) east-southeast of the point where State Highway 6 crosses Millican Creek and 2.2 kilometers (1.4 miles) northwest of the confluence of Millican Creek and the Navasota River.

Description: Prehistoric site 41BZ39 is a thin scatter of debitage flakes. Materials are contained within an unknown depth of tan sandy loam and exposed in rodent spoil piles over an area 30x30 meters in size. The site appears to be relatively intact but has been adversely affected by clearing activities and bioturbation.

Materials: Secondary and interior chert flakes were noted.

Environmental Setting: The site is situated within the lower portion of the left valley wall of Millican Creek, a major right bank tributary of the Navasota River. The site occurs on a low rise composed of Quaternary fluviatile terrace deposits. Vegetation consists of a dense ground cover of grasses and forbs and scattered mesquite trees.

Archeological Summary: Site 41BZ39 appears to represent a limited activity site associated with Millican Creek. Both valley wall and riverine resource orientations are suggested.

PRECEDING PAGE

Assessment: The site is disturbed by clearing and rodent activity. The cultural materials present, although relatively densely distributed, are generally undiagnostic.

Recommendations: Testing to determine the nature and context of buried cultural materials is warranted.

41BZ40

Map Reference: USGS Millican 7.5' sheet, 1959

Elevation: 190 feet MSL

Location: The site is located 3 kilometers (1.9 miles) east-southeast of the point where State Highway 6 crosses Millican Creek and 2 kilometers (1.2 miles) northwest of the confluence of Millican Creek and the Navasota River.

Description: Site 41BZ40 is a thin scatter of lithic debitage flakes and tools, other tools, and possibly burned rocks. Materials are contained within an unknown depth of tan sandy loam. The site, which is exposed in rodent spoil piles and includes an area 50x20 meters in size, has been adversely affected by clearing activities and bioturbation.

Materials: Chert flakes, a possible bone awl fragment and burned rocks were noted.

Environmental Setting: The site is situated within the lower left valley wall of Millican Creek and on a low rise composed of Quaternary fluviatile terrace deposits. Vegetation consists of a dense ground cover of grasses.

Archeological Summary: Site 41BZ40 appears to represent a campsite associated with Millican Creek. Both valley wall and riverine resource orientations are suggested.

Assessment: Although the site has been adversely affected by clearing and rodent activity, the cultural materials present are relatively densely distributed and include culturally diagnostic artifacts and materials.

Recommendations: Testing to determine the nature and context of buried cultural materials appears to be warranted.

41BZ41

Map Reference: USGS Millican 7.5' sheet, 1959

Elevation: 195 feet MSL

Location: The site is located 4.1 kilometers (2.5 miles) east-southeast of the point where State Highway 6 crosses Millican Creek and 0.9 kilometer (0.6 mile) north-northwest of the confluence of Millican Creek and the Navasota River.

Description: Prehistoric site 41BZ41 is composed of flakes and a possible tool which are thinly scattered over an area 10x10 meters in size. Materials are surficial or shallowly buried within mixed sand and gravel. The site is exposed by an unimproved road and erosion which have severely affected site integrity.

Materials: Chert and petrified wood flakes and a possibly retouched petrified wood pebble were noted.

Environmental Setting: The site is situated at the margin of the right valley wall and floodplain of the Navasota River, along the lower slopes of an extension of the valley wall which consists of Quaternary fluviatile terrace deposits. The immediate area supports a sparse ground cover of grasses and forbs; the nearby valley wall supports a dense oak and shrub woodland.

Archeological Summary: Site 41BZ41 appears to represent a limited activity area associated with the Navasota River. Both valley wall and riverine resource orientations are suggested.

Assessment: The site appears to be thoroughly disrupted.

Recommendations: Further work does not appear to be scientifically productive at this time.

41BZ42

Map Reference: USGS Millican 7.5' sheet, 1959

Elevation: 210 to 215 feet MSL

Location: The site is located 2 kilometers (1.2 miles) east-southeast of the point where State Highway 6 crosses Millican Creek and 2.5 kilometers (1.6 miles) northwest of the confluence of Millican Creek and the Navasota River.

Description: Prehistoric site 41BZ42 is a thin scatter of lithic debitage, tools and burned rocks. Cultural materials are contained within an unknown depth of sandy soil and are exposed in rodent spoil piles over an area 75x40 meters in size. The site area has been affected by land clearing and rodent activity but is otherwise relatively intact.

Materials: Chert interior flakes, a chert core, chert and petrified wood unifacial tools and burned rocks were noted.

Environmental Setting: The site is situated within the lower left valley wall of Millican Creek and on a low rise composed of Quaternary fluviatile terrace deposits. Vegetation consists of a dense ground cover of grasses.

Archeological Summary: Site 41BZ42 appears to represent a campsite associated with Millican Creek. Both valley wall and riverine resource orientations are suggested.

Assessment: Although the site has been adversely affected by clearing and rodent activity, the cultural materials present are relatively densely distributed and include culturally diagnostic artifacts and materials.

Recommendations: Testing to determine the nature and context of buried cultural materials is warranted.

41BZ43

Map Reference: USGS Millican 7.5' sheet, 1959

Elevation: 200 feet MSL

Location: The site is located 1.6 kilometers (1 mile) southeast of the point where State Highway 6 crosses Millican Creek and 2.8 kilometers (1.7 miles) east-northeast of the confluence of Millican Creek and the Navasota River.

Description: Prehistoric site 41BZ43 is a very thin scatter of lithic flakes in an area 5x5 meters in size. Materials are contained within an unknown depth of sandy loam and are exposed by erosion surrounding a large tree. The site has been cleared but appears to be otherwise relatively intact.

Materials: Interior chert flakes were noted.

Environmental Setting: The site is situated along a small drainage immediately above the floodplain of Millican Creek. The site occurs on a low rise which is composed of bedrock. Vegetation consists of a dense ground cover of grasses and scattered oak trees.

Archeological Summary: Site 41BZ43 appears to represent a limited activity site associated with Millican Creek. Both valley wall and riverine resource orientations are suggested.

Assessment: Although relatively intact, the cultural materials present are thinly distributed and generally undiagnostic.

Recommendations: Testing to determine the nature and context of buried cultural materials may be warranted.

41BZ44

Map Reference: USGS Millican 7.5' sheet, 1959

Elevation: 175 to 180 feet MSL

Location: The site is located 0.7 kilometer (0.4 mile) southwest of the confluence of Rocky Creek and the Navasota River and 0.9 kilometer (0.6 mile) north-northeast of the confluence of Millican Creek and the Navasota River.

Description: Prehistoric site 41BZ44 is a relatively dense scatter of lithic flakes, tools and a grinding stone in an area 50x15 meters in size. Materials are contained within an unknown depth of loamy soil. The site is exposed by erosion along the banks of a relict channel of the river and appears to be basically intact.

Materials: Chert flakes, a chert biface fragment and a sandstone grinding slab were noted.

Environmental Setting: The site is situated within the modern floodplain of the Navasota River and on a depositional feature associated with a relict river channel. Vegetation consists of a hardwood forest with a dense understory of shrubs.

Archeological Summary: Site 41BZ44 appears to represent a multiple activity site which at the time of its occupation was associated with the channel of the Navasota River. A riverine resource orientation is suggested.

Assessment: The site appears to be intact. The cultural materials present are relatively densely distributed and include culturally diagnostic artifacts. The site may be worthy of nomination to the National Register of Historic Places.

Recommendations: Testing to determine the nature and context of buried cultural materials is warranted. Testing should be of sufficient extent to provide information necessary for a determination of eligibility for nomination to the National Register of Historic Places.

41BZ45

Map Reference: USGS Millican 7.5' sheet, 1959

Elevation: 175 feet MSL

Location: The site is located 0.3 kilometer (0.2 mile) south of the confluence of Rocky Creek and the Navasota River and 0.9 kilometer (0.6 mile) north-northeast of the confluence of Millican Creek and the Navasota River.

Description: Prehistoric site 41BZ45 consists of a thin scatter of lithic flakes and a tool within an area 35x15 meters in size. Materials are contained within an unknown depth of loamy soil and are exposed by erosion along the bank of a relict river channel. The site appears to be relatively intact.

Materials: Chert cortex and interior flakes and a large quartzite flake were noted. A chert projectile point was collected (see Appendix II, Fig. 21h).

Environmental Setting: The site is situated within the modern floodplain of the Navasota River and on a depositional feature associated with a relict river channel. Vegetation consists of a hardwood forest with a dense understory of shrubs.

Archeological Summary: Site 41BZ45 appears to represent a multiple activity site which at the time of its occupation was associated with the channel of the Navasota River. A riverine resource orientation and a late Archaic occupation are suggested.

Assessment: The site appears to be intact. The cultural materials present, although thinly distributed, include both temporally and culturally diagnostic artifacts. The site may be worthy of nomination to the National Register of Historic Places.

Recommendations: Testing to determine the nature and context of buried cultural materials appears to be warranted. Testing should be of sufficient extent to provide information necessary for a determination of eligibility for nomination to the National Register of Historic Places.

41BZ46

Map Reference: USGS Millican 7.5' sheet, 1959

Elevation: 215 feet MSL

Location: The site is located 1.9 kilometers (1.2 miles) east of the point where State Highway 6 crosses Millican Creek and 2.6 kilometers (1.6 miles) northwest of the confluence of Millican Creek and the Navasota River.

Description: Site 41BZ46 consists of an historic well. Although the well has been filled with rubble, it appears to be intact. The surrounding area has been cleared, and no additional historic features or artifacts were noted.

Materials: The well, 63x120 centimeters in diameter, is constructed from dry-laid, unshaped sandstone blocks.

Environmental Setting: The site is situated on a broad ridgecrest composed of Quaternary fluviatile terrace deposits within the left valley wall of Wickson Creek. Vegetation consists primarily of a dense ground cover of grasses; small trees surround the well.

Archeological Summary: Site 41BZ46 represents the remains of an historic well of unknown age.

Assessment: Although the well is intact, associated features and cultural materials are absent or apparently have been destroyed by land-clearing activities.

Recommendations: Further work does not appear to be scientifically productive at this time.

41BZ47

Map Reference: USGS Millican 7.5' sheet, 1959

Elevation: 230-240 feet MSL

Location: The site is located 2.8 kilometers (1.7 miles) southeast of the point where State Highway 6 crosses Millican Creek and 2.6 kilometers (1.6 miles) southwest of the confluence of Millican Creek and the Navasota River.

Description: Prehistoric site 41BZ47 is a thin scatter of lithic debitage 30x17 meters in size. The site appears to be intact, entirely surficial, and rests on exposed sandstone.

Materials: Naturally occurring chert and petrified wood gravels, chert flakes and pieces of petrified wood which have been crudely unifacially and bifacially worked were noted.

Environmental Setting: The site is situated within the upper portion of the right valley wall of Wickson Creek at the head of a slope drainage where erosion has exposed gravel concentrations. Vegetation consists of sparse grasses and forbs.

Archeological Summary: Site 41BZ47 appears to represent a lithic resource procurement and processing area. A valley wall resource orientation is suggested.

Assessment: The site is surficial and appears to be relatively intact. The cultural materials have a high information yield potential relative to the use of petrified wood as a resource material.

Recommendations: Systematic surface collection is warranted.

41BZ48

Map Reference: USGS Millican 7.5' sheet, 1959

Elevation: 220 feet MSL

Location: The site is located 3.7 kilometers (2.3 miles) southeast of the point where State Highway 6 crosses Millican Creek and 0.8 kilometer (0.5 mile) west of the confluence of Millican Creek and the Navasota River.

Description: Prehistoric site 41BZ48 is a thin scatter of debitage flakes over a 60x20-meter area. Materials are contained within an unknown depth of sandy soil and are exposed in rodent spoil piles. The site area has also been adversely affected by land-clearing activities.

Materials: Interior chert flakes and a possible petrified wood core were noted.

Environmental Setting: The site is situated within the lower portion of the right valley wall of Millican Creek, a major right bank tributary of the Navasota River. The site occurs on a small bedrock ridgecrest. Vegetation consists of a moderately dense ground cover of grasses and forbs.

Archeological Summary: Site 41BZ48 appears to represent a limited activity area associated with Millican Creek. Both valley wall and riverine resource orientations are suggested.

Assessment: The site has been disturbed by land-clearing and rodent activities. Cultural materials are thinly distributed and generally undiagnostic.

Recommendations: Testing to determine the nature and context of buried cultural materials may be warranted.

41BZ49

Map Reference: USGS Millican 7.5' sheet, 1959

Elevation: 220 feet MSL

Location: The site is located 3.5 kilometers (2.2 miles) southeast of the point where State Highway 6 crosses Millican Creek and 0.9 kilometer (0.6 mile) west of the confluence of Millican Creek and the Navasota River.

Description: Prehistoric site 41BZ49 is a thin scatter of debitage flakes in a 40x10-meter area. Materials, contained within an unknown depth of sandy soil, are exposed in rodent spoil piles. The site area has been adversely affected by land-clearing activities.

Materials: Interior chert flakes and a possible petrified wood core were noted.

Environmental Setting: The site is situated within the lower portion of the right valley wall of Millican Creek, a major right bank tributary of the Navasota River. The site is on a small bedrock ridgecrest. Vegetation is a moderately dense ground cover of grasses and forbs.

Archeological Summary: Site 41BZ49 appears to represent a limited activity area associated with Millican Creek. Both valley wall and riverine resource orientations are suggested.

Assessment: The site has been disturbed by land-clearing and rodent activities. The cultural materials present are thinly distributed and generally undiagnostic.

Recommendations: Testing to determine the nature and context of buried cultural materials may be warranted.

41BZ50

Map Reference: USGS Millican 7.5' sheet, 1959

Elevation: 240 to 250 feet MSL

Location: The site is located 3.4 kilometers (2.1 miles) south-southeast of the point where State Highway 6 crosses Millican Creek and 2.6 kilometers (1.6 miles) southwest of the confluence of Millican Creek and the Navasota River.

Description: Prehistoric site 41BZ50 is a thin scatter of lithic debitage 75x50 meters in size. Materials appear to be entirely surficial, are on exposed sandstone, and are severely disturbed by erosion.

Materials: Naturally occurring chert and petrified wood gravels, chert cores, and pieces of crude unifacially and bifacially worked petrified wood were noted.

Environmental Setting: The site is situated within the upper portion of the right valley wall of Wickson Creek at the head of a slope drainage where erosion has exposed gravel concentrations. Vegetation consists of sparse grasses and forbs.

Archeological Summary: Site 41BZ50 appears to represent a lithic resource procurement and processing area. A valley wall resource orientation is suggested.

Assessment: Site 41BZ50 is surficial in nature and appears to be severely disturbed, with generally undiagnostic cultural materials present.

Recommendations: Further work does not appear to be scientifically productive at this time.

41BZ51

Map Reference: USGS Millican 7.5' sheet, 1959

Elevation: 220 to 250 feet MSL

Location: The site is located 2.9 kilometers (1.8 miles) southeast of the point where State Highway 6 crosses Millican Creek and 2 kilometers (1.2 miles) west-southwest of the confluence of Millican Creek and the Navasota River.

Description: Prehistoric site 41BZ51 is a thin scatter of lithic flakes and burned rocks 15x10 meters in size. Materials, contained within an unknown depth of sandy loam, are exposed in rodent spoil piles. The site appears to be relatively intact except for the rodent activity and possibly land clearing.

Materials: An interior flake and a burned rock were noted.

Environmental Setting: The site is situated on a small bedrock rise within the right valley wall of Millican Creek. Vegetation is a dense ground cover of grasses and forbs and scattered oak trees.

Archeological Summary: Site 41BZ51 appears to represent a campsite associated with Millican Creek. A valley wall resource orientation is suggested.

Assessment: The site may be relatively intact, although disturbed by rodent and possibly land-clearing activities. Culturally diagnostic materials are present with thinly distributed lithics.

Recommendations: Testing to determine the nature and context of buried cultural materials may be warranted.

41BZ52

Map Reference: USGS Millican 7.5' sheet, 1959

Elevation: 210 to 220 feet MSL

Location: The site is located 2.6 kilometers (1.6 miles) southwest of the point where State Highway 6 crosses Millican Creek and 2.2 kilometers (1.4 miles) west-southwest of the confluence of Millican Creek and the Navasota River.

Description: Prehistoric site 41BZ52 is a thin scatter of lithic debitage and tools. Materials are surficial on lithic gravels and are exposed over a 30x30-meter area by activities associated with the construction of an overhead powerline and a pipeline. Although the exposed portion of the site is destroyed, the remainder may be relatively intact.

Materials: Chert and quartzite flakes, a chert core, a pebble tool and a chert unifacial tool were noted.

Environmental Setting: The site is situated on a small bedrock ridgecrest within the right valley wall of Millican Creek. Vegetation is a sparse ground cover of grasses and forbs; wooded areas away from recent disturbances consist of oak trees and a dense shrub understory.

Archeological Summary: Site 41BZ52 appears to represent a multiple activity area associated with Millican Creek. A valley wall resource orientation is suggested.

Assessment: The site is partially destroyed, but portions may be relatively intact. The cultural materials, although thinly distributed, include culturally diagnostic artifacts.

Recommendations: Testing to determine the nature and context of buried cultural materials is warranted.

41BZ53

Map Reference: USGS Millican 7.5' sheet, 1959

Elevation: 230 feet MSL

Location: The site is located 3.4 kilometers (2.1 miles) southeast of the point where State Highway 6 crosses Millican Creek and 2.8 kilometers (1.7 miles) southwest of the confluence of Millican Creek and the Navasota River.

Description: Prehistoric site 41BZ53 is a 50x20-meter thin scatter of lithic flakes, a utilized flake and burned rocks. Materials are contained within a shallow but unknown depth of sandy loam, and are exposed in rodent spoil piles and areas denuded by erosion. The site appears to be severely disturbed by rodent activity, land clearing and erosion.

Materials: A cortex flake, a utilized cortex flake and a burned rock were noted.

Environmental Setting: The site is situated on a small bedrock rise within the lower portion of the right valley wall of Millican Creek. Vegetation consists of a dense ground cover of grasses and forbs.

Archeological Summary: Site 41BZ53 appears to represent a campsite associated with Millican Creek. A valley wall and possibly riverine resource orientations are suggested.

Assessment: The site appears to be severely disturbed. The cultural materials, although thinly distributed, include culturally diagnostic materials.

Recommendations: Testing to determine the nature and context of buried cultural materials may be warranted.

41BZ54

Map Reference: USGS Millican 7.5' sheet, 1959

Elevation: 240 to 250 feet MSL

Location: The site is located 3.5 kilometers (2.2 miles) southeast of the point where State Highway 6 crosses Millican Creek and 1.9 kilometers (1.2 miles) southwest of the confluence of Millican Creek and the Navasota River.

Description: Prehistoric site 41BZ54 is a thin scatter of lithic flakes and burned rocks 25x25 meters in size. Materials are contained within a shallow depth of sandy loam, and are exposed by clearing activities and in rodent spoil piles. The site appears to be severely disturbed by rodent activity and land clearing.

Materials: An interior flake and a burned rock were noted.

Environmental Setting: The site is situated on a small bedrock rise within the right valley wall of Millican Creek. Vegetation consists of a dense ground cover of grasses and forbs and scattered oak trees.

Archeological Summary: Site 41BZ54 appears to represent a campsite associated with Millican Creek. A valley wall resource orientation is suggested.

Assessment: The site appears to be severely disturbed by rodent and land-clearing activities. The cultural materials, although thinly distributed, include culturally diagnostic materials.

Recommendations: Testing to determine the nature and context of buried cultural materials may be warranted.

41BZ55

Map Reference: USGS Millican 7.5' sheet, 1959

Elevation: 225 to 235 feet MSL

Location: The site is located 3.4 kilometers (2.1 miles) southeast of the point where State Highway 6 crosses Millican Creek and 1.5 kilometers (0.9 mile) southwest of the confluence of Millican Creek and the Navasota River.

Description: Prehistoric site 41BZ55 is a thin scatter of lithic flakes and tools and burned rocks at least 65x20 meters in size. Materials are contained within an unknown depth of sandy soil and are exposed in the bed of an unimproved road. The site has been disturbed by land-clearing activities, minor erosion and road use.

Materials: Interior chert flakes, petrified wood flakes, a blade-proportioned chert flake and a thin biface fragment were noted.

Environmental Setting: The site is situated on a bedrock ridge-crest within the right valley wall of Millican Creek. Vegetation consists primarily of a dense ground cover of grasses and forbs; a portion supports a woodland composed of oak trees and a dense understory of shrubs.

Archeological Summary: Site 41BZ55 appears to represent a limited activity area associated with Millican Creek. A valley wall resource orientation is suggested.

Assessment: The site has been disturbed, but portions of the site may be relatively intact. The thinly distributed cultural materials include culturally diagnostic artifacts.

Recommendations: Testing to determine the nature and context of buried cultural materials is warranted.

41BZ56

Map Reference: USGS Millican 7.5' sheet, 1959

Elevation: 320 feet MSL

Location: The site is located 3.1 kilometers (2 miles) southeast of the point where State Highway 6 crosses Millican Creek and 1.5 kilometers (0.9 mile) west-southwest of the confluence of Millican Creek and the Navasota River.

Description: Prehistoric site 41BZ56 is a thin scatter of lithic debitage. Materials, contained within an unknown depth of sandy soil, are exposed by erosion. The site appears to be intact except for erosion and possibly land clearing.

Materials: A quartzite interior flake and a chert core were noted.

Environmental Setting: The site is situated within the lower portion of the right valley wall of Millican Creek. The site occurs on the crest of a bedrock ridge immediately above the creek's modern floodplain. Vegetation consists of a dense ground cover of grasses and forbs and scattered woodland trees and shrubs.

Archeological Summary: Site 41BZ56 appears to represent a limited activity area associated with Millican Creek. Both valley wall and riverine resource orientations are suggested.

Assessment: Although disturbed by minor erosion and possibly land clearing, portions of the site may be relatively intact. The cultural materials present are thinly distributed and generally undiagnostic.

Recommendations: Testing to determine the nature and context of buried cultural materials may be warranted.

41BZ57

Map Reference: USGS Millican 7.5' sheet, 1959

Elevation: 200 to 220 feet MSL

Location: The site is located 3.1 kilometers (1.9 miles) east-southeast of the point where State Highway 6 crosses Millican Creek and 1.5 kilometers (0.9 mile) west of the confluence of Millican Creek and the Navasota River.

Description: Prehistoric site 41BZ57, 300x30 meters in size, is a thin scatter of lithic flakes and tools and burned rocks. Materials occur surficially on sandstone exposures and are contained within an unknown depth of sandy soil. The site is exposed by erosion and minor modern land-use activities and has been disturbed by land clearing.

Materials: Cortex and interior chert, quartzite and petrified wood flakes, a unifacial quartzite tool and burned rocks were noted.

Environmental Setting: The site is situated within the lower portion of the right valley wall of Millican Creek. The site occurs immediately above an exposure of sandstone and the modern creek floodplain. Vegetation consists of a dense ground cover of grasses and forbs, and woodland tree and shrub species.

Archeological Summary: Site 41BZ57 appears to represent a campsite associated with Millican Creek. Both valley wall and riverine resource orientations are suggested.

Assessment: Although disturbed, portions of the site may be relatively intact. The cultural materials present include culturally diagnostic artifacts and other materials.

Recommendations: Testing to determine the nature and context of buried cultural materials is warranted.

41GM86

Map Reference: USGS Navasota 7.5' sheet, 1960

Elevation: 240 feet MSL

Location: The site is 0.8 kilometer (0.5 mile) southeast of the confluence of Little Flock and Rocky creeks, and 1.7 kilometers (1.1 miles) southwest of the confluence of Tanyard Branch and Rocky Creek.

Description: Prehistoric site 41GM86 is a thin scatter of lithic debitage. The cultural materials appear to be surficial, but may be contained within a shallow tan sandy loam. The site is exposed in and adjacent to an unimproved road; it includes an area of 20x20 meters. The context of the site has been disturbed by clearing, road construction, cattle movement and minor sheet erosion.

Materials: A core of fine-grained opalized wood was collected (see Appendix II). An interior chert flake and several pieces of possibly worked petrified wood were noted.

Environmental Setting: The site is situated within the left valley wall of Rocky Creek, a major left bank tributary of the Navasota River, and adjacent to Little Flock Creek. The site is on the upper slopes of a bedrock ridge. Vegetation consists of a sparse ground cover of grass and isolated clumps of trees.

Archeological Summary: Site 41GM86 appears to represent an area of lithic resource procurement and processing and can be directly associated with resources contained within the valley wall of a major tributary.

Assessment: The site appears to be surficial and disturbed by an unimproved road. A variety of lithic processing materials are present.

Recommendations: Controlled surface collection is warranted.

41GM87

Map Reference: USGS Navasota 7.5' sheet, 1960

Elevation: 265 feet MSL

Location: The site is 1.6 kilometers (1 mile) east of the confluence of Little Flock and Rocky creeks and 1.2 kilometers (0.4 mile) south-southeast of the confluence of Tanyard Branch and Rocky Creek.

Description: Prehistoric site 41GM87 is an isolated flake noted near the edge of a private airstrip. The find is apparently surficial on a brown clayey soil with vertical cracks. The context of the flake is questionable since no other cultural materials were noted in equally disturbed areas nearby.

Materials: A chert secondary flake was noted.

Environmental Setting: The site is situated within the upper portion of the left valley wall of Rocky Creek on a bedrock ridgecrest. Vegetation consists of a sparse ground cover of short grasses.

Archeological Summary: The available data are not sufficient to characterize site 41GM87 except that it is associated with the valley wall of a major tributary.

Assessment: No additional cultural materials appear to be present at the site.

Recommendations: Further work does not appear to be scientifically productive at this time.

41GM88

Map Reference: USGS Navasota (1958) and Carlos (1960) 7.5' sheets

Elevation: 215 to 230 feet MSL

Location: The site is 1.6 kilometers (1 mile) southwest of the point where FM 3090 crosses Rocky Creek and 2.2 kilometers (1.4 miles) east-northeast of the confluence of Rocky Creek and the Navasota River.

Description: Prehistoric site 41GM88 is a thin scatter of lithic debitage and tools. Materials are contained within all or part of at least 20 centimeters of tan sandy loam and loose sand which overlies sandstone bedrock. The site is exposed in rodent spoil piles over an area 100x25 meters in size and is apparently intact except for bioturbation. The area has apparently not been previously cleared of woodland vegetation.

Materials: Chert and quartzite debitage flakes, two thick bifaces of petrified wood, and one white stoneware sherd were noted.

Environmental Setting: The site is situated on an isolated bedrock knoll within the valley floor of Rocky Creek. Vegetation consists of a woodland with a dense understory interspersed with open grassy areas.

Archeological Summary: Site 41GM88 appears to represent a limited activity area associated with Rocky Creek. Both riverine and valley wall resource orientations are suggested.

Assessment: The site appears to be relatively intact and to contain culturally diagnostic but thinly distributed cultural materials.

Recommendations: Testing to determine the nature and context of buried materials may be warranted.

41GM89

Map Reference: USGS Carlos 7.5' sheet, 1960

Elevation: 210 feet MSL

Location: The site is 1.7 kilometers (1.1 miles) southwest of the point where FM 3090 crosses Rocky Creek and 2 kilometers (1.2 miles) north-northeast of the confluence of Rocky Creek and the Navasota River.

Description: Prehistoric site 41GM89 is an isolated chert flake noted on a rodent spoil pile. If other materials are present, they are buried within an unknown depth of tan sand. The site has not been previously cleared and is apparently intact except for bioturbation.

Materials: A tan interior chert flake was noted.

Environmental Setting: The site is situated on an isolated bedrock knoll within the valley floor of Rocky Creek. Vegetation consists of woodland tree species and numerous native grapevines.

Archeological Summary: This isolated find appears to represent a site rather than a truly isolated loss. The nature of the site, however, cannot be assessed on the available data.

Assessment: This isolated find appears to represent a site rather than a truly isolated loss. The nature of the site, however, cannot be assessed on the available data.

Recommendations: Limited testing to determine the nature and context of buried cultural materials is warranted.

41GM90

Map Reference: USGS Navasota 7.5' sheet, 1958

Elevation: 235 feet MSL

Location: The site is located 0.6 kilometer (0.4 mile) southeast of the confluence of Rocky Creek and the Navasota River and 4.9 kilometers (3 miles) southwest of the "T" intersection in Piedmont, Texas.

Description: Site 41GM90 is a scatter of historic structural rubble and associated artifacts 10x10 meters in size. The site is apparently surficial on tan sandy loam; however, a possibility of buried materials exists. The site has been severely disturbed by bulldozing to clear vegetation and structural remains.

Materials: Brown and green bottle glass, a milkglass button, an iron kettle fragment, a rim-fired cartridge shell, and white porcelain-like ceramics were noted. The unshaped sandstone rubble may represent a chimney (Moody Allen, personal communication, 1981).

Environmental Setting: The site is situated within a portion of the upper valley wall which is equidistant from both Rocky Creek and the Navasota River. The site occurs on the crest of a ridge which is composed of Quaternary fluviatile terrace deposits. Vegetation consists of a moderately dense ground cover of grasses and scattered trees; surrounding areas support dense brush.

Archeological Summary: Site 41GM90 appears to represent an historic housesite occupied during the early twentieth century. A valley wall resource orientation is suggested.

Assessment: The site appears to be severely disturbed but contains a relatively great variety of cultural materials.

Recommendations: Testing to determine the presence of buried cultural materials and/or surface artifact collection may be warranted.

41GM91

Map Reference: USGS Millican 7.5' sheet, 1959

Elevation: 210 to 215 feet MSL

Location: The site is 0.65 kilometer (0.4 mile) east-southeast of the confluence of Rocky Creek and the Navasota River and 4.6 kilometers (2.9 miles) southwest of the "T" intersection in Piedmont, Texas.

Description: Prehistoric site 41GM91 is a thin scatter of debitage flakes. Materials are contained within an unknown depth of tan sand which overlies culturally sterile sandy clay. The site is exposed in a bulldozer cut which has severely disturbed a portion of the site. Areas to either side may contain buried and relatively intact cultural materials.

Materials: Cortex and interior chert flakes and a broken quartzite gravel were noted.

Environmental Setting: The site is situated above a small slope drainage within the lower portion of the left valley wall of the Navasota River which is dominated by exposures of Quaternary fluviatile terrace deposits. Area vegetation consists of open areas with moderately dense grasses and forbs and small wooded areas composed of oak trees and dense brush.

Archeological Summary: Site 41GM91 appears to represent a limited activity area associated with a small slope drainage of the Navasota River. A valley wall resource orientation is suggested.

Assessment: Portions of the site appear to be relatively intact. The cultural materials present are thinly distributed and generally undiagnostic.

Recommendations: Testing to determine the nature and context of buried cultural materials is warranted.

41GM92

Map Reference: USGS Millican 7.5' sheet, 1959

Elevation: 230 to 242 feet MSL

Location: The site is 0.8 kilometer (0.5 mile) southeast of the confluence of Rocky Creek and the Navasota River and 5.3 kilometers (3.3 miles) north of the intersection of State Highway 6 and FM 2154.

Description: Site 41GM92 consists of both prehistoric and historic components. The historic component is a scatter of structural rubble and associated artifacts; the prehistoric component consists of two lithic flakes. Materials are contained within an unknown depth of tan sand which overlies culturally sterile sandy clay. The site is exposed in rodent spoil piles and includes an area 50x50 meters in size. The site area has been disturbed by bulldozing, livestock movement and bioturbation, but may contain areas of relatively intact cultural materials.

Materials: Historic artifacts noted include brown bottle glass, white glazed earthenware and a small piece of slate; several large sandstone boulders and two distinct clusters of smaller sandstone rocks were also noted. Prehistoric materials noted are two interior chert flakes.

Environmental Setting: The site is situated on a low rise composed of Quaternary fluviatile terrace deposits within the lower portion of the left valley wall of the Navasota River. Vegetation consists of dense grasses; nearby uncleared areas support woodland tree species and dense brush.

Archeological Summary: The historic component of site 41GM92 appears to represent a housesite; the prehistoric component appears to represent a limited activity area. Both components are associated with the Navasota River and both valley wall and riverine resource orientations are suggested.

Assessment: The historic component appears to be entirely surficial and severely disturbed. Buried prehistoric cultural materials, however, may be relatively intact. The cultural materials present are thinly distributed and generally undiagnostic.

Recommendations: Further work on the historic component does not appear to be scientifically productive at this time. Testing to determine the nature and context of buried cultural materials is warranted for the prehistoric component.

41GM93

Map Reference: USGS Millican 7.5' sheet, 1959

Elevation: 200 to 205 feet MSL

Location: The site is 0.9 kilometer (0.6 mile) south-southwest of the confluence of Rocky Creek and the Navasota River and 5 kilometers (3.1 miles) north of the intersection of State Highway 6 and FM 2154.

Description: Prehistoric site 41GM93 is a relatively dense scatter of lithic debitage. Materials are exposed on sandstone bedrock over an area 20x10 meters in size. The site is apparently entirely surficial but relatively intact.

Materials: Cortex and primarily interior debitage flakes of tan and reddish chert and a single-facet chert core were noted.

Environmental Setting: The site is situated within the lower portion of the left valley wall of the Navasota River. The site occurs on exposed sandstone and is immediately above the river valley floor. Vegetation consists of scattered woodland tree species and short grass.

Archeological Summary: Site 41GM93 appears to represent a lithic processing area associated with the Navasota River. Both valley wall and riverine resource orientations are suggested.

Assessment: The site is apparently entirely surficial but relatively intact. The cultural material present, although relatively densely distributed, is generally undiagnostic and can be characterized by a surface examination.

Recommendations: Further work does not appear to be scientifically productive at this time.

41GM94

Map Reference: USGS Millican 7.5' sheet, 1959

Elevation: 200 to 210 feet MSL

Location: The site is 0.6 kilometer (0.4 mile) southeast of the confluence of Rocky Creek and the Navasota River and 5.3 kilometers (3.3 miles) north of the intersection of State Highway 6 and FM 2154.

Description: Prehistoric site 41GM94 is a thin scatter of lithic debitage. The site, which includes an area 10x10 meters in size, is exposed on sandstone bedrock and in eroded areas of sandy soil which is up to 10 centimeters in depth. Erosion has disturbed portions of the site, but other areas may contain relatively intact buried materials.

Materials: Chert flakes, a chert biface edge flake and an opalized wood core were noted.

Environmental Setting: The site is situated within the lower portion of the left valley wall of the Navasota River. The site occurs on exposed sandstone and is immediately above the river valley floor. The area has been cleared and supports a dense ground cover of grasses and scattered oak trees.

Archeological Summary: Site 41GM94 appears to represent a lithic processing area associated with the Navasota River. Both valley wall and riverine resource orientations are suggested.

Assessment: The site is apparently surficial but relatively intact. The cultural materials are thinly distributed and generally undiagnostic, and can be characterized by a surface examination.

Recommendations: Further work does not appear to be scientifically productive at this time.

41GM95

Map Reference: USGS Millican 7.5' sheet, 1959

Elevation: 210 to 215 feet MSL

Location: The site is 0.6 kilometer (0.4 mile) east-southeast of the confluence of Rocky Creek and the Navasota River and 5.6 kilometers (3.5 miles) north of the intersection of State Highway 6 and FM 2154.

Description: Prehistoric site 41GM95 is a thin scatter of lithic flakes. Materials are contained within an unknown depth of tan sand which overlies culturally sterile sandy clay. The site is exposed in rodent spoil piles and covers an area 20x30 meters in size. The site appears to be intact except for bioturbation. The area has been cleared.

Materials: Interior chert flakes were noted.

Environmental Setting: The site is situated above a small slope drainage within the lower portion of the left valley wall of the Navasota River which is dominated by exposures of Quaternary fluviatile terrace deposits. Vegetation consists of a dense ground cover of grasses and forbs.

Archeological Summary: Site 41GM95 appears to represent a limited activity area associated with a small slope drainage of the Navasota River. A valley wall resource orientation is suggested.

Assessment: The site appears to be relatively intact except for rodent bioturbation. The cultural materials present are thinly distributed and generally undiagnostic.

Recommendations: Testing to determine the nature and context of buried cultural materials may be warranted.

41GM96

Map Reference: USGS Navasota 7.5' sheet, 1958

Elevation: 255 feet MSL

Location: The site is 1.4 kilometers (0.9 mile) southeast of the point where FM 3090 crosses Rocky Creek and 3 kilometers (1.9 miles) northwest of the intersection of FM 3090 and FM 149.

Description: Prehistoric site 41GM96 is an isolated tool noted in a cleared and plowed field. The artifact was associated with a patch of sandy soil in an area dominated by a dark brown clayey loam. The context of any additional cultural materials is doubtful, and the site is probably destroyed.

Materials: A piece of petrified wood which has been bifacially worked along one edge was noted.

Environmental Setting: The site is situated within the upper portion of the left valley wall of Rocky Creek. The site occurs on a low sandy rise within exposures of clayey bedrock. The area has been recently plowed and has no ground cover; a dense mesquite grassland covers an area east of the site.

Archeological Summary: Site 41GM96 cannot be characterized on the available data; however, a valley wall resource orientation is suggested.

Assessment: The site appears to be destroyed.

Recommendations: Further work does not appear to be scientifically productive at this time.

41GM97

Map Reference: USGS Navasota 7.5' sheet, 1958

Elevation: 255 feet MSL

Location: The site is 1.7 kilometers (1 mile) southeast of the point where FM 3090 crosses Rocky Creek and 3.1 kilometers (1.9 miles) northwest of the intersection of FM 3090 and FM 149.

Description: Prehistoric site 41GM97 is an isolated lithic flake noted in the same cleared field as site 41GM96. The site is across an intermittent drainage on a similar sandy area.

Materials: A secondary flake of opalized wood was noted.

Environmental Setting: The site is situated within the upper portion of the left valley wall of Rocky Creek. The site occurs on a low sandy rise within exposures of clayey bedrock. Vegetation is absent from the site due to recent land clearing. A mesquite grassland occurs east of the site area.

Archeological Summary: Site 41GM97 cannot be characterized on the available data; however, a valley wall resource orientation is suggested.

Assessment: The site appears to be destroyed.

Recommendations: Further work does not appear to be scientifically productive at this time.

41GM98

Map Reference: USGS Carlos 7.5' sheet, 1960

Elevation: 230 to 235 feet MSL

Location: The site is 1 kilometer (0.6 mile) southeast of the point where FM 3090 crosses Rocky Creek and 2.2 kilometers (1.4 miles) south of the "T" intersection in Piedmont, Texas.

Description: Site 41GM98 consists of both prehistoric and historic components. The prehistoric component is a thin scatter of lithic flakes and an arrow point fragment. The historic component consists of structural rubble and associated artifacts. Materials are contained within an unknown depth of greyish sandy soil. The site, which covers an area 50x30 meters in size, is exposed in rodent spoil piles and has been adversely affected by clearing and bioturbation.

Materials: Historic materials noted include cut nails, stoneware, manganese-bleached bottle glass, sheet metal and sandstone rubble. Interior chert flakes and an untyped arrow point midsection fragment comprise the prehistoric component.

Environmental Setting: The site is situated within the upper portion of the left valley wall of Rocky Creek. The site occurs on a low sandy rise within exposures of clayey bedrock. Vegetation consists of a dense ground cover of grasses.

Archeological Summary: The historic component of site 41GM98 appears to represent a housesite occupied during the later portion of the nineteenth century. The prehistoric component appears to represent a limited activity area occupied during the Neoarchaic period. A valley wall resource orientation is suggested for both components.

Assessment: The historic component, although apparently disturbed, represents the earliest historic occupation identified during the present survey. The prehistoric cultural materials, although thinly distributed, include temporally diagnostic artifacts.

Recommendations: Testing to determine the nature and context of buried cultural materials appears to be warranted for the historic and prehistoric components. Testing should be of sufficient extent to provide information necessary for a determination of eligibility for nomination to the National Register of Historic Places.

41GM99

Map Reference: USGS Navasota 7.5' sheet, 1958

Elevation: 235 feet MSL

Location: The site is 2.5 kilometers (1.6 miles) east-northeast of the confluence of Rocky Creek and the Navasota River and 1.5 kilometers (0.9 mile) southwest of the point where FM 3090 crosses Rocky Creek.

Description: Site 41GM99 is an historic housesite. Materials are apparently surficial on tan sand which overlies bedrock. Although partially destroyed by land clearing, portions of a foundation are intact.

Materials: An unshaped sandstone foundation, wire nails and sheet metal were noted. The foundation consists of three cornerstones and one wall line which are intact and scattered sandstone rubble.

Environmental Setting: The site is situated within the left valley wall of Rocky Creek, a major left bank tributary of the Navasota River. The site occurs on a broad bedrock ridgecrest. Vegetation consists of sparse grasses and forbs; a dense woodland is located immediately north of the site.

Archeological Summary: Site 41GM99 appears to represent a housesite occupied during the twentieth century. A valley wall resource orientation is suggested.

Assessment: Surface features noted at the site appear to be relatively intact. These features and the associated artifact scatter, however, appear to be fairly recent and of little historic significance.

Recommendations: Testing to determine the presence of buried cultural materials, mapping and controlled surface artifact collection may be warranted.

41GM100

Map Reference: USGS Navasota 7.5' sheet, 1958

Elevation: 200 to 210 feet MSL

Location: The site is 2.2 kilometers (1.4 miles) southwest of the point where FM 3090 crosses Rocky Creek and 5.4 kilometers (3.3 miles) west of the intersection of FM 3090 and FM 149.

Description: Prehistoric site 41GM100 is a relatively dense scatter of lithic debitage and tools. Materials are contained within all or part of at least 20 centimeters of tan sand which overlies a gravelly subsoil. The site covers an area of 40x50 meters; it is exposed in rodent spoil piles and by erosion along the bank of a pond. Although partially disturbed, the site probably contains areas of buried and relatively intact cultural materials.

Materials: Cortex and interior flakes of chert, petrified wood and palmwood; cores and three unifacial tools were noted. A tan chert Wells dart point was collected (see Appendix II, Fig. 21f).

Environmental Setting: The site is situated within the lower portion of the left valley wall of Rocky Creek and on a bedrock ridgecrest. The site area is a small grass-covered clearing surrounded by a dense woodland.

Archeological Summary: Site 41GM100 appears to represent a multiple activity site associated with Rocky Creek. Both valley wall and riverine resource orientations and at least an early Archaic occupation are suggested.

Assessment: The site appears to be at least partially intact and buried. The relatively densely distributed cultural materials include temporally and culturally diagnostic artifacts.

Recommendations: Testing to determine the nature and context of buried cultural materials is warranted. Testing should be of sufficient extent to provide information necessary for a determination of eligibility for nomination to the National Register of Historic Places.

41GM101

Map Reference: USGS Navasota 7.5' sheet, 1958

Elevation: 200 to 205 feet MSL

Location: The site is 1.8 kilometers (1.1 miles) east-northeast of the confluence of Rocky Creek and the Navasota River and 2 kilometers (1.2 miles) southwest of the point where FM 3090 crosses Rocky Creek.

Description: Prehistoric site 41GM101 is a relatively dense scatter of lithic flakes and tools. Materials are contained within a shallow depth of tan sand which overlies sandstone bedrock. This site, which includes an area of 40x30 meters, is exposed by rodent burrowing and livestock movement. The materials are apparently intact except for bioturbation.

Materials: Chert and petrified wood debitage flakes, a possible petrified wood core, a polished chert pebble, a chert uniface and a petrified wood uniface were noted.

Environmental Setting: The site is situated within the lower portion of the left valley wall of Rocky Creek and on a bedrock ridgecrest. Vegetation consists of a dense ground cover of grasses and scattered trees and brush.

Archeological Summary: Site 41GM101 appears to represent a multiple activity site associated with Rocky Creek. Both valley wall and riverine resource orientations are suggested.

Assessment: The site appears to be at least partially intact and buried. The relatively densely distributed cultural materials include culturally diagnostic artifacts.

Recommendations: Testing to determine the nature and context of buried cultural materials appears to be warranted. Testing should be of sufficient extent to provide information necessary for a determination of eligibility for nomination to the National Register of Historic Places.

41GM102

Map Reference: USGS Navasota 7.5' sheet, 1958

Elevation: 200 to 254 feet MSL

Location: The site is 1.8 kilometers (1.1 miles) south-southwest of the point where FM 3090 crosses Rocky Creek and 2.3 kilometers (1.4 miles) east-southeast of the confluence of Rocky Creek and the Navasota River.

Description: Site 41GM102 includes a number of possible house-sites, other structural remains, at least one grave and a thin scatter of historic artifacts. The cultural materials are apparently surficial on clayey soil and are included in an area 500x500 meters in size. The site area has been cleared and plowed, and the major portion of the site is severely disturbed.

Materials: Clusters of sandstone rubble and brick fragments which appear to represent house or other structures, an historic grave which marks the burial of a previous landowner, a standing structure which may be associated with an abandoned railroad grade, and a stoneware sherd were noted.

Environmental Setting: The site is situated within the valley wall of Rocky Creek on a broad ridgecrest of mixed origin. Vegetation consists of a dense ground cover of grasses and isolated oak trees.

Archeological Summary: Site 41GM102 appears to represent an historic community which is associated with Rocky Creek and probably with an abandoned railroad grade. The exact relationship with the railroad was not determined. The site appears to date from the early portion of the twentieth century.

Assessment: Although severely disturbed, the site appears to represent an historic community which is felt to be highly significant. The historic grave appears to be intact.

Recommendations: The existing grave should be preserved or moved intact to an historic cemetery. Research into the background of the site and the abandoned railroad, as well as detailed mapping, is warranted. Testing to determine the presence of buried cultural materials may be warranted. Testing should be of sufficient extent to provide

information necessary for a determination of eligibility for nomination to the National Register of Historic Places.

41GM103

Map Reference: USGS Carlos 7.5' sheet, 1960

Elevation: 206 feet MSL

Location: The site is 0.9 kilometer (0.6 mile) south-southeast of the point where FM 3090 crosses Rocky Creek and 2.2 kilometers (1.4 miles) south of the "T" intersection in Piedmont, Texas.

Description: Site 41GM103 is an historic well excavated into clayey soil. No other features or any associated artifacts were noted. The well perimeter is being distorted by the growth of a cluster of trees which surrounds it and the interior has been filled with trash to within 1.5 meters of the surface.

Materials: A well which has been lined with unshaped sandstone blocks was noted. The rock perimeter extends 13 centimeters above the ground surface and an unknown depth below the ground surface. The diameter of the well opening is approximately 80 centimeters.

Environmental Setting: The site is situated within a portion of the valley wall of Rocky Creek which is composed of bedrock. Area vegetation consists of a dense ground cover of grasses and forbs.

Archeological Summary: Site 41GM103 represents the remains of an historic well of unknown age. A valley wall resource orientation is suggested.

Assessment: Although the well is intact, other remains, if once present, appear to be totally destroyed.

Recommendations: Further work does not appear to be scientifically productive at this time.

41GM104

Map Reference: USGS Navasota 7.5' sheet, 1958

Elevation: 215 to 220 feet MSL

Location: The site is 1.8 kilometers (1.1 miles) east of the confluence of Rocky Creek and the Navasota River and 2.2 kilometers (1.4 miles) southwest of the point where FM 3090 crosses Rocky Creek.

Description: Prehistoric site 41GM104 is a thin scatter of lithic flakes and tools which includes an area 25x25 meters in size. Materials are contained within an unknown depth of light brown sandy soil. The site is exposed in an unimproved roadbed and rodent spoil piles, and appears to be intact except for these disturbances.

Materials: Chert, opalized and petrified wood flakes, a petrified wood uniface, an end scraper and numerous, possibly worked, chert and petrified wood gravels were noted. Possible naturally occurring gravels may be mixed with materials introduced during construction of a nearby railroad grade.

Environmental Setting: The site is situated within the left valley wall of Rocky Creek. The site occurs on the first bedrock ridgecrest above the creek's valley floor. Vegetation consists of a dense ground cover of grasses and forbs and scattered oak trees.

Archeological Summary: Site 41GM104 appears to represent a multiple activity area which includes lithic resource procurement and processing. Valley wall and possibly riverine resource orientations are suggested.

Assessment: The site appears to be relatively intact except for rodent activity, minor erosion and activities associated with railroad construction. The cultural materials present, although thinly distributed, include culturally diagnostic artifacts.

Recommendations: Testing to determine the nature and context of buried cultural materials is warranted.

41GM105

Map Reference: USGS Navasota 7.5' sheet, 1960

Elevation: 215 feet MSL

Location: The site is located 1.8 kilometers (1.1 miles) east of the confluence of Rocky Creek and the Navasota River and 2.4 kilometers (1.5 miles) southwest of the point where FM 3090 crosses Rocky Creek.

Description: Prehistoric site 41GM105 is an isolated projectile point noted in an erosional gully. The artifact may have washed downslope from the ridgecrest above and may represent a site which is relatively intact.

Materials: A Gary dart point was collected (see Appendix II, Fig. 21d).

Environmental Setting: The site is situated within the left valley wall of Rocky Creek, a major left bank tributary of the Navasota River. Vegetation consists of a sparse ground cover of grasses and scattered oak trees.

Archeological Summary: Although the nature of site 41GM105 represented by this find cannot be determined on the available data, at least a valley wall resource orientation and a late Archaic occupation are suggested.

Assessment: The find was noted in a disturbed context and is without apparent associated cultural materials.

Recommendations: Testing to determine the presence of buried cultural materials on the ridgecrest above the location of the find may be warranted.

41GM106

Map Reference: USGS Navasota 7.5' sheet, 1960

Elevation: 215 to 220 feet MSL

Location: The site is located 1.6 kilometers (1 mile) east of the confluence of Rocky Creek and the Navasota River and 2.5 kilometers (1.6 miles) southwest of the point where FM 3090 crosses Rocky Creek.

Description: Prehistoric site 41GM106 is a thin scatter of lithic debitage and tools which includes an area 35x15 meters in size. Materials are contained within an unknown depth of light brown sandy soil. The site is exposed in an unimproved roadbed and by activities associated with railroad construction, and appears to be intact except for these effects.

Materials: Opalized and petrified wood cores, chert flakes and a thick chert biface were noted. Naturally occurring gravels may be mixed with materials used for construction of the nearby railroad grade.

Environmental Setting: The site is situated within the left valley wall of Rocky Creek which is composed of bedrock. The site occurs on the first ridgecrest above the creek's valley floor. Vegetation consists of a ground cover of grasses and forbs; nearby areas are wooded.

Archeological Summary: Site 41GM106 appears to represent a multiple activity area which includes lithic resource procurement and processing. Valley wall and possibly riverine resource orientations are suggested.

Assessment: The site appears to be relatively intact except for activities associated with railroad construction and modern land use, both of which are minor. The cultural materials, although thinly distributed, include culturally diagnostic artifacts.

Recommendations: Testing to determine the nature and context of buried cultural materials is warranted.

41GM107

Map Reference: USGS Carlos 7.5' sheet, 1960

Elevation: 243-248 feet MSL

Location: The site is located 3.9 kilometers (2.4 miles) east-northeast of the point where FM 3090 crosses Rocky Creek and 3.4 kilometers (2.1 miles) north of the intersection of FM 3090 and FM 141 at Erwin, Texas.

Description: Site 41GM107 consists of an historic housesite and an associated artifact scatter which is 60x60 meters in size. Although primarily surficial in nature, cultural materials may be shallowly buried within sandy soil. The site has been severely disturbed by erosion as well as landclearing and other activities associated with modern land use.

Materials: Construction rubble, which includes several large sandstone blocks that may be in situ, manganese-bleached and brown bottle glass, earthenware ceramics and iron farm equipment were noted.

Environmental Setting: The site is situated within the left valley wall of Rocky Creek on a low bedrock ridgecrest immediately above the creek's valley floor. Vegetation consists of a sparse ground cover of grasses and an open oak woodland.

Archeological Summary: Site 41GM107 appears to represent an historic housesite which was occupied during the early and/or middle portion of the twentieth century. Both valley wall and riverine resource orientations are suggested.

Assessment: The site appears to be severely disturbed. The cultural materials present include temporally and culturally diagnostic artifacts.

Recommendations: Further work does not appear to be scientifically productive at this time.

41GM108

Map Reference: USGS Carlos 7.5' sheet, 1960

Elevation: 250 feet MSL

Location: The site is located 3.9 kilometers (2.4 miles) east-northeast of the point where FM 3090 crosses Rocky Creek and 3.4 kilometers (2.1 miles) north of the intersection of FM 3090 and FM 141 at Erwin, Texas.

Description: Site 41GM108 consists of an historic housesite and an associated artifact scatter which is 2x2 meters in size. Although primarily surficial in nature, cultural materials may be shallowly buried within sandy soil. The site has been partially disturbed by erosion, land-clearing and other activities associated with modern land use.

Materials: Several large sandstone blocks which represent a house foundation, manganese-bleached and brown bottle glass, and earthenware ceramics were noted.

Environmental Setting: The site is situated within the left valley wall of Rocky Creek on a low bedrock ridgecrest immediately above the creeks valley floor. Vegetation consists of a ground cover of grasses; surrounding areas are wooded.

Archeological Summary: Site 41GM108 appears to represent an historic housesite which was occupied during the early and/or middle portion of the twentieth century. Both valley wall and riverine resource orientations are suggested.

Assessment: The site appears to be relatively intact. The cultural materials, although thinly distributed, include temporally diagnostic artifacts. The research potential of the site, however, appears to be limited.

Recommendations: Further work does not appear to be scientifically productive at this time.

41GM109

Map Reference: USGS Carlos 7.5' sheet, 1960

Elevation: 260 feet MSL

Location: The site is located 4.3 kilometers (2.7 miles) east-northeast of the point where *FM 3090 crosses Rocky Creek and* 3.3 kilometers (2 miles) north of the intersection of FM 3090 and FM 141 at Erwin, Texas.

Description: Site 41GM109 consists of an historic housesite and an associated artifact scatter which is 40x30 meters in size. The cultural materials are exposed on clayey soil and are apparently entirely surficial. The feature and artifacts appear to be intact; however, the surrounding area has been disturbed by land clearing. The site is shown on the 1960 Carlos USGS 7.5' topographic sheet as an abandoned structure.

Materials: Vertical wooden posts, wooden foundation piers, a well, chimney rubble and flowerbeds were noted in addition to bottle glass, manganese-bleached pressed glass, a stoneware crock, a Mexia brick, sheet metal, a metal clothes iron (sad iron) and an enameled tin pot.

Environmental Setting: The site is situated *on* a bedrock ridgecrest within the left valley of Rocky Creek. Vegetation consists of grasses and scattered oak trees; introduced shrubs and flowers were also noted.

Archeological Summary: Site 41GM109 appears to represent an historic housesite which was occupied well into the middle portion of the twentieth century. A valley wall resource orientation is suggested.

Assessment: The site appears to be intact but may represent a relatively late occupation. Construction and plan details for the immediate site area can potentially be reconstructed which is unusual

for the historic housesites identified during the survey. The cultural materials present include temporally and culturally diagnostic artifacts.

Recommendations: Research concerning the age and possible inhabitants of the site and a detailed map of the surface features as well as limited testing may be warranted.

41GM110

Map Reference: USGS Carlos 7.5' sheet, 1960

Elevation: 250 feet MSL

Location: The site is located 3.1 kilometers (1.9 miles) east-southeast of the point where FM 3090 crosses Rocky Creek and 2.3 kilometers (1.4 miles) north-northwest of the intersection of FM 3090 and FM 141 at Erwin, Texas.

Description: Site 41GM110 is a retouched lithic flake exposed on an erosional surface and apparently lacks context.

Materials: A large crudely retouched interior flake was noted.

Environmental Setting: The find is situated at the margin of a ridgecrest within the bedrock valley wall of Rocky Creek. Vegetation consists of scattered forbs.

Archeological Summary: The available data is not sufficient to characterize the find as a site.

Assessment: Any site area, if present, is effectively destroyed.

Recommendations: No further work is recommended.

41GM111

Map Reference: USGS Carlos 7.5' sheet, 1960

Elevation: 250 feet MSL

Location: The site is located 3.2 kilometers (2.1 miles) east of the point where FM 3090 crosses Rocky Creek and 2.6 kilometers (1.6 miles) north-northwest of the intersection of FM 3090 and FM 141 in Erwin, Texas.

Description: Prehistoric site 41GM111 is a thin scatter of lithic debitage, a tool and burned rocks 20x15 meters in size. Materials are contained within an unknown depth of sandy soil and exposed by minor erosion, cattle movement and fence construction. The site is apparently intact except for these disturbances.

Materials: Chert and palmwood flakes, chert, palmwood and petrified wood cores and burned rocks were noted.

Environmental Setting: The site is situated within the left valley wall of Rocky Creek on a bedrock ridgecrest immediately above the creek's valley floor. Vegetation consists of a ground cover of grasses and forbs.

Archeological Summary: Site 41GM111 appears to represent a campsite which includes lithic resource processing associated with Rocky Creek. Both valley wall and riverine resource orientations are suggested.

Assessment: The site appears to be relatively intact. The cultural materials include culturally diagnostic artifacts and other materials.

Recommendations: Testing to determine the nature and context of buried cultural materials is warranted.

41GM112

Map Reference: USGS Carlos 7.5' sheet, 1960

Elevation: 220 feet MSL

Location: The site is located 3.1 kilometers (1.9 miles) east of the point where FM 3090 crosses Rocky Creek and 2.8 kilometers (1.7 miles) north-northwest of the intersection of FM 3090 and FM 141 in Erwin, Texas.

Description: Prehistoric site 41GM112 is a very thin scatter of lithic flakes. Materials, contained with an unknown depth of sandy soil, are exposed in rodent spoil piles. The site area has also been adversely affected by land clearing.

Materials: Interior chert flakes were noted.

Environmental Setting: The site is situated within the valley wall of Rocky Creek, a major left bank tributary of the Navasota River, on a low bedrock ridgecrest immediately above the creek's valley floor. Vegetation consists of a dense ground cover of grasses and forbs, and scattered clumps of woodland trees and shrubs.

Archeological Summary: Site 41GM112 appears to represent a limited activity area associated with Rocky Creek. Both valley wall and riverine resource orientations are suggested.

Assessment: The site appears to be relatively intact except for land-clearing and rodent activity. The cultural materials are thinly distributed and generally undiagnostic.

Recommendations: Testing to determine the nature and context of buried cultural materials may be warranted.

41GM113

Map Reference: USGS Carlos 7.5' sheet, 1960

Elevation: 230 to 235 feet MSL

Location: The site is located 2.2 kilometers (1.4 miles) east of the point where FM 3090 crosses Rocky Creek and 3 kilometers (1.9 miles) north-northwest of the intersection of FM 3090 and FM 141 at Erwin, Texas.

Description: Prehistoric site 41GM113 is a very thin scatter of lithic flakes of unknown size. Materials are surficial, rest on clayey subsoil, and are exposed by erosion. The site is severely disturbed.

Materials: Interior chert and petrified wood flakes were noted.

Environmental Setting: The site is situated within the valley wall of Rocky Creek, a major left bank tributary of the Navasota River, on a low bedrock ridgecrest immediately above the creek's valley floor. Vegetation consists of woodland trees and shrubs, and forbs.

Archeological Summary: Site 41GM113 appears to represent a limited activity area associated with Rocky Creek. Both valley wall and riverine resource orientations are suggested.

Assessment: The site is severely disturbed. The cultural materials are thinly distributed and generally undiagnostic.

Recommendations: Further work does not appear to be scientifically productive at this time.

41GM114

Map Reference: USGS Carlos 7.5' sheet, 1960

Elevation: 240 feet MSL

Location: The site is located 2.6 kilometers (1.6 miles) east of the point where FM 3090 crosses Rocky Creek and 3 kilometers (1.9 miles) north-northwest of the intersection of FM 3090 and FM 141 in Erwin, Texas.

Description: Prehistoric site 41GM114 is a very thin scatter of lithic flakes. Materials, contained within an unknown depth of sandy soil, are exposed in rodent spoil piles. The site area has also been adversely affected by land clearing.

Materials: Interior chert flakes were noted.

Environmental Setting: The site is situated within the valley wall of Rocky Creek, a major left bank tributary of the Navasota River, on a low bedrock ridgecrest immediately above the creek's valley floor.

Vegetation consists of a dense ground cover of grasses and forbs, and scattered oak trees.

Archeological Summary: Site 41GM114 appears to represent a limited activity area associated with Rocky Creek. Both valley wall and riverine resource orientations are suggested.

Assessment: The site appears to be relatively intact except for land-clearing and rodent activity. The cultural materials are thinly distributed and generally undiagnostic.

Recommendations: Testing to determine the nature and context of buried cultural materials may be warranted.

41GM115

Map Reference: USGS Carlos 7.5' sheet, 1960

Elevation: 250 feet MSL

Location: The site is located 2.6 kilometers (1.6 miles) east-southeast of the point where FM 3090 crosses Rocky Creek and 2.4 kilometers (1.5 miles) north-northwest of the intersection of FM 3090 and FM 141 in Erwin, Texas.

Description: Prehistoric site 41GM115 is a thin scatter of lithic debitage, a tool and burned rocks. The site is included in an area of 10x10 meters. Materials are contained within all or part of 40 centimeters or more of sandy soil which overlies culturally sterile sandy clay. Cultural materials have been exposed by minor erosion. The site is apparently intact except for the effects of erosion and land clearing.

Materials: Chert and petrified wood flakes, a thin biface fragment and burned rocks were noted.

Environmental Setting: The site is situated on a bedrock ridgecrest within the left valley wall of Rocky Creek. Vegetation consists of a ground cover of grasses and forbs and scattered mesquite trees.

Archeological Summary: Site 41GM115 appears to represent a campsite associated with Rocky Creek. Both valley wall and riverine resource orientations are suggested.

Assessment: The site appears to be relatively intact. The materials present include culturally diagnostic artifacts.

Recommendations: Testing to determine the nature and context of buried cultural materials is warranted.

FERGUSON #3 TRANSECT AREA
BRAZOS COUNTY, TEXAS

41BZ58

Map Reference: USGS Reliance 7.5' sheet, 1980

Elevation: 230 feet MSL

Location: The site is located 2.5 kilometers (1.6 miles) southeast of the intersection of Elmo Weeden and Steep Hollow roads and 2.2 kilometers (1.4 miles) northwest of Stick Cemetery.

Description: Prehistoric site 41BZ58 is a thin scatter of lithic debitage and one ceramic sherd covering an area 35x30 meters in size. Materials are surficial and/or contained within an unknown depth of sandy loam. The site is exposed in minor disturbances and is apparently intact except for bioturbation.

Materials: Interior chert flakes and cobble fragments in addition to bone of recent origin were noted at the site. A decorated ceramic sherd was collected (see Appendix II, Fig. 23c).

Environmental Setting: The site is situated at the margins of the modern floodplain and right valley wall of Wickson Creek, a major right bank tributary of the Navasota River. The specific landform occupied is not certain but may be a low sandy terrace associated with the creek. Vegetation consists of oak and hickory trees and a dense understory of yaupon shrubs.

Archeological Summary: Site 41BZ58 appears to represent a campsite or limited activity area. At least a Neoarchaic occupation and both riverine and valley wall resource orientations are suggested.

Assessment: The site is apparently intact except for possibly severe bioturbation. The thinly distributed cultural materials include both temporally and culturally diagnostic artifacts and materials.

Recommendations: Testing to determine the nature and context of buried cultural materials is warranted.

41BZ59

Map Reference: USGS Reliance 7.5' sheet, 1980

Elevation: 220 feet MSL

Location: The site is located 2.7 kilometers (1.7 miles) east of the intersection of Steep Hollow and Elmo Weeden roads and 2.3 kilometers (1.4 miles) north of Stick Cemetery.

Description: Prehistoric site 41BZ59 is a thin scatter of lithic flakes and one flake tool. Materials are contained within an unknown depth of sandy loam. The site, which is at least 15 by 12 meters in size, is exposed by bulldozing. An unknown extent of the site is apparently relatively intact.

Materials: Interior chert flakes were noted. One flake tool (see Appendix II, Fig. 22d) was collected.

Environmental Setting: The site is situated within the modern floodplain of Wickson Creek, apparently on a depositional feature similar to those along the Navasota River which contain archeological sites (Bundic Crossing Transect Area and others). Vegetation consists of a dense ground cover of grasses; the nearby channel of Wickson Creek supports both tree and shrub species.

Archeological Summary: Site 41BZ59 appears to represent a campsite or limited activity area which, at the time of its occupation, was associated with the course of Wickson Creek, a major right bank tributary of the Navasota River. A riverine resource orientation is suggested.

Assessment: Although a portion of the site has been severely disturbed, the remainder of the site appears to be relatively intact. The cultural materials are thinly distributed and include culturally diagnostic artifacts.

Recommendations: Testing to determine the nature and context of buried cultural materials is warranted.

41BZ60

Map Reference: USGS Reliance 7.5' sheet, 1980

Elevation: 230 to 240 feet MSL

Location: The site is located 2.6 kilometers (1.6 miles) southeast of the intersection of Elmo Weeden and Steep Hollow roads and 2 kilometers (1.2 miles) north of Stick Cemetery.

Description: Prehistoric site 41BZ60 is a thin scatter of lithic debitage. Materials are contained within all or part of at least 50 centimeters of sandy soil which overlies culturally sterile sandy clay. The site, at least 25x25 meters in size, is exposed along the bank of a low terrace. The area may have been cleared, but the site appears to be relatively intact.

Materials: Interior chert flakes and cobble fragments were noted. One flake tool was collected (see Appendix II, Fig. 22c).

Environmental Setting: The site is situated on a low sandy terrace at the margin of the modern floodplain and right valley wall of Wickson Creek, a major right bank tributary of the Navasota River. Vegetation consists of a dense ground cover of grasses.

Archeological Summary: Site 41BZ60 appears to represent a campsite associated with a major tributary of the Navasota River. Both riverine and valley wall resource orientations are suggested.

Assessment: The site appears to be relatively intact except for minor erosion and possibly land clearing. The cultural materials are thinly distributed and generally undiagnostic.

Recommendations: Testing to determine the nature and context of buried materials may be warranted.

41BZ61

Map Reference: USGS Reliance 7.5' sheet, 1980

Elevation: 230 to 240 feet MSL

Location: The site is located 2.6 kilometers (1.6 miles) southeast of the intersection of Elmo Weeden and Steep Hollow roads and 1.9 kilometers (1.2 miles) north of Stick Cemetery.

Description: Prehistoric site 41BZ61 is a thin scatter of lithic debitage and a possibly utilized flake. Materials are contained within all or part of at least 50 centimeters of sandy loam which overlies culturally sterile sandy clay. The site is exposed along the bank of a low terrace for a distance of at least 15 meters. The site area may have been cleared but otherwise appears to be relatively intact.

Materials: Cortex and interior chert flakes, a possibly utilized flake, and chert and quartzite cobble fragments were noted.

Environmental Setting: The site is situated on a low sandy terrace at the margin of the modern floodplain and right valley wall of Wickson Creek, a major right bank tributary of the Navasota River. Vegetation consists of a dense ground cover of grasses.

Archeological Summary: Site 41BZ61 appears to represent a campsite associated with a major tributary of the Navasota River. Both riverine and valley wall resource orientations are suggested.

Assessment: The site appears to be relatively intact except for minor erosion and possibly land clearing. The cultural materials, although thinly distributed, include culturally diagnostic artifacts and materials.

Recommendations: Testing to determine the nature and context of buried materials is warranted.

41BZ62

Map Reference: USGS Reliance 7.5' sheet, 1980

Elevation: 230 to 240 feet MSL

Location: The site is located 3.1 kilometers (1.9 miles) southeast of the intersection of Elmo Weeden and Steep Hollow roads and 1.8 kilometers (1.1 miles) north of Stick Cemetery.

Description: Prehistoric site 41BZ62 is a thin scatter of lithic flakes and tools at least 30 by 20 meters in size. Materials are contained within an unknown depth of gravelly sand and exposed by erosion of the bank of a low terrace. The site appears to be relatively intact except along the eroded bank.

Materials: Interior chert flakes (including one utilized flake) and chert cobble fragments were noted. A petrified wood chopping tool was collected (see Appendix II, Fig. 22b).

Environmental Setting: The site is situated on a low sandy terrace at the margin of the modern floodplain and right valley wall of Wickson Creek, a major right bank tributary of the Navasota River. Vegetation consists of a dense ground cover of grasses.

Archeological Summary: Site 41BZ62 appears to represent a campsite associated with a major tributary of the Navasota River. Both riverine and valley wall resource orientations are suggested.

Assessment: The site appears to be relatively intact except for minor erosion and possibly land clearing. The cultural materials, although thinly distributed, include culturally diagnostic artifacts and materials.

Recommendations: Testing to determine the nature and context of buried materials is warranted. Testing should be of sufficient extent to provide information necessary for a determination of eligibility for nomination to the National Register of Historic Places.

41BZ63

Map Reference: USGS Reliance 7.5' sheet, 1980

Elevation: 250 to 260 feet MSL

Location: The site is located 3.6 kilometers (2.2 miles) southeast of the intersection of Elmo Weeden and Steep Hollow roads and 1 kilometer (0.6 mile) north of Stick Cemetery.

Description: Prehistoric site 41BZ63 is a thin scatter of lithic debitage exposed in bulldozer spoil banks. The site appears to be destroyed except for a small area at its southwestern edge.

Materials: Chert flakes, cobble fragments and a petrified wood flake were noted.

Environmental Setting: The site is situated within the lower portion of the right valley wall of Wickson Creek. Although the specific landform occupied is uncertain, the area is composed of either alluvium

or fluviatile terrace deposits of Wickson Creek. Vegetation consists of an open woodland composed of oak trees, yaupon shrubs and grasses.

Archeological Summary: Site 41BZ63 appears to represent a campsite or limited activity area associated with Wickson Creek, a major right bank tributary of the Navasota River. Both valley wall and probably riverine resource orientations are suggested.

Assessment: The site appears to be effectively destroyed.

Recommendations: No further work appears to be warranted.

41BZ64

Map Reference: USGS Reliance 7.5' sheet, 1980

Elevation: 240 feet MSL

Location: The site is located 3.9 kilometers (2.4 miles) southeast of the intersection of Elmo Weeden and Steep Hollow roads and 0.5 kilometer (0.3 mile) north of Stick Cemetery.

Description: Prehistoric site 41BZ64 is a thin scatter of lithic debitage which has been almost totally destroyed by the construction of an oil well pad. Materials are exposed in bulldozer spoil banks.

Materials: Chert interior flakes, a chert core, and cobble fragments were noted at the site.

Environmental Setting: The site is situated within the lower portion of the right valley wall of Wickson Creek. Although the specific landform occupied is uncertain, the area is composed of either alluvium or fluviatile terrace deposits of Wickson Creek. Vegetation consists of an open woodland composed of oak trees, yaupon shrubs and grasses.

Archeological Summary: Site 41BZ64 appears to represent a campsite or limited activity area associated with Wickson Creek, a major right bank tributary of the Navasota River. Both valley wall and probably riverine resource orientations are suggested.

Assessment: The site appears to be effectively destroyed.

Recommendations: No further work appears to be warranted.

41BZ65

Map Reference: USGS Reliance 7.5' sheet, 1980

Elevation: 230 to 240 feet MSL

Location: The site is located 1.8 kilometers (1.1 miles) east of the intersection of Elmo Weeden and Steep Hollow roads and 0.1 kilometer (0.06 mile) west of the point where the Elmo Weeden road crosses Wickson Creek.

Description: Prehistoric site 41BZ65 is a thin scatter of lithic flakes which is 20 by 10 meters in size. Materials, contained within an unknown depth of sandy loam, are exposed by bulldozing associated with recent fence and pipeline construction. An unknown extent of the site may be relatively intact.

Materials: Interior chert flakes were noted.

Environmental Setting: The site is situated within the modern floodplain of Wickson Creek, a major right bank tributary of the Navasota River. The site occurs on one of a number of low sandy rises formed by drainage development within an area dominated by creek alluvial or terrace deposits. Vegetation consists of a dense ground cover of grasses.

Archeological Summary: Site 41BZ65 appears to represent a limited activity area associated with Wickson Creek, a major tributary of the Navasota River. Both riverine and valley wall resource orientations are suggested.

Assessment: Although a portion of the site is severely disturbed, the remainder appears to be relatively intact. The cultural materials are thinly distributed and consist solely of interior flakes.

Recommendations: Testing to determine the nature and context of buried materials is warranted.

41BZ66

Map Reference: USGS Reliance 7.5' sheet, 1980

Elevation: 240 to 260 feet MSL

Location: The site is located 1.5 kilometers (0.9 mile) east of the intersection of Steep Hollow and Elmo Weeden roads and 3.6 kilometers (2.2 miles) northwest of Stick Cemetery.

Description: Site 41BZ66 contains both prehistoric and historic components. The prehistoric component consists of one tool and a single flake, although the landowner reports that artifacts have been previously collected from near the site area. The historic component is a thin scatter of construction rubble which may represent the remains of a chimney. All materials appear to be surficial or shallowly buried. The site area has been cleared and recently disturbed by pipeline and water well excavations.

Materials: Machinemade bricks and a chert flake were noted. A petrified wood tool was collected (see Appendix II).

Environmental Setting: The site is situated on a low extension of the valley wall into the modern floodplain of Wickson Creek, a major right bank tributary of the Navasota River. Vegetation consists of a dense ground cover of grasses and scattered oak trees.

Archeological Summary: The historic component of site 41BZ66 represents a possible housesite occupied during the early twentieth century. The data are not sufficient to characterize the prehistoric component.

Assessment: The site appears to be severely disturbed by construction, land clearing and artifact collecting.

Recommendations: Further work does not appear to be scientifically productive at this time.

41BZ67

Map Reference: USGS Reliance 7.5' sheet, 1980

Elevation: 220 to 240 feet MSL

Location: The site is located 2.3 kilometers (1.4 miles) east of Stick Cemetery and 0.6 kilometer (0.4 mile) southwest of the northernmost portion of Flat Pond.

Description: Prehistoric site 41BZ67 is a thin scatter of lithic flakes and tools in an area approximately 50 by 30 meters in size. Materials are contained within an unknown depth of sandy soil. The site is exposed along the bank of a low rise and appears to be relatively intact except for land clearing above the bank.

Materials: An interior chert flake and a unifacial petrified wood tool were noted.

Environmental Setting: The site is situated within the right valley wall of the Navasota River, which is composed of fluviatile terrace deposits, on a sandy ridgecrest immediately above the river's modern floodplain. Vegetation consists of a dense ground cover of grass; oak trees and yaupon shrubs occur along drainage margins.

Archeological Summary: Site 41BZ67 appears to represent a limited activity area associated with the Flat Pond-Big Slough relict channel. Both a riverine and a valley wall resource orientation are suggested.

Assessment: The site area appears to have been cleared but is otherwise relatively intact. The thinly distributed cultural materials include culturally diagnostic artifacts. The site is similar to sites 41BZ68 and 41BZ69.

Recommendations: Testing to determine the nature and context of buried cultural materials may be warranted.

41BZ68

Map Reference: USGS Reliance 7.5' sheet, 1980

Elevation: 220 to 230 feet MSL

Location: The site is located 1.8 kilometers (1.1 miles) southeast of Stick Cemetery and 1.3 kilometers (0.8 mile) south-southwest of the northernmost portion of Flat Pond.

Description: Prehistoric site 41BZ68 is 30 by 25 meters in size and includes a thin scatter of lithic flakes and tools, and burned rocks. Materials are contained within an unknown depth of sandy soil which overlies a culturally sterile gravelly subsoil. The site is exposed by minor erosion and appears to be relatively intact except for the effects of erosion and land clearing.

Materials: Chert and quartzite flakes, a chert unifacial flake tool and rocks that appear to be burned were noted.

Environmental Setting: The site is situated within the right valley wall of the Navasota River, composed of fluviatile terrace deposits, on a sandy ridgecrest immediately above the river's modern floodplain. Vegetation consists of a dense ground cover of grass; oak trees and yaupon shrubs occur along drainage margins.

Archeological Summary: Site 41BZ68 appears to represent a limited activity area associated with the Flat Pond-Big Slough relict channel. Both a riverine and a valley wall resource orientation are suggested.

Assessment: The site area appears to have been cleared but is otherwise relatively intact. Although thinly distributed, the cultural materials include culturally diagnostic artifacts and other materials. The site is similar to sites 41BZ67 and 41BZ69 but contains more densely distributed cultural remains.

Recommendations: Testing to determine the nature and context of buried cultural materials is warranted.

41BZ69

Map Reference: USGS Reliance 7.5' sheet, 1980

Elevation: 230 feet MSL

Location: The site is located 2 kilometers (1.2 miles) east-southeast of Stick Cemetery and 1.1 kilometers (0.7 mile) southwest of the northernmost portion of Flat Pond.

Description: Prehistoric site 41BZ69 is a thin scatter of lithic flakes and burned rocks. Materials are contained within an unknown depth of sandy soil. The site is exposed in the bed of an unimproved road for a distance of 20 meters. The site area has been cleared but otherwise appears to be relatively intact.

Materials: Chert flakes and burned rocks were noted.

Environmental Setting: The site is situated within the right valley wall of the Navasota River, composed of fluviatile terrace deposits,

on a sandy ridgecrest immediately above the river's modern floodplain. Vegetation consists of a dense ground cover of grass; oak trees and yaupon shrubs occur along drainage margins.

Archeological Summary: Site 41BZ69 appears to represent a campsite which may be associated with the Flat Pond-Big Slough relict channel. Both riverine and valley wall resource orientations are suggested.

Assessment: The site area appears to have been cleared but is otherwise relatively intact. The thinly distributed cultural materials include culturally diagnostic artifacts. The site is similar to sites 41BZ67 and 41BZ68 but is more thinly distributed.

Recommendations: Testing to determine the nature and context of buried cultural materials may be warranted.

41BZ70

Map Reference: USGS Reliance 7.5' sheet, 1980

Elevation: 290 to 300 feet MSL

Location: The site is located 2.3 kilometers (1.4 miles) northwest of the Stick Cemetery and 2 kilometers (1.2 miles) east-southeast of the intersection of Elmo Weeden and Steep Hollow roads.

Description: Prehistoric site 41BZ70 consists of a single biface fragment noted in bulldozer spoil resulting from recent gravel quarrying activities. The site has apparently been destroyed by these activities. Prehistoric burials were reported within a sandy surface layer which overlies the gravelly subsoil.

Materials: A distal tip fragment of a chert biface was collected (see Appendix II).

Environmental Setting: The site is situated on a ridgecrest within the upper portion of the right valley wall of Wickson Creek, a major right bank tributary of the Navasota River.

Archeological Summary: Site 41BZ70 is represented by an isolated find and cannot be characterized; however, the workmanship of the biface is far superior to other artifacts noted during the present survey. It is unknown if this indicates that the artifact is within the Paleoindian lithic tradition or is later and of above average workmanship.

Assessment: The site appears to be destroyed.

Recommendations: Further work does not appear to be scientifically productive at this time.

APPENDIX III: SITE DESCRIPTIONS

FERGUSON #3 LOCALITY DESCRIPTIONS
BRAZOS COUNTY, TEXAS

L41BZ1

Map Reference: USGS Reliance 7.5' sheet, 1980

Elevation: 210 feet MSL

Location: The locality is 1 kilometer (0.6 mile) east of Stick Cemetery and 1.8 kilometers (1.1 miles) west of the northeasternmost portion of Flat Pond.

Description: Locality L41BZ1 consists of skeletal remains from a single individual of Bos sp. which was initially identified from a single rear metapodial. Although subsequent investigations identified other, obviously recent, skeletal remains, the high degree of mineralization noted was felt to possibly indicate prehistoric origin.

Materials: The majority of the skeletal remains of a single individual of Bos sp.

Environmental Setting: The locality is situated within the modern floodplain of Wickson Creek, a major lateral tributary of the Navasota River.

Archeological Summary: Although the presence of a dead cow cannot be considered archeologically significant, the differential and apparently rapid mineralization of bone is of importance in the characterization of archeological faunal remains.

L41BZ2

Map Reference: USGS Reliance 7.5' sheet, 1980

Elevation: 240 to 270 feet MSL

Location: The locality is 2.1 kilometers (1.3 miles) southeast of the intersection of Elmo Weeden and Steep Hollow roads and 2 kilometers (1.2 miles) northwest of Stick Cemetery.

Description: Locality L41BZ2 consists of an extensive concentration of chert and other gravels which have been exposed by erosional gullying with the valley wall of Wickson Creek. Whether the concentration existed during prehistoric times or has resulted from recent gravel quarrying on the ridgecrest above the exposure is unknown. Although no evidence of prehistoric use was noted, the locality is extensive.

Materials: Numerous chert, quartzite and petrified wood gravels were noted; most of the pebbles appear to be 2 to 5 centimeters in diameter.

Environmental Setting: The locality is situated within the upper portion of the right valley wall of Wickson Creek, a major right bank tributary of the Navasota River.

Archeological Summary: This concentration of gravels, which may or may not have existed and been utilized during prehistoric times, provides a good sample of the kinds and relative quantities of the various kinds of lithic materials available within the area.

BUNDIC CROSSING TRANSECT AREA
MADISON COUNTY, TEXAS

41MA5

Map Reference: USGS Canary 7.5' sheet, 1965

Elevation: 240 to 250 feet MSL

Location: The site is located along the eastern side of the southern end of Duck Lake and is 2.6 kilometers (1.6 miles) south-southwest of the confluence of Cedar Creek and the Navasota River.

Description: Site 41MA5 is a thin scatter of lithic debitage and tools and burned rocks. Materials are contained within all or part of up to 50 centimeters of brown sandy loam which overlies culturally sterile sandy clay. The site is exposed in roadbeds, cowpaths and rodent spoil piles over an area 20x50 meters in size and is apparently intact except for these disturbances.

Materials: Cortex and interior chert flakes, chert cores and burned rocks were noted. An untyped arrow point was collected (see Appendix II, Fig. 21a). A modern white glazed sherd is probably intrusive from a nearby picnic area.

Environmental Setting: The site is situated within the modern floodplain of the Navasota River on a sand-covered terrace above the left bank of the Long Hollow-Duck Lake relict channel. Vegetation on the site consists of a dense ground cover of grasses and scattered forbs; both hardwood forest and oak woodland species occur in nearby areas.

Archeological Summary: Site 41MA5 appears to represent a campsite which, at the time of its occupation, was situated immediately above the bank of the Navasota River. At least a Neoarchaic occupation and a riverine resource orientation are suggested.

Assessment: The site appears to be intact except for tree and rodent bioturbation and surficial disturbances associated with modern land use. The cultural materials present, although thinly distributed, include both temporally and culturally diagnostic artifacts and materials.

Recommendations: Testing to determine the presence of either a single occupation or stratigraphic separation of a number of components and the nature and density of the cultural material is warranted. Testing should be of sufficient extent to provide information necessary for a determination of eligibility for nomination to the National Register of Historic Places.

41MA6

Map Reference: USGS Canary 7.5' sheet, 1965

Elevation: 240 feet MSL

Location: The site is located 3.5 kilometers (2.2 miles) south-southwest of the confluence of Cedar Creek and the Navasota River and 1.5 kilometers (0.9 mile) southwest of the northern end of Duck Lake.

Description: Site 41MA6 is an isolated chert flake exposed in the bed of an unimproved road. Other materials may be contained within at least 10 centimeters of brown sandy loam. The site area has probably never been cleared and the site appears to be relatively intact.

Materials: A very small chert interior flake was noted.

Environmental Setting: The site is situated within the modern floodplain of the Navasota River above the left bank of the present river channel. It is immediately below the point where the present channel and the Long Hollow-Duck Creek relict channel converge, and the site is more probably associated with the past streamcourse. Vegetation on the site consists of a dense ground cover of low grasses; surrounding areas support hardwood trees and a dense understory of shrubs and thorny vines.

Archeological Summary: Site 41MA6 may be similar to other sites identified along the Long Hollow-Duck Creek relict channel. The available data are not sufficient to characterize the site.

Assessment: Additional cultural deposits, if present, appear to be intact except for tree and rodent bioturbation. The available data are not sufficient to properly assess other variables of site significance; however, similar sites (41MA5) appear to have a high research potential.

Recommendation: Testing to determine the presence of buried cultural materials appears to be warranted.

41MA7

Map Reference: USGS Canary 7.5' sheet, 1965

Elevation: 240 to 250 feet MSL

Location: The site is located 0.8 kilometer (0.5 mile) southwest of Bundic Crossing and 2.9 kilometers (1.8 miles) south of the confluence of West Caney Creek and the Navasota River.

Description: Site 41MA7 is a possible historic bridge without associated artifacts. The construction materials present are apparently entirely surficial. The bridge has been partially destroyed, and the area has been cleared.

Materials: A small (10x10-meter) bridge and an associated loose pile of bricks were noted. The bridge has a brick foundation reinforced with metal rods and a poured asphalt surface. Approximately 1 meter separates the portions of the bridge on either side of the slough. The pile of bricks is located approximately 30 meters downslope (toward the Navasota River) from the bridge site.

Environmental Setting: Site 41MA7, which is situated within the modern floodplain of the Navasota River, is associated with a water-filled slough. The site area has recently been cleared and vegetation consists of a dense ground cover of grasses and forbs and scattered trees.

Archeological Summary: The site appears to be an historic bridge constructed after 1900.

Assessment: Site 41MA7 is only partially intact and is apparently entirely surficial in nature. The features present are not architecturally significant, and the historical information yield potential of the site appears to be low.

Recommendations: Further work does not appear to be scientifically productive at this time. Further archival research, however, might provide useful data concerning the nature and growth of transportation within the project area during the early twentieth century.

41MA8

Map Reference: USGS Canary 7.5' sheet, 1965

Elevation: 245 to 250 feet MSL

Location: The site is located 0.4 kilometer (0.2 mile) south of Bundic Crossing and 0.2 kilometer (0.1 mile) northeast of the northern end of Duck Lake.

Description: Site 41MA8 is a thin scatter of lithic flakes and tools, and burned rocks. Materials are contained within up to 1 meter of loamy alluvial soil. The site is within an area of 40x20 meters and is exposed along the western bank of a relict channel. The area has apparently never been cleared and appears to be intact except for minor bank erosion. The site area is stabilized by the roots of oak trees.

Materials: Cortex chert flakes, a chert chopper and burned rocks were noted. A projectile point of white chert (see Appendix II, Fig. 21g) and a petrified wood unifacial tool (see Appendix II, Fig. 22a) were collected.

Environmental Setting: The site is situated within the modern floodplain of the Navasota River and appears to be associated with the Long Hollow-Duck Lake relict channel. Vegetation consists of a hardwood forest and a sparse ground cover of grasses.

Archeological Summary: Site 41MA8 appears to represent a campsite which, at the time of its occupation, was closely associated with the Navasota River channel. A late Archaic occupation and a riverine resource orientation are suggested.

Assessment: The site appears to be intact except for minor erosion. The cultural material, although thinly distributed, includes both temporally and culturally diagnostic artifacts and materials.

Recommendations: Testing to determine the presence of a single occupation or stratigraphic separation of a number of components, in addition to the nature and density of the cultural materials present is warranted.

41MA9

Map Reference: USGS Canary 7.5' sheet, 1965

Elevation: 240 to 245 feet MSL

Location: The site is located 0.4 kilometer (0.2 mile) east of the Bundic Crossing and 2.4 kilometers (1.5 miles) south of the confluence of West Caney Creek and the Navasota River.

Description: Site 41MA9 is a thin scatter of debitage flakes, tools and burned rocks. Materials are contained within all or part of up to 1 meter of tan sandy loam. The site includes an area of 50x10 meters that is exposed within and along the banks of a relict channel. Except for erosion along the banks, the site appears to be intact.

Materials: Cortex flakes, a petrified wood uniface and burned rocks were noted. A quartzite cobble (see Appendix II, Fig. 23a) which has been bifacially worked and exhibits evidence of use as a grinding stone was collected.

Environmental Setting: The site is situated within the floodplain of the Navasota River and appears to be associated with the Long Hollow-Duck Lake relict channel. Except in eroded areas, vegetation consists of a dense ground cover of low grasses; the slough banks support oak trees.

Archeological Summary: Site 41MA9 appears to represent a campsite which was closely associated with the Navasota River channel. A riverine resource orientation is suggested.

Assessment: The site appears to be intact except for minor erosion. The thinly distributed cultural material includes both temporally and culturally diagnostic artifacts and materials.

Recommendations: Testing to determine the presence of a single occupation or stratigraphic separation of a number of components, and the nature and density of the cultural materials present, is warranted.

41MA10

Map Reference: USGS Canary 7.5' sheet, 1965

Elevation: 290 feet MSL

Location: The site is 1.7 kilometers (1.1 miles) northwest of the northernmost point of Duck Lake and 2.2 kilometers (1.4 miles) southwest of the confluence of Cedar Creek and the Navasota River.

Description: Site consists of an isolated projectile point exposed at the base of a roadcut through the tip of a ridge. Investigation of areas surrounding the find was negative, and the artifact cannot be assigned a context. The profile of the roadcut revealed 70 centimeters of sandy soil which overlies 2 meters of sandy clay and an unknown depth of gravelly compacted soil.

Materials: An Ellis-like projectile point (see Appendix II, Fig. 21b) was collected.

Environmental Setting: The site is situated in a disturbed context within the left valley wall of the Navasota River on the first ridgecrest above the modern floodplain. Vegetation consists of a sparse ground cover of low grasses and scattered shrubs.

Archeological Summary: This isolated projectile point may indicate a late Archaic use of the lower valley wall.

Assessment: Site 41MA10 consists of an isolated find without apparent context.

Recommendations: Further work does not appear to be scientifically productive at this time.

41MA11

Map Reference: USGS Canary 7.5' sheet, 1965

Elevation: 280 feet MSL

Location: The site is 0.6 kilometer (0.4 mile) north of the northern end of Duck Lake and 1.6 kilometers (1 mile) south of the confluence of Cedar Creek and the Navasota River.

Description: Site 41MA11 is the Bundic Crossing of the Navasota River. The bridge at the crossing is not currently in use and has apparently been dismantled. Roads on either side of the river terminate at the crossing. The site appears to be entirely surficial and partially destroyed since dismantlement.

Materials: Five pilings, which are very similar to telephone poles, were noted along the right bank of the Navasota River. The pilings at present extend 2 to 4 meters above the water level and several appear to have been broken. A knotted rope is attached to a tree along the left bank of the river, but its relationship to the crossing is uncertain.

Environmental Setting: The site is associated with the present channel of the Navasota River. Vegetation consists of a hardwood forest with a dense understory of shrubs and vines.

Archeological Summary: Site 41MA11, Bundic Crossing, represents an historic bridge constructed after 1900.

Assessment: Much of the site has been destroyed and the remaining features are apparently surficial in nature. The features are not architecturally significant, and the historic information yield potential of the site appears to be low.

Recommendations: Further work does not appear to be scientifically productive at this time. Further archival research, however, might provide useful data concerning the nature and growth of transportation within the project area during the early twentieth century.

41MA12

Map Reference: USGS Canary 7.5' sheet, 1965

Elevation: 245 to 250 feet MSL

Location: The site is 1.7 kilometers (1.1 miles) south of the Bundic Crossing and 5.1 kilometers (3.2 miles) northwest of the confluence of Sand Branch and Shepherd Creek.

Description: Site 41MA12 is an isolated chert flake exposed in the bed of an unimproved road which has cut through the dense grass ground cover. Other materials may be buried within an unknown depth of light brown sand loam and may be relatively intact. Vegetation adjacent to the road includes both dense grasses and tree species.

Materials: A chert secondary flake was noted.

Environmental Setting: The site is situated on a low terrace associated with a relict channel of the Navasota River which is probably a part of the Long Hollow-Duck Lake relict channel system. Vegetation consists of areas of dense grass and areas which support dense trees and shrubs.

Archeological Summary: Site 41MA12 may be similar to other sites identified along the Long Hollow-Duck Creek relict channel. The available data are not sufficient, however, to characterize the site.

Assessment: Additional cultural materials, if present, appear to be intact except for tree and rodent bioturbation. The available data are not sufficient to properly assess other variables of site significance; however, other similar sites (i.e., 41MA5) appear to have a high research potential.

Recommendations: Testing to determine the presence of buried cultural materials may be warranted.

41MA13

Map Reference: USGS Canary 7.5' sheet, 1965

Elevation: 245 feet MSL

Location: The site is 1.5 kilometers (0.9 mile) southwest of the northern end of Duck Lake and 0.7 kilometer (0.4 mile) northeast of Wilson Lake.

Description: Site 41MA13 is a possible historic housesite with an associated scatter of historic artifacts. The cultural materials noted appear to be surficial, but some materials may be buried (probably through infiltration into the brown sandy loam surface layer). The site has been bulldozed by the landowner; any structural remains are probably destroyed, and the context of the artifacts is severely disturbed.

Materials: No structural remains were noted. The scatter of historic artifacts includes numerous rusted tin cans and glass jars, a "Vicks Vapo-Rub" jar, a cigar can, a "KC" baking powder can and a broken plowstock. Numerous "Garrett" snuff bottles have reportedly been removed by collectors (Bink Manning, personal communication, 1981).

Environmental Setting: The site is situated on a low sandy terrace immediately above the present channel of the Navasota River. A spring which was active during the occupation of the house is reported near the site (Bink Manning, personal communication 1981). Portions of the site area have been cleared and support a dense ground cover of bermudagrass; wooded portions have a dense understory of shrubs, forbs and thorny vines.

Archeological Summary: Site 41MA13 is commonly referred to as Ace's Camp (Bink Manning, personal communcation 1981; see Appendix I, Historical Background). The site apparently represents a subsistence campsite occupied during the early twentieth century by a single individual. Site orientation is primarily toward resources of the floodplain of the Navasota River.

Assessment: The severely disturbed site contains a relatively dense scatter of historic materials. A positive assessment of the site depends on the presence of subsistence data.

Recommendations: Testing to determine the presence and nature of buried cultural materials appears to be warranted.

41MA14

Map Reference: USGS Canary 7.5' sheet, 1965

Elevation: 285 feet MSL

Location: The site is 1.2 kilometers (0.7 mile) northwest of the northern end of Duck Lake and 1.6 kilometers (1 mile) southwest of the confluence of Cedar Creek and the Navasota River.

Description: Site 41MA14 is an isolated flake exposed in a rodent spoil pile. Other cultural materials may be buried within an unknown depth of tan sandy loam. The site area has been cleared, but portions of the site appear to be relatively intact.

Materials: A chert interior flake which appears to be debitage from bifacial thinning was noted.

Environmental Setting: The site is situated on a sand-capped knoll which is within the floodplain of the Navasota River and near the margin of the left valley wall. Vegetation consists of a dense ground cover of bermudagrass; surrounding areas support a dense woodland.

Archeological Summary: This isolated find may be part, along with site 41MA15, of a larger site occupying the entire crest of the knoll. The use of both riverine and valley wall resources is suggested.

Assessment: The find probably represents limited exposure rather than a truly isolated loss. The site cannot be assessed on the present data.

Recommendations: Testing of the knoll crest which contains sites 41MA14 and 41MA15 to determine the presence of buried cultural materials is warranted.

41MA15

Map Reference: USGS Canary 7.5' sheet, 1965

Elevation: 270 to 280 feet MSL

Location: The site is 0.8 kilometer (0.5 mile) east of Bundic Crossing and 1.7 kilometers (1.1 miles) south-southeast of the confluence of Cedar Creek and the Navasota River.

Description: Site 41MA15 is an isolated flake exposed in a rodent spoil pile. Other cultural materials may be buried within an unknown depth of tan sandy loam. The site area has been cleared, but portions of the site appear to be relatively intact

Materials: A chert interior flake and a possible petrified wood flake were noted.

Environmental Setting: The site is situated on a sand-capped knoll which is within the floodplain of the Navasota River and near the margin of the left valley wall. Vegetation consists of a dense ground cover of bermudagrass; surrounding areas are wooded.

Archeological Summary: This isolated find may be part, along with site 41MA14, of a larger site occupying the entire crest of the knoll. The use of both riverine and valley wall resources is suggested.

Assessment: Although the find probably represents limited exposure rather than a truly isolated loss, the site cannot be assessed on the present data.

Recommendations: Testing of the knoll crest which contains sites 41MA14 and 41MA15 to determine the presence of buried cultural materials is warranted.

41MA16

Map Reference: USGS Canary 7.5' sheet, 1965

Elevation: 310 feet MSL

Location: The site is 3.1 kilometers (1.9 miles) southeast of the confluence of West Caney Creek and the Navasota River and 1.9 kilometers (1.2 miles) east-northeast of the northern end of Duck Lake.

Description: Site 41MA16 is an historic standing house structure with no apparent associated artifact scatter. Associated outbuildings have been bulldozed by the landowner. The site appears to be entirely surficial and the structure intact.

Materials: A standing house structure consisting of two separate rooms placed to form an "L" and connected by a porch was noted.

Environmental Setting: The site is situated on a broad flat ridge-crest within the upper portion of the left valley wall of the Navasota River. Area vegetation consists of a moderately dense ground cover of low grasses and forbs.

Archeological Summary: Site 41MA16 is a twentieth-century house structure which apparently has been used primarily as a hunting cabin.

Assessment: Although the structure is standing and intact, the architectural and historic importance of the site is minimal. The apparent absence of associated artifacts is an additional negative assessment factor.

Recommendations: Further work does not appear to be scientifically productive at this time.

41MA17

Map Reference: USGS Canary 7.5' sheet, 1965

Elevation: 245 feet MSL

Location: The site is located 1.6 kilometers (1 mile) southeast of the confluence of Cedar Creek and the Navasota River and 0.8 kilometer (0.5 mile) northeast of the northern end of Duck Lake.

Description: Site 41MA17 is a thin scatter of lithic flakes and burned rocks. Materials are contained within all or part of up to 20 centimeters of tan sandy loam overlying culturally sterile sandy clay. The site includes an area of 10x15 meters exposed along the eroding bank of a relict channel. Portions of the site away from the bank appear to be relatively intact.

Materials: Interior chert flakes and burned rocks were noted.

Environmental Setting: The site is situated within the modern floodplain of the Navasota River and appears to be associated with the Long Hollow-Duck Lake relict channel. Vegetation consists of a moderately dense ground cover of grasses and forbs, and scattered small trees.

Archeological Summary: Site 41MA17 appears to represent a campsite which at the time of its occupation was closely associated with the Navasota River channel. A riverine resource orientation is suggested.

Assessment: The site appears to be intact except for minor erosion. Cultural materials are thinly distributed and include diagnostic artifacts and materials.

Recommendations: Testing to determine the nature, density and integrity of buried cultural materials is warranted.

41MA18

Map Reference: USGS Canary 7.5' sheet, 1965

Elevation: 240 to 250 feet MSL

Location: The site is 1.2 kilometers (0.7 mile) northeast of Bundic Crossing and 1.1 kilometers (0.6 mile) southeast of the confluence of Cedar Creek and the Navasota River.

Description: Site 41MA18 is a very thin scatter of debitage flakes over an area of 10x2 meters. Materials are contained within all or part of 10 centimeters of tan sandy loam overlying culturally sterile sandy clay. The site is exposed by erosion along a relict channel and, except for portions along its margins, is apparently intact.

Materials: Two interior chert flakes were noted.

Environmental Setting: The site is within the modern floodplain of the Navasota River and above the left bank of a relict channel located between the present river channel and the Long Hollow-Duck Lake relict channel. Area vegetation consists of a moderate ground cover of knee-high grasses and scattered oak trees.

Archeological Summary: Site 41MA18 appears to represent an area of limited activity which at the time of its occupation may have been associated with the Navasota River. Possible association with a water-filled relict channel rather than a streamcourse cannot be eliminated. A riverine resource orientation is suggested.

Assessment: The site appears to be relatively intact except for minor erosion. Cultural materials present are thinly distributed and generally undiagnostic. The site, however, is the only limited activity area identified in association with a relict channel.

Recommendations: Testing to determine the nature and context of buried cultural materials is warranted.

41MA19

Map Reference: USGS Canary 7.5' sheet, 1965

Elevation: 240 to 245 feet MSL

Location: The site is 1.8 kilometers (1.1 miles) southeast of Bundic Crossing and 5.8 kilometers (3.6 miles) northwest of the confluence of Shepherd and Dry creeks.

Description: Site 41MA19 consists of a possible feature and a thin scatter of lithic debitage and tools and burned rocks. Materials are contained within all or part of at least 50 centimeters of light brown sandy loam. The site is exposed over an area of 30x10 meters along the banks and in the bed of a relict channel. Except for erosional effects, the site appears to be relatively intact.

Materials: A circular concentration of quartzite and chert gravels which may represent a hearth or boiling stone feature was noted in addition to cortex and interior chert flakes, a chert core fragment, a petrified wood biface, a possibly polished chert gravel and burned rocks.

Environmental Setting: The site is situated within the modern floodplain of the Navasota River and appears to be associated with the Long Hollow-Duck Lake relict channel. Area vegetation consists of a moderately dense ground cover of grasses and forbs, and scattered oak trees.

Archeological Summary: Site 41MA19 appears to represent a campsite which at the time of its occupation was associated with the Navasota River channel. A riverine resource orientation is suggested.

Assessment: The site appears to be intact except for minor erosion. The thinly distributed cultural materials include culturally diagnostic artifacts and materials. The presence of intact features is another positive assessment factor.

Recommendations: Testing to determine the nature and integrity of buried cultural materials is warranted. Testing should be of sufficient extent to provide information necessary for a determination of eligibility for nomination to the National Register of Historic Places.

41MA20

Map Reference: USGS Canary 7.5' sheet, 1965

Elevation: 280 feet MSL

Location: The site is located 1.7 kilometers (1.1 miles) east-southeast of the confluence of Cedar Creek and the Navasota River and 2.3 kilometers (1.4 miles) northeast of the northern end of Duck Lake.

Description: Site 41MA20 is an isolated debitage flake exposed in a rodent spoil pile. Other cultural materials are probably buried within a shallow depth (probably less than 10 centimeters) of tan sandy loam. The site area has been disturbed by clearing, plowing, fence construction and bioturbation.

Materials: A single interior chert flake was noted.

Environmental Setting: The site is situated within the lower portion of the left valley wall of the Navasota River and on a sand-capped knoll isolated by slope drainage development. Vegetation consists of a moderately dense ground cover of bermudagrass, a few shrubs and a single large elm tree.

Archeological Summary: Site 41MA20 appears to represent a buried site rather than an isolated artifact loss. Riverine and valley wall resource orientations are suggested; however, the available data are not sufficient to characterize the occupation.

Assessment: The site area is apparently badly disturbed; however, the available data are not sufficient to properly assess the research potential of the site.

Recommendations: Testing to determine the presence, nature and context of buried cultural materials may be warranted.

CLEAR CREEK TRANSECT AREA
LEON AND ROBERTSON COUNTIES, TEXAS

41LN179

Map Reference: USGS Hilltop Lakes 7.5' sheet, 1964

Elevation: 315 to 325 feet MSL

Location: The site is located 0.6 kilometer (0.4 mile) southeast of the point where State Highway 3 crosses Clear Creek and 3.6 kilometers (2.2 miles) northeast of Sulphur Lake.

Description: Prehistoric site 41LN179 is a thin scatter of lithic flakes and tools, and burned quartzite rocks. Materials are contained within all or part of 1 meter of light brown sandy loam. The site, which includes an area at least 40 meters long, is exposed in the bank and floor of an erosional gully. Portions of the site may be buried and relatively intact except for bioturbation and road construction.

Materials: Interior chert flakes, a crude quartzite uniface and several burned quartzite rocks were noted.

Environmental Setting: The site is situated within the lower left valley wall of Clear Creek, a major left bank tributary of the Navasota River. Although the specific origin of the landform is unknown, the site occurs on the crest and lower slopes of a sandy rise immediately above the creek floodplain. Vegetation consists of a dense ground cover of grasses and forbs.

Archeological Summary: Site 41LN179 appears to represent a campsite associated with Clear Creek. Both riverine and valley wall resource orientations are suggested.

Assessment: Although portions of the site are severely disturbed, the remainder may be relatively intact. The cultural materials present include culturally diagnostic artifacts and other materials; however, other similar sites appear to contain more varied and densely distributed cultural materials.

Recommendations: Testing to determine the nature and context of buried cultural materials may be warranted.

41LN180

Map Reference: USGS Hilltop Lakes 7.5' sheet, 1964

Elevation: 300 feet MSL

Location: The site is located 0.6 kilometer (0.4 mile) southeast of the point where State Highway 3 crosses Clear Creek and 3.8 kilometers (2.4 miles) northeast of Sulphur Lake.

Description: Prehistoric site 41LN180 is a thin scatter of debitage flakes. Materials are contained within an unknown depth of brown sandy loam which overlies culturally sterile reddish clay. The site is exposed by the construction of a stock tank over an area at least 20 meters in diameter. The extent and context of any additional materials is not known. The construction materials used for the stock tank are not local to the site area, and the cultural materials present may have been introduced with the fill.

Materials: Cortex and, primarily, interior chert flakes were noted.

Environmental Setting: The site is situated within the modern floodplain of Clear Creek, a major left bank tributary of the Navasota River. The stock tank supports numerous forbs; vegetation surrounding the site consists of hardwood trees and yaupon.

Archeological Summary: Site 41LN180 may be a limited activity area associated with Clear Creek. A riverine resource orientation may be suggested.

Assessment: The cultural materials noted are disturbed and may be out of context. Buried and relatively intact cultural materials, however, may be present.

Recommendations: Further work does not appear to be scientifically productive at this time.

41LN181

Map Reference: USGS Hilltop Lakes 7.5' sheet, 1964

Elevation: 310 to 340 feet MSL

Location: The site is located 0.4 kilometer (0.3 mile) east-southeast of the point where State Highway 3 crosses Clear Creek and 3.9 kilometers (2.4 miles) northeast of Sulphur Lake.

Description: Prehistoric site 41LN181 is a thin scatter of lithic debitage and a possible tool. Materials are contained within all or part of up to 2 meters of tan sand which overlies culturally sterile sandy clay. The site, which includes an area at least 100x60 meters in size, is exposed by erosion associated with clearing and vehicular traffic. Portions of the partially destroyed site may contain buried and relatively intact cultural materials.

Materials: Cortex and interior chert flakes, two tested chert cobbles and a possible quartzite side scraper were noted.

Environmental Setting: The site is situated within the lower left valley wall of Clear Creek, a major left bank tributary of the Navasota River. Although the specific origin of the landform is unknown, the site occurs on the crest and lower slopes of a sandy rise immediately

above the creek floodplain. The site area supports a variety of forbs; the vegetation of surrounding areas consists of hardwood tree species and yaupon.

Archeological Summary: Site 41LN181 appears to represent a multiple activity area associated with Clear Creek. Both riverine and valley wall resource orientations are suggested.

Assessment: Although portions of the site are severely disturbed, the remainder may be relatively intact. The materials present include culturally diagnostic artifacts; however, other similar sites appear to contain more varied and densely distributed cultural materials.

Recommendations: Testing to determine the nature and context of buried cultural materials may be warranted.

41LN182

Map Reference: USGS Hilltop Lakes 7.5' sheet, 1964

Elevation: 310 to 330 feet MSL

Location: The site is located 0.7 kilometer (0.4 mile) southeast of the point where State Highway 3 crosses Clear Creek and 3.8 kilometers (2.4 miles) northeast of Sulphur Lake.

Description: Prehistoric site 41LN182 is a thin scatter of lithic flakes and tools, ceramics and burned rocks. Materials are contained within all or part of at least 1 meter of tan sandy loam. The site is exposed by cattle movement over an area at least 50 meters long. The site is apparently intact except for bioturbation.

Materials: A thick ovate biface of chert, chert interior flakes, a petrified wood flake and burned rocks were noted. An incised rim sherd (see Appendix II, Fig. 23b) was collected.

Environmental Setting: The site is situated within the lower left valley wall of Clear Creek, a major left bank tributary of the Navasota River. Although the specific origin of the landform is unknown, the site occurs on the crest and lower slopes of a sandy rise immediately above the creek floodplain. Vegetation consists of trees, yaupon and low weeds.

Archeological Summary: Site 41LN182 appears to represent a campsite associated with Clear Creek. Both riverine and valley wall resource orientations are suggested. At least a Neoarchaic occupation is represented.

Assessment: Although portions of the site are severely disturbed, the remainder may be relatively intact. The cultural materials include culturally diagnostic artifacts and other materials which are relatively densely distributed.

Recommendations: Testing to determine the nature and context of buried cultural materials is warranted. Testing should be of sufficient extent to provide information necessary for a determination of eligibility for nomination to the National Register of Historic Places.

41LN183

Map Reference: USGS Hilltop Lakes 7.5' sheet, 1964

Elevation: 310 to 320 feet MSL

Location: The site is located 0.6 kilometer (0.4 mile) south-southeast of the point where State Highway 3 crosses Clear Creek and 3.5 kilometers (2.2 miles) northeast of Sulphur Lake.

Description: Prehistoric site 41LN183 is a thin scatter of lithic flakes with an arrow point fragment and burned rocks. Materials are contained within an unknown depth of brown sandy loam. The site is exposed along an unimproved road for a distance of 100 meters. The area has been disturbed by land clearing activities as well as road use.

Materials: A Steiner arrow point, cortex and interior flakes of chert, and burned rocks were noted.

Environmental Setting: The site is situated within the lower left valley wall of Clear Creek, a major left bank tributary of the Navasota River, on the crest and lower slopes of a sandy rise immediately above the creek floodplain. The specific origin of the landform is unknown. Vegetation consists of cultivated bermudagrass.

Archeological Summary: Site 41LN183 appears to represent a campsite associated with Clear Creek. Both riverine and valley wall resource orientations are suggested. At least a Neoarchaic occupation is represented.

Assessment: Although portions of the site are disturbed, the remainder may be relatively intact. The cultural materials present include culturally diagnostic artifacts and other materials.

Recommendations: Testing to determine the nature and context of buried cultural materials appears to be warranted.

41LN184

Map Reference: USGS Hilltop Lakes 7.5' sheet, 1964

Elevation: 295 to 305 feet MSL

Location: The site is located 0.6 kilometer (0.4 mile) south of the point where State Highway 3 crosses Clear Creek and 3.3 kilometers (2 miles) northeast of Sulphur Lake.

Description: Prehistoric site 41LN184 is a thin scatter of lithic flakes and burned rocks. Materials are contained within all or part of at least 2 meters of light brown sandy loam. The site is exposed for a distance of 30 meters along the base of a slumped cutbank of a manmade creek channel above a low sandy knoll. The knoll, which may be the main site area, has been adversely affected by bioturbation and clearing.

Materials: Interior chert flakes and burned rocks were noted.

Environmental Setting: The site is situated within the lower left valley wall of Clear Creek, a major left bank tributary of the Navasota River. Although the specific origin of the landform is unknown, the site occurs on the crest and lower slopes of a sandy rise immediately above the creek floodplain. Vegetation consists of a dense ground cover of bermudagrass.

Archeological Summary: Site 41LN184 appears to represent a campsite associated with Clear Creek. Both riverine and valley wall resource orientations are suggested.

Assessment: Portions of the site are severely disturbed; however, the remainder may be relatively intact. Cultural materials present include culturally diagnostic materials.

Recommendations: Testing to determine the nature and context of buried cultural materials may be warranted.

41LN185

Map Reference: USGS Hilltop Lakes 7.5' sheet, 1964

Elevation: 320 feet MSL

Location: The site is located 0.9 kilometer (0.6 mile) south-southeast of the point where State Highway 3 crosses Clear Creek and 3.4 kilometers (2.1 miles) northeast of Sulphur Lake.

Description: Prehistoric site 41LN185 is a thin scatter of lithic debitage and burned rocks. Materials are surficial to shallowly buried within tan sandy soil which overlies culturally sterile reddish clay. The site is exposed for a distance of 30 meters within a manmade runoff diversion ditch as well as on rodent spoil piles. Clearing, plowing, erosion and ditch construction have severely affected the context of any cultural materials present.

Materials: Interior chert flakes, tested cobbles and burned rocks were noted.

Environmental Setting: The site is situated within the lower left valley wall of Clear Creek, a major left bank tributary of the Navasota River. Although the specific origin of the landform is unknown, the site occurs on the crest and lower slopes of a sandy rise immediately above the creek floodplain. Vegetation consists of a dense ground cover of bermudagrass and scattered trees and shrubs.

Archeological Summary: Site 41LN185 appears to represent a campsite associated with Clear Creek. Both riverine and valley wall resource orientations are suggested.

Assessment: The site appears to be effectively destroyed.

Recommendations: Further work does not appear to be scientifically productive at this time.

41LN186

Map Reference: USGS Camp Creek Lake 7.5' sheet, 1965

Elevation: 300 feet MSL

Location: The site is located 1.6 kilometers (1 mile) south-southwest of the point where State Highway 3 crosses Clear Creek and 2.6 kilometers (1.6 miles) northeast of Sulphur Lake.

Description: Site 41LN186 consists of an historic house, a number of outbuildings and an associated scatter of artifacts included in an area of 125x90 meters. Materials and features are primarily surficial but may be contained within a shallow depth of sandy soil which overlies culturally sterile gravel and clay. The structures vary from standing to collapsed but are apparently in situ.

Materials: Surface features noted at the site include a house, well, barn, several other outbuildings, piles of construction rubble and a trash dump. All construction materials, including rough logs, factory-cut lumber, tin, sandstone and concrete, appear to be salvaged from other structures and assembled in a haphazard manner. The scatter of associated artifacts includes a variety of materials.

Environmental Setting: The site is situated within the lower left valley wall of Clear Creek, a major left bank tributary of the Navasota River, on the crest and slope of a sandy rise immediately above the creek floodplain. The specific origin of the landform is unknown. Vegetation consists of dense, waist-high forbs and scattered oak trees.

Archeological Summary: Site 41LN186 appears to represent a residence and farm complex, and possibly a commercial site associated with an old major road. An early-to-mid-twentieth-century occupation is indicated.

Assessment: The structures, although in ruin, are in their original locations. The associated artifacts appear to be relatively intact. The historic importance of the site appears to be limited, with the possible exception of the commercial component.

Recommendations: Archival research concerning the site's relationship with earlier transportation systems appears to be warranted. Mapping, surface artifact collection and limited testing may be warranted if the historic significance of the site can be determined by archival research.

41LN187

Map Reference: USGS Hilltop Lakes 7.5' sheet, 1964

Elevation: 295 feet MSL

Location: The site is located 0.4 kilometer (0.2 mile) south of the point where State Highway 3 crosses Clear Creek and 3.5 kilometers (2.2 miles) northeast of Sulphur Lake.

Description: Site 41LN187 consists of an historic cane press and an associated brick oven. These features are apparently surficial and intact.

Materials: A metal cane press on a wooden stand and a brick feature which appears to be an oven or fireplace were noted (Appendix II). No associated artifacts were observed.

Environmental Setting: The site is situated within the modern floodplain of Clear Creek and is apparently associated with the present creek channel. The site area is clear and vegetation consists primarily of forbs; surrounding areas are wooded.

Archeological Summary: Site 41LN187 is a commercial site which consists of cane syrup processing features. Interviews with area residents indicate that the site served an area of considerable size during the early portion of the twentieth century.

Assessment: The surface features present are relatively intact but the presence of additional historic cultural materials is unknown. The nature of the site appears to indicate a high information yield potential.

Recommendations: Additional archival research, surface mapping and limited testing are warranted.

41LN188

Map Reference: USGS Camp Creek Lake 7.5' sheet, 1965

Elevation: 300 to 310 feet MSL

Location: The site is located 0.6 kilometer (0.4 mile) south-southwest of the point where State Highway 3 crosses Clear Creek and 3.3 kilometers (2 miles) northeast of Sulphur Lake.

Description: Prehistoric site 41LN188 is a thin scatter of lithic flakes. Materials are contained within all or part of at least 1 meter of sandy loam. The site is exposed over an area 30x30 meters in size by creek channelization and rodent burrowing. The site has been adversely affected by land clearing, cultivation, channel excavation and bioturbation.

Materials: Interior chert flakes were noted at the site.

Environmental Setting: The site is situated on an isolated knoll within the modern floodplain of Clear Creek, a major left bank tributary of the Navasota River. Vegetation consists primarily of forbs; surrounding areas are wooded.

Archeological Summary: Site 41LN188 appears to represent a limited activity area associated with a major tributary of the Navasota River. Both riverine and valley wall resource orientations are suggested.

Assessment: The site appears to be disturbed by modern land use; however, deeply buried and relatively intact cultural materials may be present. The cultural materials noted are thinly distributed and generally undiagnostic.

Recommendations: Testing to determine the nature and context of buried cultural materials may be warranted.

41LN189

Map Reference: USGS Camp Creek Lake 7.5' sheet, 1965

Elevation: 310 feet MSL

Location: The site is located 0.6 kilometer (0.4 mile) southwest of the point where State Highway 3 crosses Clear Creek and 2.9 kilometers (1.8 miles) northeast of Sulphur Lake.

Description: Prehistoric site 41LN189 is an isolated chert flake exposed in a rodent spoil pile. Other cultural materials, if present, are contained within all or part of at least 1 meter of uncompacted sand. The site has been adversely affected by land clearing, cultivation and bioturbation.

Materials: An interior chert flake was noted.

Environmental Setting: The site is situated within the lower portion of the right valley wall of Clear Creek. Although the origin of the landform is uncertain, the site is situated on a sandy knoll immediately above the creek's modern floodplain. Vegetation consists of a dense ground cover of bermudagrass; a stand of second-growth oak and elm trees is nearby.

Archeological Summary: Site 41LN189 may represent a limited activity area associated with a major tributary of the Navasota River. Riverine and valley wall resource orientations are suggested.

Assessment: Although the site area has been disturbed by modern land use, deeply buried cultural materials may be relatively intact. The presence of additional associated cultural materials is unknown.

Recommendations: Testing to determine the presence of buried cultural materials may be warranted.

41LN190

Map Reference: USGS Camp Creek Lake 7.5' sheet, 1965

Elevation: 320 feet MSL

Location: The site is located 1.3 kilometers (0.8 miles) southwest of the point where State Highway 3 crosses Clear Creek and 2.5 kilometers (1.6 miles) northeast of Sulphur Lake.

Description: Prehistoric site 41LN190 is a scatter of vegetable processing materials, lithic flakes and tools, and burned rocks. Materials are contained within all or part of 1.5 meters of sand and sandy loam which overlies culturally sterile sandy clay. The site is exposed by erosion along a 40-meter segment of cutbank and is apparently otherwise intact.

Materials: A sandstone grinding slab fragment and pitted stone (Appendix II), a quartzite hammerstone, interior chert flakes, burned rocks and burned clay lumps (golfball-size) were noted. The grinding slab fragment and pitted stone (both of which were collected) were noted in close proximity and may represent a processing feature.

Environmental Setting: The site is situated within the lower portion of the right valley wall of Clear Creek. Although the origin of the landform is uncertain, the site is situated on a sandy knoll immediately above the creek's modern floodplain. The known site area supports sparse forbs; the vegetation of surrounding areas consists of a dense ground cover of bermudagrass.

Archeological Summary: Site 41LN190 may represent a campsite associated with a major left bank tributary of the Navasota River. Both riverine and valley wall resource orientations are suggested.

Assessment: Although the site area has been disturbed by modern land use, deeply buried cultural materials may be relatively intact. The cultural materials present include culturally diagnostic artifacts and materials.

Recommendations: Testing to determine the nature and context of features and other cultural materials is warranted. Testing should be of sufficient extent to provide information necessary for a determination of eligibility for nomination to the National Register of Historic Places.

41LN191

Map Reference: USGS Camp Creek Lake 7.5' sheet, 1965

Elevation: 290 to 320 feet MSL

Location: The site is located 1.9 kilometers (1.2 miles) south-southwest of the point where State Highway 3 crosses Clear Creek and 2 kilometers (1.2 miles) northeast of Sulphur Lake.

Description: Prehistoric site 41LN191 is a thin scatter of lithic flakes and burned rocks which may measure 200 meters in diameter. Materials are contained within an unknown portion of a deep sandy surface layer which overlies culturally sterile sandy clay. The site is exposed within an unimproved roadbed and other minor disturbances, and has been adversely affected by clearing and cultivation.

Materials: Interior chert and quartzite flakes and burned rocks were noted.

Environmental Setting: The site is situated within the lower portion of the right valley wall of Clear Creek. Although the origin of the landform is uncertain, the site is on a sandy knoll immediately above the creek's modern floodplain. Vegetation consists of woodland tree species, yaupon and dense forbs.

Archeological Summary: Site 41LN191 may represent a campsite associated with a major left bank tributary of the Navasota River. Both riverine and valley wall resource orientations are suggested.

Assessment: The site has been disturbed by modern land use; however, a portion of the site and deeply buried deposits may be relatively intact. The cultural materials include culturally diagnostic materials which are thinly distributed.

Recommendations: Testing to determine the nature and context of buried cultural materials may be warranted.

41LN192

Map Reference: USGS Camp Creek Lake 7.5' sheet, 1965

Elevation: 295 feet MSL

Location: The site is located 2 kilometers (1.2 miles) east-northeast of the confluence of Duck Creek and the Navasota River and 1.6 kilometers (1 mile) northeast of Sulphur Lake.

Description: Prehistoric site 41LN192 is a thin scatter of lithic flakes and burned rocks. Materials are contained within an unknown depth of sandy soil which overlies culturally sterile sandy clay. The site is in an area of 90x40 meters exposed by erosion along the base and lower slopes of the valley wall. The area has been recently cleared by a bulldozer and the context of the cultural materials noted is questionable. The presence of deeply buried intact materials, however, cannot be eliminated.

Materials: Interior chert and quartzite flakes and burned rocks were noted.

Environmental Setting: The site is situated within the lower portion of the right valley wall of Clear Creek. Although the origin of the landform is uncertain, the site is on a sandy knoll immediately

above the creek's modern floodplain. Vegetation consists of scattered woodland tree species.

Archeological Summary: Site 41LN192 may represent a campsite associated with a major tributary of the Navasota River. Both riverine and valley wall resource orientations are suggested.

Assessment: Although the site has been disturbed by modern land use, deeply buried cultural materials may be present. The cultural materials present include thinly distributed culturally diagnostic materials.

Recommendations: Testing to determine the nature and context of buried cultural materials may be warranted.

41LN193

Map Reference: USGS Camp Creek Lake 7.5' sheet, 1965

Elevation: 300 feet MSL

Location: The site is located 1.4 kilometers (0.9 mile) east-northeast of the confluence of Duck Creek and the Navasota River and 1.1 kilometer (0.7 mile) northeast of Sulphur Lake.

Description: Prehistoric site 41LN193 is a thin scatter of lithic flakes visible in an area of 3x5 meters. Materials are contained within all or part of at least 90 centimeters of sandy soil which overlies culturally sterile sandy clay. The site is exposed in an unimproved roadbed and near the mouth of a small slope drainage. The cultural materials noted may have accumulated from erosional washes; however, deeply buried and intact materials may be present.

Materials: Interior chert flakes were noted.

Environmental Setting: The site is situated within the lower portion of the right valley wall of Clear Creek, a major left bank tributary of the Navasota River. Although the origin of the landform is uncertain, the site is on a sandy rise immediately above the creek's floodplain. Vegetation consists primarily of a dense ground cover of bermudagrass.

Archeological Summary: Site 41LN193 appears to represent a limited activity site associated with a major tributary of the Navasota River. Both riverine and valley wall resource orientations are suggested.

Assessment: Although surface materials are disturbed, deeply buried cultural materials may be relatively intact. The materials are thinly distributed and generally undiagnostic.

Recommendations: Testing to determine the presence of buried cultural materials may be warranted.

41LN194

Map Reference: USGS Camp Creek Lake 7.5' sheet, 1965

Elevation: 275-300 feet MSL

Location: The site is located 0.5 kilometer (0.3 mile) east-southeast of the confluence of Duck Creek and the Navasota River and 0.5 kilometer (0.3 mile) northeast of Sulphur Lake.

Description: Site 41LN194 consists of both prehistoric and historic components. The prehistoric component is a thin scatter of lithic flakes primarily exposed in rodent spoil piles over a 500x250-meter area. The historic component consists of a possible house foundation and associated scatter of ceramic sherds in a 25x25-meter area. The site has been adversely affected by clearing (particularly the historic component) and by bioturbation. Deeply buried and relatively intact prehistoric cultural materials, however, may be present.

Materials: Portions of an unshaped sandstone block foundation and ceramic sherds were noted as well as interior and cortex chert and quartzite flakes, and burned rocks.

Environmental Setting: The site is situated within the lower portion of the left valley wall of the Navasota River which is composed of Quaternary fluviatile terrace deposits. The site is on a relatively flat bench within a gentle slope immediately above the modern river floodplain. Vegetation consists of introduced bermudagrass.

Archeological Summary: The prehistoric component of site 41LN194 appears to represent a campsite associated with the Navasota River. Both riverine and valley wall resource orientations are suggested. The historic component appears to represent a housesite which may be associated with the historic community of Little Egypt (Appendix I, Historical Background). Both riverine and valley wall resource orientations are suggested.

Assessment: Although disturbed by modern land use, deeply buried prehistoric cultural materials may be relatively intact. These cultural materials include culturally diagnostic materials and are relatively densely distributed. The historic component appears to be effectively destroyed.

Recommendations: Testing to determine the nature and context of buried prehistoric cultural materials appears to be warranted. The historic component may warrant further work; archival research concerning the historic community of Little Egypt appears to be warranted.

41LN195

Map Reference: USGS Camp Creek Lake 7.5' sheet, 1965

Elevation: 300 to 330 feet MSL

Location: The site is located 0.4 kilometer (0.2 mile) northeast of the confluence of Duck Creek and the Navasota River and 0.9 kilometer (0.6 mile) north-northeast of Sulphur Lake.

Description: Prehistoric site 41LN195 consists of a relatively dense scatter of lithic debitage, utilized flakes and burned rocks. Materials are contained within all or part of at least 1 meter of light brown sandy soil which overlies culturally sterile sandy clay. The site is exposed primarily in rodent spoil piles over an area of 450x450 meters. The site area has been cleared and cultivated, which has disturbed shallow cultural materials; deeper materials, if present, appear to be intact except for bioturbation.

Materials: Interior flakes, which include chert, quartzite and petrified wood, chert cores, utilized flakes and burned rocks were noted.

Environmental Setting: The site is situated within the lower portion of the left valley wall of the Navasota River which is composed of Quaternary fluviatile terrace deposits. The site occurs on a relatively flat bench within a gentle slope immediately above the modern river floodplain. Vegetation consists of introduced bermudagrass.

Archeological Summary: Site 41LN195 appears to represent a campsite associated with the Navasota River. Both riverine and valley wall resource orientations are suggested.

Assessment: Despite surface disturbance of the site by modern land use, deeply buried cultural materials may be relatively intact. The materials include culturally diagnostic items and are relatively densely distributed.

Recommendations: Testing to determine the nature and context of buried cultural materials is warranted.

41LN196

Map Reference: USGS Camp Creek Lake 7.5' sheet, 1965

Elevation: 290 to 300 feet MSL

Location: The site is located 1.2 kilometer (0.7 mile) east of the confluence of Duck Creek and the Navasota River and 0.8 kilometer (0.5 mile) northeast of Sulphur Lake.

Description: Prehistoric site 41LN196 is a thin scatter of lithic flakes 100x100 meters in size. Materials are contained within all or part of at least 30 centimeters of sandy soil which overlies culturally sterile sandy clay. The site was noted in small disturbances in dense ground cover of cultivated grasses. Although shallowly buried cultural materials are disturbed, possible buried materials may be intact except for bioturbation.

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Materials: Interior chert and quartzite flakes were noted.

Environmental Setting: The site is situated within the lower portion of the right valley wall of Clear Creek, a major left bank tributary of the Navasota River. Although the origin of the landform is uncertain, the site is on a sandy rise immediately above the creek's floodplain. Vegetation consists of introduced bermudagrass.

Archeological Summary: Site 41LN196 appears to represent a limited activity site associated with a major tributary of the Navasota River. Both riverine and valley wall resource orientations are suggested.

Assessment: Surface materials are disturbed, but shallowly buried materials may be intact. The materials present are thinly distributed and generally undiagnostic.

Recommendations: Further work does not appear to be scientifically productive at this time.

41LN197

Map Reference: USGS Camp Creek Lake 7.5' sheet, 1965

Elevation: 290 to 300 feet MLS

Location: The site is located 1.2 kilometers (0.7 mile) east-southeast of the confluence of Duck Creek and the Navasota River and 0.6 kilometers (0.4 mile) northeast of Sulphur Lake.

Description: Prehistoric site 41LN197 is a thin scatter of lithic debitage and burned rocks which is at least 190 meters in length and an unknown distance in width. Cultural materials are contained within all or part of at least 2 meters of sandy soil which overlies culturally sterile sandy clay. The site is exposed in an area disturbed by bulldozing and cultivation. A portion of the site away from this disturbance, however, appears to be intact except for bioturbation.

Materials: Cortex and interior chert and petrified wood flakes (predominantly interior chert flakes), a chert core and burned rocks were noted.

Environmental Setting: The site is situated within the lower portion of the right valley wall of Clear Creek, a major left bank tributary of the Navasota River. Although the origin of the landform is uncertain, the site is on a sandy rise immediately above the creek's floodplain. Vegetation consists of introduced bermudagrass.

Archeological Summary: Site 41LN197 appears to represent a campsite associated with a major tributary of the Navasota River. Both riverine and valley wall resource orientations are suggested.

Assessment: Although surface materials are disturbed, deeply buried cultural materials may be present and relatively intact. The materials are relatively densely distributed and include culturally diagnostic materials.

Recommendations: Testing to determine the presence of buried cultural materials is warranted.

41LN198

Map Reference: USGS Camp Creek Lake 7.5' sheet, 1965

Elevation: 305 to 315 feet MSL

Location: The site is located 0.9 kilometer (0.6 mile) east-northeast of the confluence of Duck Creek and the Navasota River and 0.7 kilometer (0.4 mile) north of Sulphur Lake.

Description: Site 41LN198 consists of both prehistoric and historic components. The prehistoric component is a thin scatter of lithic debitage and a projectile point fragment exposed by bulldozing, in rodent spoil piles and at the base of a large tree. Cultural materials may be contained within an unknown depth of sandy soil. The historic component consists of the remains of a structure with an associated scatter of artifacts that is apparently surficial in nature. The site area has been cleared, is cultivated, and appears to be badly disturbed.

Materials: Chert interior flakes, one core and a probable dart point fragment were noted as well as portions of a brick structure, a plowshare and several sherds of clear glass.

Environmental Setting: The site is situated within the lower portion of the left valley wall of the Navasota River which is composed of Quaternary fluviatile terrace deposits. The site occurs on a relatively flat bench within a gentle slope immediately above the modern river floodplain. Vegetation consists of introduced bermudagrass.

Archeological Summary: The prehistoric component of site 41LN198 appears to represent a limited activity area which may be associated either with the Navasota River or Clear Creek. A valley wall resource orientation and an Archaic occupation are suggested. The historic component may represent a housesite which probably dates to the twentieth century and was part of the historic community of Little Egypt (Appendix I, Historical Background).

Assessment: The site appears to be severely disturbed and the materials noted for either component are thinly distributed and generally undiagnostic (the historic plowshare is an exception).

Recommendations: Further work does not appear to be scientifically productive at this time for the prehistoric component. The historic component may warrant testing to determine the presence of buried cultural materials on the basis of the historic community of Little Egypt.

41LN199

Map Reference: USGS Camp Creek Lake 7.5' sheet, 1965

Elevation: 275 feet MSL

Location: The site is located 0.2 kilometer (0.1 mile) northwest of Sulphur Lake and 0.8 kilometer (0.5 mile) southeast of the confluence of Duck Creek and the Navasota River.

Description: Prehistoric site 41LN199 is a thin scatter of lithic flakes and burned rocks at least 30 meters in length and an unknown distance in width. Materials are contained within all or part of at least 40 centimeters of sandy loam. The site is exposed in the banks of a channel which drains a manmade lake. Buried and apparently intact cultural materials extend an unknown distance away from both banks.

Materials: Interior chert flakes, a large primary chert flake and burned rocks were noted.

Environmental Setting: The site is situated within the modern floodplain of the Navasota River along a relict river channel. Vegetation consists of mixed hardwood forest and grass species.

Archeological Summary: Site 41LN199 appears to represent a campsite which at the time of its occupation was closely associated with the Sulphur-Malochomy lakes relict channel. A riverine resource orientation is suggested.

Assessment: The site is apparently intact except for minor erosion and bioturbation. The thinly distributed cultural materials present include culturally diagnostic materials.

Recommendations: Testing to determine the nature and context of buried cultural materials may be warranted.

41LN200

Map Reference: USGS Camp Creek Lake 7.5' sheet, 1965

Elevation: 275 feet MSL

Location: The site is located 0.2 kilometer (0.1 mile) west of Sulphur Lake and 0.8 kilometer (0.5 mile) southeast of the confluence of Duck Creek and the Navasota River.

Description: Prehistoric site 41LN200 is a relatively dense scatter of lithic flakes, a projectile point and burned rocks over an area of 70x30 meters. Materials are contained within all or part of at least 40 centimeters of sandy soil which overlies culturally sterile sandy clay. The site is exposed along the banks of a small tributary stream. Portions of the site away from the streambanks appear to be intact except for bioturbation.

Materials: Chert and quartzite interior flakes, pieces of hematite and burned rocks were noted. An untyped projectile point (see Appendix II, Fig. 21i) was collected. A 1941 Lincoln-head penny and a sherd of clear glass are considered to be intrusive.

Environmental Setting: The site is situated within the modern floodplain of the Navasota River in association with the Sulphur-Malochomy lake relict channel. Vegetation consists of a hardwood forest.

Archeological Summary: Site 41LN200 appears to represent a campsite which at the time of its occupation was closely associated with the Navasota River. A riverine resource orientation and at least an Archaic occupation are suggested.

Assessment: The site appears to be intact except for minor erosion and root bioturbation. The cultural materials present include both temporally and culturally diagnostic artifacts.

Recommendations: Testing to determine the presence and context of additional components and the nature and density of buried cultural materials is warranted.

41LN201

Map Reference: USGS Camp Creek Lake 7.5' sheet, 1965

Elevation: 270 to 275 feet MSL

Location: The site is located along the left bank of the Navasota River and is 0.5 kilometer (0.3 mile) south of the confluence of Duck Creek and the Navasota River and 1.3 kilometers (0.8 mile) southeast of the northern end of Duck Lake.

Description: Prehistoric site 41LN201 consists of exposed hearth-sized burned rock features and an associated thin scatter of lithic debitage and burned rocks. Materials are contained within an unknown depth of loamy soil but are apparently concentrated within the uppermost 50 centimeters of fill. The site is exposed for a distance of 70 meters in the bank of a small tributary stream. A portion of the site away from the bank appears to be intact except for bioturbation.

Materials: Hearth-sized burned rock features, interior chert and quartzite flakes, a quartzite core, hematite and scattered burned rocks were noted.

Environmental Setting: The site is situated within the modern floodplain of the Navasota River along the present river channel. Vegetation consists of a hardwood forest.

Archeological Summary: Site 41LN201 appears to represent a campsite which is closely associated with the Navasota River. A riverine resource orientation is suggested.

Assessment: The site appears to be intact except for minor erosion and root bioturbation. The cultural materials include intact features, culturally diagnostic artifacts and other materials.

Recommendations: Extensive testing and/or excavation is warranted. Testing should be of sufficient extent to provide information necessary for a determination of eligibility to the National Register of Historic Places.

41LN202

Map Reference: USGS Camp Creek Lake 7.5' sheet, 1965

Elevation: 320 feet MSL

Location: The site is located 1.3 kilometers (0.8 mile) north-northeast of Sulphur Lake and 0.9 kilometer (0.6 mile) northeast of the confluence of Duck Creek and the Navasota River.

Description: Prehistoric site 41LN202 is a thin scatter of lithic flakes and burned rocks over an area of at least 20x10 meters. Materials are contained within a shallow depth (probably less than 20 centimeters) of brown sandy loam which overlies culturally sterile gravelly clay. The site is exposed by fence construction, gravel quarrying and erosion. The portion of the site examined appears to be badly disturbed. The primary area of the site is southeast in the known site area and has been disturbed by land clearing and cultivation.

Materials: Cortex and interior flakes and burned rocks were noted.

Environmental Setting: The site is situated on a ridgecrest composed of strata of the Queen City Formation within the lower portion of the left valley wall of the Navasota River. Vegetation is introduced bermudagrass.

Archeological Summary: Site 41LN202 appears to represent a campsite associated with the Navasota River. Both valley wall and riverine resource orientations are suggested.

Assessment: Although the portion of the site examined is severely disturbed, other portions of the site may be relatively intact.

Recommendations: Testing to determine the nature and context of buried cultural materials may be warranted.

41LN203

Map Reference: USGS Clear Creek Lake 7.5' sheet, 1965

Elevation: 320 feet MSL

Location: The site is located 1.2 kilometers (0.7 mile) north-northwest of Sulphur Lake and 0.7 kilometer (0.4 mile) northeast of the confluence of Duck Creek and the Navasota River.

Description: Prehistoric site 41LN203 is a thin scatter of lithic flakes and burned rocks over an area of at least 100x10 meters. Materials, contained within an unknown depth of brown sandy loam, are exposed in rodent spoil piles. The site area has been disturbed by land clearing and cultivation, and by bioturbation.

Materials: Cortex and interior chert flakes and burned rocks were noted.

Environmental Setting: The site is situated on a ridgecrest composed of strata of the Queen City Formation within the lower portion of the left valley wall of the Navasota River. Vegetation is introduced bermudagrass.

Archeological Summary: Site 41LN203 appears to represent a campsite associated with the Navasota River. Both valley wall and riverine resource orientations are suggested.

Assessment: Although the portion of the site examined is severely disturbed, other portions of the site may be relatively intact.

Recommendations: Testing to determine the nature and context of buried cultural materials may be warranted.

41RT132

Map Reference: USGS Camp Creek Lake 7.5' sheet, 1965

Elevation: 275 to 280 feet MSL

Location: The site is located above the western edge of the northern end of Wilburn Lake and 1.2 kilometers (0.7 mile) west-northwest of the confluence of Duck Creek and the Navasota River.

Description: Prehistoric site 41RT132 is a 100x50-meter thin scatter of lithic flakes. Materials are contained within all or part of at least 1 meter of sandy soil. The site is exposed by erosional gullying, and a portion of the site away from the gully appears to be intact except for bioturbation and minor erosion.

Materials: Interior chert flakes were noted at the site.

Environmental Setting: The site is situated at the edge of a low terrace composed of Quaternary alluvium within the valley floor of the Navasota River. The site appears to be associated with a seep-fed lake. Vegetation consists of oak trees and a yaupon understory.

Archeological Summary: Site 41RT132 appears to represent a limited activity site which is associated with a perennial seep-fed lake. Both riverine and spring resource orientations are suggested.

Assessment: Although portions of the site may be relatively intact, the density and kinds of cultural materials present are limited.

Recommendations: Testing to determine the nature and context of buried cultural materials may be warranted.

41RT133

Map Reference: USGS Camp Creek Lake 7.5' sheet, 1965

Elevation: 275 feet MSL

Location: The site is located 0.7 kilometer (0.4 mile) east of the northern end of Wilburn Lake and 0.5 kilometer (0.3 mile) northwest of the confluence of Duck Creek and the Navasota River.

Description: Site 41RT133 consists of both prehistoric and historic components. The prehistoric component is a thin scatter of lithic flakes and burned rocks. Prehistoric cultural materials are contained within all or part of at least 2 meters of loam or clayey loam and are exposed by gravel borrowing over a 20x20-meter area. Portions of the site away from the disturbance appear to be intact. The historic component consists of an intact bridge across Duck Creek.

Materials: Chert interior flakes and burned rocks were noted as well as a brick, concrete and asphalt bridge.

Environmental Setting: The site is situated along the present channel of Duck Creek within the modern floodplain of the Navasota River. The creek course appears to follow a relict channel of the Navasota River. Vegetation consists of a hardwood forest.

Archeological Summary: Site 41RT133 appears to represent a campsite which at the time of its occupation was associated with the Navasota River. A riverine resource orientation is suggested. The bridge apparently dates to the twentieth century and is associated with the present channel of Duck Creek.

Assessment: Although portions of the site are apparently relatively intact, the prehistoric component appears to represent a portion of site 41RT134 which has been isolated by river channel movement. The historic bridge, although intact, is not architecturally significant.

Recommendations: Testing to determine the nature and context of buried prehistoric cultural materials may be warranted. Further work on the bridge does not appear to be scientifically productive at this time; however, archival research concerning the site's relationship to early transportation systems may be warranted.

41RT134

Map Reference: USGS Camp Creek Lake 7.5' sheet, 1965

Elevation: 280 feet MSL

Location: The site is located along the right bank of Duck Creek from a point 0.5 kilometer (0.3 mile) northeast of the northern end of Wilburn Lake to near the creek's confluence with the Navasota River.

Description: Prehistoric site 41RT134 is a relatively dense scatter of lithic flakes, projectile points and other tools and burned rocks. Materials are contained within all or part of at least 30 centimeters of loam or sandy loam which overlies culturally sterile sandy clay. The site, visible in eroded areas above the bank of Duck Creek, includes five separate areas of exposure, each 30 to 50 meters in size. The total site area is 600 meters by 30 meters in size. Cultural materials appear to be intact except for minor bioturbation and erosion along the creek bank.

Materials: Chert cortex and interior flakes (primarily interior), and burned rocks were noted. An arrow point (Appendix II) and a Neches River dart point (see Appendix II, Fig. 21e) were collected.

Environmental Setting: The site is situated along the right bank of the present course of Duck Creek and within the modern floodplain of the Navasota River. The creek course appears to follow a relict channel of the Navasota River. Vegetation consists of a hardwood forest.

Archeological Summary: Site 41RT134 appears to represent a campsite which at the time of its occupation was associated with the Navasota River. A riverine resource orientation is suggested. The site was apparently occupied from the middle Archaic through Neoarchaic periods.

Assessment: The site appears to be intact except for minor root bioturbation. The cultural materials present include temporally and culturally diagnostic artifacts and other materials which are relatively densely distributed.

Recommendations: Testing to determine the context of the several prehistoric components represented and the nature and density of the cultural materials present is warranted. Testing should be of sufficient extent to provide information necessary for a determination of eligibility for nomination to the National Register of Historic Places.

41RT135

Map Reference: USGS Camp Creek Lake 7.5' sheet, 1965

Elevation: 270 feet MSL

Location: The site is located 0.5 kilometer (0.3 mile) south-southwest of the confluence of Duck Creek and the Navasota River and 1.2 kilometers (0.7 mile) southeast of the northern end of Wilburn Lake.

Description: Prehistoric site 41RT135 is a scatter of lithic flakes and tools, and burned rocks. Materials are contained within all or part of at least 30 centimeters of sandy loam or loam. The site, the known area of which is 35x20 meters in size, is exposed by erosion above

the bank of a relict channel of the Navasota River. An unknown area of the site away from the bank appears to be intact except for minor bioturbation.

Materials: Cortex and interior chert flakes, a chert biface fragment and burned rocks were noted. A Gary dart point (see Appendix II, Fig. 21c) was collected.

Environmental Setting: The site is situated along the right bank of a relict channel which closely parallels the present channel of the Navasota River. Vegetation consists of a hardwood forest with a scattered understory of yaupon shrubs and vines.

Archeological Summary: Site 41RT135 appears to represent a campsite which at the time of its occupation was associated with the Navasota River. A riverine resource orientation and at least a late Archaic occupation are suggested.

Assessment: The site appears to be intact except for minor root bioturbation. The relatively densely distributed cultural materials include both temporally and culturally diagnostic artifacts and other materials.

Recommendations: Testing to determine the presence of a single component and/or stratigraphically separable multiple components as well as the kinds and density of the cultural materials present is warranted. Testing should be of sufficient extent to provide information necessary for a determination of eligibility for nomination to the National Register of Historic Places.

41RT136

Map Reference: USGS Camp Creek Lake 7.5' sheet, 1965

Elevation: 280 feet MSL

Location: The site is located above the western edge of the southern end of Wilburn Lake and is 1.3 kilometers (0.8 mile) west-southwest of the confluence of Duck Creek and the Navasota River.

Description: Prehistoric site 41RT136, at least 30x20 meters in size, is a thin scatter of lithic flakes and a ceramic sherd. Materials are contained within all or part of at least 60 centimeters of unconsolidated sand. The site is exposed by land clearing associated with a powerline right-of-way and subsequent erosion. Portions of the site, however, may be relatively intact.

Materials: Interior chert and petrified wood flakes were noted. A ceramic sherd (Appendix II) was collected.

Environmental Setting: The site is situated at the edge of a low Quaternary alluvium terrace within the valley floor of the Navasota River. The site appears to be associated with a seep-fed lake. Vegetation consists of oak trees and a yaupon understory.

Archeological Summary: Site 41RT136 appears to be a limited activity site associated with a perennial seep-fed lake. Both riverine and spring resource orientations and a Neoarchaic occupation are suggested.

Assessment: Although portions of the site may be relatively intact, the density and kinds of cultural materials present are limited. The presence of ceramics, however, may be significant.

Recommendations: Testing to determine the nature and context of buried cultural materials may be warranted.

41RT137

Map Reference: USGS Camp Creek Lake 7.5' sheet, 1965

Elevation: 280 to 290 feet MSL

Location: The site is located 0.4 kilometer (0.2 mile) west-southwest of the northern end of Wilburn Lake and 2.3 kilometers (1.4 miles) east-northeast of Sulphur Lake.

Description: Prehistoric site 41RT137, a thin scatter of lithic flakes, is at least 60x20 meters in size. Materials are contained within an unknown depth of sandy soil. Portions of the site are visibile in areas exposed by road and stock pond construction. The site has been adversely affected by these disturbances as well as by land clearing and cultivation (bermudagrass).

Materials: Interior chert flakes were noted at the site.

Environmental Setting: The site is situated on a low terrace composed of Quaternary alluvium associated with the Navasota River, and is near the river's right valley wall. Vegetation consists of introduced bermudagrass.

Archeological Summary: Site 41RT137 appears to represent a limited activity area which may be associated with a seep-fed lake. Both riverine and valley wall, and possibly spring, resource orientations are suggested.

Assessments: The site has been disturbed by clearing and cultivation. The cultural materials are apparently undiagnostic and thinly distributed.

Recommendations: Testing to determine the nature and context of buried cultural materials may be warranted.

41RT138

Map Reference: USGS Camp Creek Lake 7.5' sheet, 1965

Elevation: 300 to 310 feet MSL

Location: The site is located 0.8 kilometer (0.5 mile) southwest of the northern end of Wilburn Lake and 2.8 kilometers (1.7 miles) west-northwest of Sulphur Lake.

Description: Prehistoric site 41RT138 is a thin scatter of lithic flakes and burned rocks. Materials are contained within all or part of 30 to 50 centimeters or more of sandy soil which overlies culturally sterile sandy clay. The site is exposed in the bed of an unimproved road and may represent materials redeposited from upslope.

Materials: Interior chert and quartzite flakes and burned rocks were noted.

Environmental Setting: The site is situated within the lower portion of the right valley wall of the Navasota River. The valley wall is composed of bedrock strata of the Queen City Formation. Vegetation consists of oak and elm trees and yaupon shrubs.

Archeological Summary: Site 41RT138 appears to represent a campsite which may be a portion of a larger site on the ridgecrest above. Both valley wall, riverine, and possibly spring, resource orientations are suggested.

Assessment: Although this exposure of cultural materials may be of disturbed and/or dubious context, other portions of the site may contain relatively intact cultural materials.

Recommendations: Testing to determine the nature and context of buried cultural materials may be warranted.

41RT139

Map Reference: USGS Camp Creek Lake 7.5' sheet, 1965

Elevation: 310 to 360 feet MSL

Location: The site is located 1.7 kilometers (1.1 miles) south-southwest of the northern end of Wilburn Lake and 2.4 kilometers (1.5 miles) southwest of the confluence of Duck Creek and the Navasota River.

Description: Prehistoric site 41RT139 is a relatively dense scatter of lithic flakes, a grinding stone, a ceramic sherd and burned rocks. Materials are contained within all or part of at least 1.5 meters of sandy soil and are exposed in the bed of an unimproved road. Except for disturbances by road use and bioturbation, the site appears to be intact.

Materials: Interior chert and other flakes, an unshaped sandstone grinding slab and burned rocks were noted. A ceramic sherd (Appendix II) was collected.

Environmental Setting: The site is situated within the lower portion of the right valley wall of the Navasota River. The valley wall is

composed of strata of the Queen City Formation. Vegetation consists of oak and elm trees and yaupon shrubs.

Archeological Summary: Site 41RT139 appears to represent a campsite which may be a portion of a larger site on the ridgecrest above. Valley wall, riverine, and possibly spring, resource orientations are suggested.

Assessment: Although this exposure of cultural materials may be disturbed and/or of dubious context, other areas may contain relatively intact cultural materials.

Recommendations: Testing to determine the nature and context of buried cultural materials appears to be warranted.

41RT140

Map Reference: USGS Camp Creek Lake 7.5' sheet, 1965

Elevation: 300 feet MSL

Location: The site is located 1.4 kilometers (0.9 mile) south-southwest of the northern end of Wilburn Lake and 2 kilometers (1.2 miles) southwest of the confluence of Duck Creek and the Navasota River.

Description: Prehistoric site 41RT140, 30x30 meters in size, is a thin scatter of lithic flakes and burned rocks . Materials are contained within all or part of at least 50 centimeters of sandy soil which overlies culturally sterile clayey subsoil. The site, exposed in rodent spoil piles, appears to be badly disturbed by erosion and deflation.

Materials: Interior chert flakes and burned rocks were noted.

Environmental Setting: The site is situated at the lower margin of the right valley wall of the Navasota River. Vegetation consists primarily of forbs.

Archeological Summary: Site 41RT140 appears to represent a thinly distributed campsite or limited activity area. Valley wall, riverine and spring orientations are suggested.

Assessment: The site appears to be severely disturbed.

Recommendations: Further work does not appear to be scientifically productive at this time.

41RT141

Map Reference: USGS Camp Creek Lake 7.5' sheet, 1965

Elevation: 310 feet MSL

Location: The site is located 1.6 kilometers (1 mile) south-southwest of the northern end of Wilburn Lake and 2.1 kilometers (1.3 miles) southwest of the confluence of Duck Creek and the Navasota River.

Description: Site 41RT141 consists of both prehistoric and historic components. The prehistoric component is a 100x35-meter thin scatter of lithic flakes and burned rocks. Materials are contained with an unknown depth of sandy soil which overlies culturally sterile clayey subsoil. The historic component, which consists of a thin scatter of ceramic and glass sherds, is contained within the larger prehistoric site area. The historic materials are apparently primarily surficial in nature. The site area has been badly disturbed by cultivation and erosion.

Materials: Interior chert flakes and burned rocks were noted in addition to historic glass, whiteware and spongeware ceramic sherds.

Environmental Setting: The site is situated at the lower margin of the right valley wall of the Navasota River. Vegetation consists primarily of forbs.

Archeological Summary: Site 41RT141 appears to represent a campsite or limited activity area. Valley wall, riverine and spring orientations are suggested.

Assessment: The site is severely disturbed.

Recommendations: Further work does not appear to be scientifically productive at this time.

41RT142

Map Reference: USGS Camp Creek Lake 7.5' sheet, 1965

Elevation: 290 to 310 feet MSL

Location: The site is located 1.5 kilometers (0.9 mile) south-southeast of the northern end of Wilburn Lake and 1.7 kilometers (1.1 miles) south-southeast of the confluence of Duck Creek and the Navasota River.

Descriptions: Prehistoric site 41RT142 is a thin scatter of lithic flakes and burned rocks. Materials are contained within an unknown depth of sandy soil. The site is exposed by bulldozer activity over an area of 90x20 meters. An unknown extent of the site is apparently intact except for bioturbation.

Materials: Interior chert and quartzite flakes and burned rocks were noted.

Environmental Setting: The site, situated at the lower margin of the right valley wall of the Navasota River, is directly associated with a seep spring.

Archeological Summary: Site 41RT142 appears to represent a campsite associated with a seep spring. Valley wall, riverine and spring resource orientations are suggested.

Assessment: The site appears to be relatively intact and the thinly distributed cultural materials include some diagnostic materials.

Recommendations: Testing to determine the nature and context of buried cultural materials is warranted.

41RT143

Map Reference: USGS Camp Creek Lake 7.5' sheet, 1965

Elevation: 275 to 300 feet MSL

Location: The site is located 1.4 kilometers (0.9 mile) southeast of the northern end of Wilburn Lake and .7 kilometer (0.4 mile) south of the confluence of Duck Creek and the Navasota River.

Description: Prehistoric site 41RT143, at least 200x140 meters in size, is a thin scatter of lithic flakes, a tool and burned rocks. Materials are contained within all or part of at least 1 meter of coarse sandy soil. The site is exposed in an unimproved roadbed and the eroded bank of a small tributary stream. It is apparently intact except for erosional effects and minor bioturbation.

Materials: Chert flakes, a partially reduced biface and burned rocks were noted.

Environmental Setting: The site is situated at the lower margin of the right valley wall of the Navasota River, immediately above the present river channel.

Archeological Summary: Site 41RT143 appears to represent a campsite associated with the Navasota River. Both valley wall and riverine resource orientations are suggested.

Assessment: The site is apparently relatively intact, and the cultural materials present, although thinly distributed, include culturally diagnostic artifacts and materials.

Recommendations: Testing to determine the nature and context of buried cultural materials is warranted. Testing should be of sufficient extent to provide information necessary for a determination of eligibility for nomination to the National Register of Historic Places.

41RT144

Map Reference: USGS Camp Creek Lake 7.5' sheet, 1965

Elevation: 280 feet MSL

Location: The site is located 1.4 kilometers (0.9 mile) southeast of the northern end of Wilburn Lake and 1.2 kilometers (0.7 mile) south-southwest of the confluence of Duck Creek and the Navasota River.

Description: Prehistoric site 41RT144 is an isolated lithic flake exposed by erosion. Other cultural materials, if present, may be contained within an unknown depth of coarse sandy soil. The site area has been cleared but apparently is otherwise intact.

Materials: An interior chert flake was noted.

Environmental Setting: The site is situated at the lower margin of the right valley wall of the Navasota River. Vegetation consists primarily of forbs.

Archeological Summary: Site 41RT144 appears to represent a limited activity area. Valley wall, riverine and spring orientations are suggested.

Assessment: The site appears to be severely disturbed.

Recommendations: Further work does not appear to be scientifically productive at this time.

PREVIOUSLY KNOWN SITES

Brief summaries of previously known sites within the project area are provided in Table 71. The tabulated data include the number assigned to each site, the elevation, the damsite alternative which will affect it, a brief characterization of the site, the project description, the recording agency, and the date the site was recorded. More detailed descriptions and discussions of the artifacts encountered may be found in the appropriate reports indicated for each site.

TABLE 71

SUMMARY OF PREVIOUSLY KNOWN SITES

Site	Elevation	Reservoir Damsite	Site Description	Recorded by
41BZ8	210	Millican damsite	A 20x40 m sparse scatter of flakes, biface fragments and an arrow point fragment exposed in rodent spoil piles. Lower valley wall of Millican Creek. Neoarchaic.	Millican Project Texas Historical Commission 1971
41BZ9	250	Millican damsite	A thin 100x50 m scatter of flakes exposed in rodent spoil piles and by erosion. Upper valley wall of Navasota River.	Millican Project Texas Historical Commission 1971
41BZ10	240	Millican damsite	A 30x20 m scatter of flakes and an arrow point fragment are exposed in an unimproved roadbed. Valley wall of Navasota River. Neoarchaic.	Millican Project Texas Historical Commission 1971
41BZ11	210	Millican damsite	A 50x90 m scatter of flakes, 2 arrow point fragments and burned rocks are exposed by erosion. Lower valley wall of Navasota River. Neoarchaic.	Millican Project Texas Historical Commission 1971
41BZ12	200	Millican damsite	A 75x50 m thin scatter of flakes and 2 arrow point fragments are exposed, at least partially, in an unimproved roadbed. Lower valley wall of Millican Creek. Neoarchaic.	Millican Project Texas Historical Commission 1971
41BZ13	260	Millican damsite	A 30x40 m very thin scatter of flakes, a possible dart point and a core. Lower valley wall of Millican Creek.	Millican Project Texas Historical Commission 1971

Table 71, continued

Site	Elevation	Reservoir Damsite	Site Description	Recorded by
41BZ14	280	Millican damsite	A 100x30 m thin scatter of flakes, an arrow point, 2 pieces of scored sandstone and a cut nail exposed, at least partially, on sandstone bedrock. Upper valley wall of Millican Creek.	Millican Project Texas Historical Commission 1971
41BZ15	280	Millican damsite	A thin scatter of flakes, cut nails (possibly hand-forged), ceramics, glass and handmade bricks, 40x20 m in size. Milled sandstone piers in situ. Upper valley wall of Millican Creek.	Millican Project Texas Historical Commission 1971
41BZ16	180	Millican conservation pool	A thin scatter of flakes washing from the bank of the Navasota River. Valley floor of Navasota River, possibly spring oriented.	Millican Project Texas Historical Commission 1971
41BZ17	240	Millican project boundaries Panther Creek I conservation pool Panther Creek II project boundaries	An isolated flake exposed in an area disturbed by State Highway 30. Lower valley wall of Navasota River.	Millican Project Texas Archeological Survey 1973
41BZ18	210	Millican conservation pool Panther Creek damsite	A thin scatter of flakes exposed in rodent spoil piles. Lower valley wall of Navasota River.	Millican Project Texas Archeological Survey 1973
41BZ19	210	Millican conservation pool Panther Creek damsite	A thin scatter of flakes, approximately 2 to 3 acres in size, exposed in rodent spoil piles. Lower valley wall of Navasota River.	Millican Project Texas Archeological Survey 1973

Table 71, continued

Site	Elevation	Reservoir Damsite	Site Description	Recorded by
41BZ20	250	Panther Creek I conservation pool	A thin scatter of flakes, tools and ceramics exposed in rodent spoil piles. Lower valley wall of Navasota River.	Millican Project Texas Archeological Survey 1973
41BZ21	240	Millican project boundaries Panther Creek I conservation pool Panther Creek II project boundaries	A thin scatter of flakes and 1 bone fragment exposed in rodent spoil piles. Lower valley wall of Navasota River.	Millican Project Texas Archeological Survey 1973
41BZ22	210	Millican conservation pool Panther Creek I conservation pool Panther Creek II conservation pool	A thin scatter of flakes and tools exposed along natural levee of relict river channel. Valley floor of Navasota River. Archaic (dart points).	Millican Project Texas Archeological Survey 1973
41BZ23	260	Panther Creek I conservation pool	A thin scatter of flakes exposed in rodent spoil piles. Lower valley wall of Navasota River.	Millican Project Texas Archeological Survey 1973
41BZ24	200	Millican conservation pool	A thin scatter of flakes (1 utilized) and a petrified wood biface exposed in an unimproved roadbed. Lower valley wall of Navasota River.	Millican Project Texas Archeological Survey 1973
41BZ25	220	Millican floodpool Panther Creek I conservation pool Panther Creek II conservation pool	A relatively dense scatter of flakes (including utilized), ceramic sherds, projectile points, other bifaces and a core exposed by gravel quarrying. Lower valley wall of Navasota River. Archaic through Neoarchaic.	Millican Project Texas Archeological Survey 1973

Table 71, continued

Site	Elevation	Reservoir Damsite	Site Description	Recorded by
41BZ26	240	Millican project boundaries Panther Creek I conservation pool Panther Creek II project boundaries	A relatively dense scatter of flakes (including utilized), projectile points, ceramic sherds, cores and a battered stone exposed by gravel quarrying. Lower valley wall of Navasota River. Early Archaic (early phase) through Neoarchaic.	Millican Project Texas Archeological Survey 1973
41BZ27	220	Millican floodpool Panther Creek I conservation pool Panther Creek II conservation pool	A thin scatter of flakes (including utilized) and a crude biface exposed by gravel quarrying. Lower valley wall of Navasota River.	Millican Project Texas Archeological Survey 1973
41BZ28	240	Millican project boundaries Panther Creek damsite	A thin scatter of flakes over an area at least 4 to 5 acres in size and exposed by land erosion. Lower valley wall of unnamed river tributary.	Millican Project Texas Archeological Survey 1973
41BZ29	230	Millican floodpool Panther Creek damsite	A thin scatter of flakes (including utilized), a biface fragment and a core exposed in rodent spoil piles. Lower valley wall of unnamed river tributary.	Millican Project Texas Archeological Survey 1973
41BZ30	210	Millican conservation pool	A thin scatter of flakes exposed in an unimproved roadbed. Lower valley wall of Carters Creek.	Millican Project Texas Archeological Survey 1973

Table 71, continued

Site	Elevation	Reservoir Damsite	Site Description	Recorded by
41GM2	210	Millican conservation pool Panther Creek I conservation pool Panther Creek II conservation pool	A scatter of flakes, biface fragments, ceramic sherds and bone exposed by gravel quarrying. Lower valley wall of Navasota River. Neoarchaic (ceramics).	Millican Project Texas Historical Commission 1971
41GM7	230	Millican floodpool	A thin scatter of lithic debitage exposed in garden. Lower valley wall of Sand Creek (Rocky Creek). Spring oriented.	Millican Project Texas Archeological Survey 1973
41GM8	210	Millican conservation pool Panther Creek I conservation pool Panther Creek II conservation pool	A thin scatter of flakes and burned rocks, 100x100 m in size, exposed by the construction of State Highway 30. Lower valley wall of Panther Creek.	Millican Project Texas Archeological Survey 1973
41GM9	240	Millican project boundaries	A thin scatter of flakes exposed in rodent spoil piles. Lower valley wall of Sand Creek (Rocky Creek), possibly spring oriented. Neoarchaic (arrow points reported).	Millican Project Texas Archeological Survey 1973
41GM10	240	Millican project boundaries	A thin scatter of flakes exposed in an unimproved roadbed and around a modern structure. Lower valley wall of Sand Creek (Rocky Creek), possibly spring oriented.	Millican Project Texas Archeological Survey 1973
41GM11	210	Millican conservation pool	A 2 to 3 acre thin scatter of flakes exposed in rodent spoil piles. Lower valley wall of Rocky Creek.	Millican Project Texas Archeological Survey 1973

Table 71, continued

Site	Elevation	Reservoir Damsite	Site Description	Recorded by
41GM12	220	Millican damsite	A thin scatter of flakes exposed in a cleared area. Lower valley wall of Rocky Creek.	Millican Project Texas Archeological Survey 1973
41GM13	220	Millican floodpool	A thin scatter of flakes (including utilized), ceramic sherd, dart point stem and other biface fragments exposed by excavation for a pipeline. Lower valley wall of Rocky Creek. Middle through Neoarchaic (expanding-stem dart point and ceramics, arrow points reported).	Millican Project Texas Archeological Survey 1973
41GM14	210	Millican damsite	A thin scatter of flakes exposed in rodent spoil piles. Isolated knoll within valley floor of Rocky Creek.	Millican Project Texas Archeological Survey 1973
41GM15	220	Millican floodpool	A thin scatter of flakes and Scallorn type arrow points (landowner collection) exposed by erosion. Lower valley wall of Rocky Creek. Neoarchaic, Scallorn.	Millican Project Texas Archeological Survey 1973
41GM16	240	Millican project boundaries Panther Creek I conservation pool Panther Creek II conservation pool	A thin scatter of flakes exposed in rodent spoil piles. Lower valley wall of Panther Creek.	Millican Project Texas Archeological Survey 1973

Table 71, continued

Site	Elevation	Reservoir Damsite	Site Description	Recorded by
41GM17	240	Millican floodpool Panther Creek I conservation pool Panther Creek II conservation pool	A thin scatter of flakes (projectile points have reportedly also been collected) exposed by erosion. Lower valley wall of Panther Creek.	Millican Project Texas Archeological Survey 1973
41GM18	230	Millican floodpool Panther Creek I conservation pool Panther Creek II conservation pool	A thin scatter of flakes (projectile points have reportedly also been collected). Lower valley wall of Panther Creek.	Millican Project Texas Archeological Survey 1973
41GM19	210	Millican damsite	A thin scatter of flakes 3 to 4 acres in size and exposed in rodent spoil piles. Lower valley wall of Rocky Creek.	Millican Project Texas Archeological Survey 1973
41GM20	220	Millican damsite	A scatter of flakes (including utilized), a scraper and a projectile point exposed in rodent spoil piles. Lower valley wall of Rocky Creek.	Millican Project Texas Archeological Survey 1973
41GM21	240	Millican project boundaries Panther Creek damsite	An isolated flake tool exposed on gravels. Lower valley wall of Dinner Creek, possibly spring oriented.	Millican Project Texas Archeological Survey 1973
41GM22	220	Millican floodpool Panther Creek I conservation pool Panther Creek II conservation pool	A relatively dense scatter of flakes (including utilized), a ceramic sherd and cores exposed in an unimproved roadbed. Lower valley wall of Dinner Creek near river confluence. Neoarchaic (ceramics).	Millican Project Texas Archeological Survey 1973

Table 71, continued

Site	Elevation	Reservoir Damsite	Site Description	Recorded by
41GM23	230	Millican floodpool	A thin scatter of flakes, a biface and mussel shell fragments exposed in rodent spoil piles. Lower valley wall of Rocky Creek.	Millican Project Texas Archeological Survey 1973
41GM24	210	Millican conservation pool	A thin scatter of flakes exposed in a roadbed and rodent spoil piles. Lower valley wall of Gibbons Creek.	Millican Project Texas Archeological Survey 1973
41GM25	210	Millican conservation pool	A thin scatter of flakes exposed in an area disturbed by bulldozing. Lower valley wall Gibbons Creek.	Millican Project Texas Archeological Survey 1973 Bryan Lignite Project Texas Municipal Power Authority Texas A&M Research Foundation 1976
41GM26	190	Millican conservation pool	A thin scatter of flakes, a ceramic sherd mussel shell fragments (a Pedernales type dart point and 2 arrow points in landowners' collection). Lower valley wall of Navasota River, possibly spring oriented. Middle Archaic through Neoarchaic (ceramics).	Millican Project Texas Archeological Survey 1973
41GM27	190	Millican conservation pool	A thin scatter of flakes exposed in rodent spoil piles. Lower valley wall of Gibbons Creek near river confluence.	Millican Project Texas Archeological Survey 1973
41GM28	190	Millican conservation pool	A thin scatter of flakes exposed in rodent spoil piles and an unimproved roadbed. Lower valley wall of Gibbons Creek.	Millican Project Texas Archeological Survey 1973

Table 71, continued

Site	Elevation	Reservoir Damsite	Site Description	Recorded by
41GM29	230	Millican floodpool	A thin scatter of flakes, a ceramic sherd and an arrow point exposed in rodent spoil piles. Lower valley wall of Rocky Creek. Neoarchaic.	Millican Project Texas Archeological Survey 1973
41GM31	220	Millican floodpool	A relatively dense scatter of flakes (including utilized), a dart point, another biface fragment and a battered stone exposed in a plowed field. Valley wall of Rocky Creek. Middle to late Archaic.	Millican Project Texas Archeological Survey 1973
41GM32	220	Millican floodpool Panther Creek I conservation pool Panther Creek II conservation pool	A thin scatter of flakes exposed in rodent spoil piles. Lower valley wall of Panther Creek.	Millican Project Texas Archeological Survey 1973
41GM33	220	Millican floodpool Panther Creek I conservation pool Panther Creek II conservation pool	A thin scatter of flakes exposed in rodent spoil piles. Lower valley wall of Navasota River.	Millican Project Texas Archeological Survey 1973
41GM36	210	Millican conservation pool	A thin scatter of flakes exposed in rodent spoil piles. Lower valley wall of Gibbons Creek.	Millican Project Texas Archeological Survey 1973
41GM38	240	Millican project boundaries	A thin scatter of flakes exposed in rodent spoil piles. Lower valley wall of Gibbons Creek.	Millican Project Texas Archeological Survey 1973

Table 71, continued

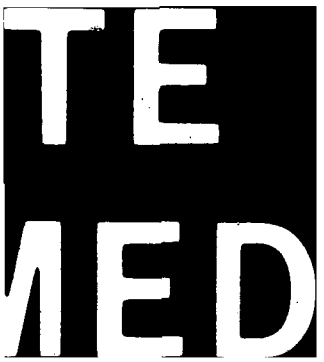
Site	Elevation	Reservoir Damsite	Site Description	Recorded by
41GM40	200	Millican floodpool Panther Creek I conservation pool Panther Creek II conservation pool	A relatively dense scatter of flakes (including utilized), burned rocks, ceramic sherds and bifaces exposed by gravel quarrying. Lower valley wall or low terrace of Navasota River. Neoarchaic.	Millican Project Texas Archeological Survey 1973
41GM49	190	Millican conservation pool	A thin scatter of flakes at least 25 square yards in size exposed by erosion. Lower valley wall of Gibbons Creek near river confluence.	Bryan Lignite Texas Municipal Power Authority Texas A&M Research Foundation 1976
41GM50	210	Millican conservation pool	A thin scatter of flakes. Lower valley wall of Navasota River.	Bryan Lignite Texas Municipal Power Authority Texas A&M Research Foundation 1976
41GM51	210	Millican conservation pool	A thin scatter of flakes exposed by erosion. Lower valley wall of Navasota River.	Bryan Lignite Texas Municipal Power Authority Texas A&M Research Foundation 1976
41GM52	230	Millican floodpool	A 75x100 m relatively dense scatter of flakes and a projectile point fragment exposed in an unimproved roadbed. Lower valley wall of unnamed river tributary.	Bryan Lignite Texas Municipal Power Authority Texas A&M Research Foundation 1976

Table 71, continued

Site	Elevation	Reservoir Damsite	Site Description	Recorded by
41GM53	220	Millican floodpool	A 75x100 m relatively dense scatter of flakes and a projectile point fragment exposed in an unimproved roadbed. Lower valley wall of unnamed river tributary.	Bryan Lignite Texas Municipal Power Authority Texas A&M Research Foundation 1976
41GM54	200	Millican conservation pool	A thin scatter of flakes exposed by cattle movement and subsurface probe. Lower valley wall of unnamed river tributary.	Bryan Lignite Texas Municipal Power Authority Texas A&M Research Foundation 1976
41GM55	200	Millican conservation pool	A scatter of flakes near a gravel concentration. Lower valley wall of Navasota River.	Bryan Lignite Texas Municipal Power Authority Texas A&M Research Foundation 1976
41GM57	210	Millican conservation pool	A thin scatter of flakes and burned rocks. Lower valley wall of Gibbons Creek.	Bryan Lignite Texas Municipal Power Authority Texas A&M Research Foundation 1976
41GM58	200	Millican conservation pool	A 40-square-meter scatter of lithic materials and ceramic sherds. Lower valley wall of Gibbons Creek. Neoarchaic.	Bryan Lignite Texas Municipal Power Authority Texas A&M Research Foundation 1976

Table 71, continued

Site	Elevation	Reservoir Damsite	Site Description	Recorded by
41GM64	200	Millican conservation pool	An approximately 3-acre scatter of flakes and possibly burned rocks exposed by erosion. Lower valley wall of Gibbons Creek.	Bryan Lignite Texas Municipal Power Authority Texas A&M Research Foundation 1976
41GM65	190	Millican conservation pool	A scatter of flakes and burned rocks exposed by bulldozing. Lower valley wall of Gibbons Creek.	Bryan Lignite Texas Municipal Power Authority Texas A&M Research Foundation 1976
41GM68	230	Millican floodpool	A 1500 to 2000 square meter scatter of flakes and ceramic sherds. Lower valley wall of Gibbons Creek. Neoarchaic.	Bryan Lignite Texas Municipal Power Authority Texas A&M Research Foundation 1976
41GM80	230	Millican floodpool	A 4-acre historic cemetery dating between 1884 and 1921. Lower valley wall of Gibbons Creek.	Texas Municipal Power Authority Texas A&M Research Foundation 1979


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