AN ASSESSMENT OF THE CULTURAL RESOURCES WITHIN THE LONGHORN ARMY AMMUNITION PLANT, HARRISON COUNTY, TEXAS

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US Army Corps
of Engineers
Fort Worth District

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ABSTRACT

This report concerns an assessment of the potential for significant cultural resources within the Longhorn Army Ammunition Plant (LHAAP) located in northeastern Harrison County, Texas. The LHAAP is a government-owned, contractor-operated facility under the jurisdiction of the United States Army Armament, Munitions and Chemical Command (AMCCOM). The facility is part of the Army Materiel Command (AMC). As a federal entity in control of 8,493 acres in Harrison County, federal laws and regulations outline the responsibilities of the LHAAP for the management of all cultural resources under its ownership or control. These include but are not restricted to the National Historic Preservation Act of 1966 as amended, Executive Order 11593, the Archeological and Historic Preservation Act of 1979, and Army Regulation 420-40.

The assessment of the potential for significant cultural resources included the following: (1) evaluation of landform types and the historic and modern impacts associated with the landform types, (2) archival research to trace land ownership patterns and to identify military and pre-military sites of potential significance, and (3) reconnaissance survey efforts to evaluate the potential for archeological resources. This work was conducted during the month of December, 1988 by personnel of Geo-Marine, Inc. Duane Peter served as Principal Investigator and Cynthia Stiles-Hanson conducted the field reconnaissance investigations. The archival research was conducted by Dayna and Aubra Lee of Northwestern State University in Natchitoches, Louisiana.

These research efforts resulted in the redefinition of the disturbed areas, a summary of the previous archeological research conducted at the LHAAP, the designation of 39 localities which potentially contain cultural resources, the definition of landforms, and an evaluation of their potential to contain significant cultural properties. The potential for significant resources of both the prehistoric and historic periods within the LHAAP was found to be quite high. However, of the four zones defined within the LHAAP (1-Dissected Upland, 2-Upland Flat, 3-Eroded Upland, and 4-Alluvial Bottomland), only the first three exhibit sites with near surface contexts. Since such contexts may be easily disturbed, it is extremely important that archeological assessment be conducted prior to any further disturbance of those areas. Therefore, it is recommended that an incremental survey plan be implemented to precede the harvesting of trees as scheduled in the silvicultural program and that any gas/oil exploration areas be surveyed prior to any actual impact. Furthermore, the presently designated sites whose eligibility remains to be determined and the potential site localities in relatively undisturbed areas should be protected from all further impacts.

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CHAPTER I
PROJECT SETTING

1.1 Introduction

This report concerns an assessment of the potential for significant cultural resources within the Longhorn Army Ammunition Plant (LHAAP) located in northeastern Harrison County, Texas. LHAAP is a government-owned, contractor-operated facility under the jurisdiction of the United States Army Armament, Munitions and Chemical Command (AMCCOM). The facility is part of the Army Materiel Command (AMC). As a federal entity in control of 8,493 acres in Harrison County, federal laws and regulations outline the responsibilities of the LHAAP for the management of all cultural resources under its ownership or control. These include but are not restricted to the National Historic Preservation Act of 1966 as amended, Executive Order 11593, the Archeological and Historic Preservation Act of 1979, and Army Regulation 420-40. An archeological overview and management plan for the Longhorn Army Ammunition Plant was originally produced in 1985 by Woodward-Clyde Consultants and their subcontractor, Heartfield, Price and Greene (Dieste et al. 1985). This report represents a preliminary effort to initiate the management plan recommended by Dieste et al. (1985).

The scope of work for this preliminary study listed the following responsibilities: (1) evaluation of landform types and the historic and modern impacts associated with the landform types, (2) archival research to trace land ownership patterns and to identify military and pre-military sites of potential significance, and (3) reconnaissance survey efforts to evaluate the potential for archeological resources. This work was conducted during the month of December, 1988, by personnel of Geo-Marine, Inc. Duane Peter served as Principal Investigator and Cynthia Stiles-Hanson conducted the field reconnaissance investigations. Dayna and Aubra Lee of Northwestern State University served as consultants in the roles of Archivist and Archivist Assistant, respectively. The reconnaissance survey effort was conducted in 7 person days while the archival research invoived 15 person days of effort.

These research efforts resulted in the redefinition of the disturbed areas, a summary of the previous archeological research conducted at LHAAP, the designation of 39 localities which potentially contain cultural resources, the definition of landforms, and an evaluation of their potential to contain significant cultural properties. Section I of this report presents the environmental and cultural setting of the LHAAP. Research objectives and their associated methodologies are presented in Section II. Sections III and IV present the research results and recommendations for the ongoing management of the cultural resources within the LHAAP.

1.2 Environmental Setting

The LHAAP facility is located in northeastern Harrison County, Texas. The town of Karnack is situated at the western gateway to the facility, and Caddo Lake, a part of the Big Cypress drainage, forms the northeastern boundary of the facility (see Figure 1). The facility lies within the Gulf Coastal Plain Province of North America (Murray 1960) and is located within the Sabine Uplift (Roland 1976). The majority of the exposed sediments within the LHAAP are Early Eocene in age and are classified as belonging to the Wilcox Group (AAPG 1975).

The Wilcox Group, consisting of carbonaceous sands, silts, and clays, has contributed to the formation of fine sandy loam upland soils. The Wilcox exposures contain sandstone concretions and pieces of silicified wood which may have served as raw materials for the production of prehistoric artifacts (Sellards, Adkins, and Plummer 1932). Installation personnel state that these materials are available in quantity at LHAAP. Nevertheless, chert and quartzite gravels from Pleistocene terrace deposits and gravel bars of the major streams in the region were a more likely source of raw material for artifact production. Central Arkansas was a likely source of the more exotic raw material types (novaculite, greenstone, slate, and granite) recovered from archeological sites within the immediate area (Gibson 1970).

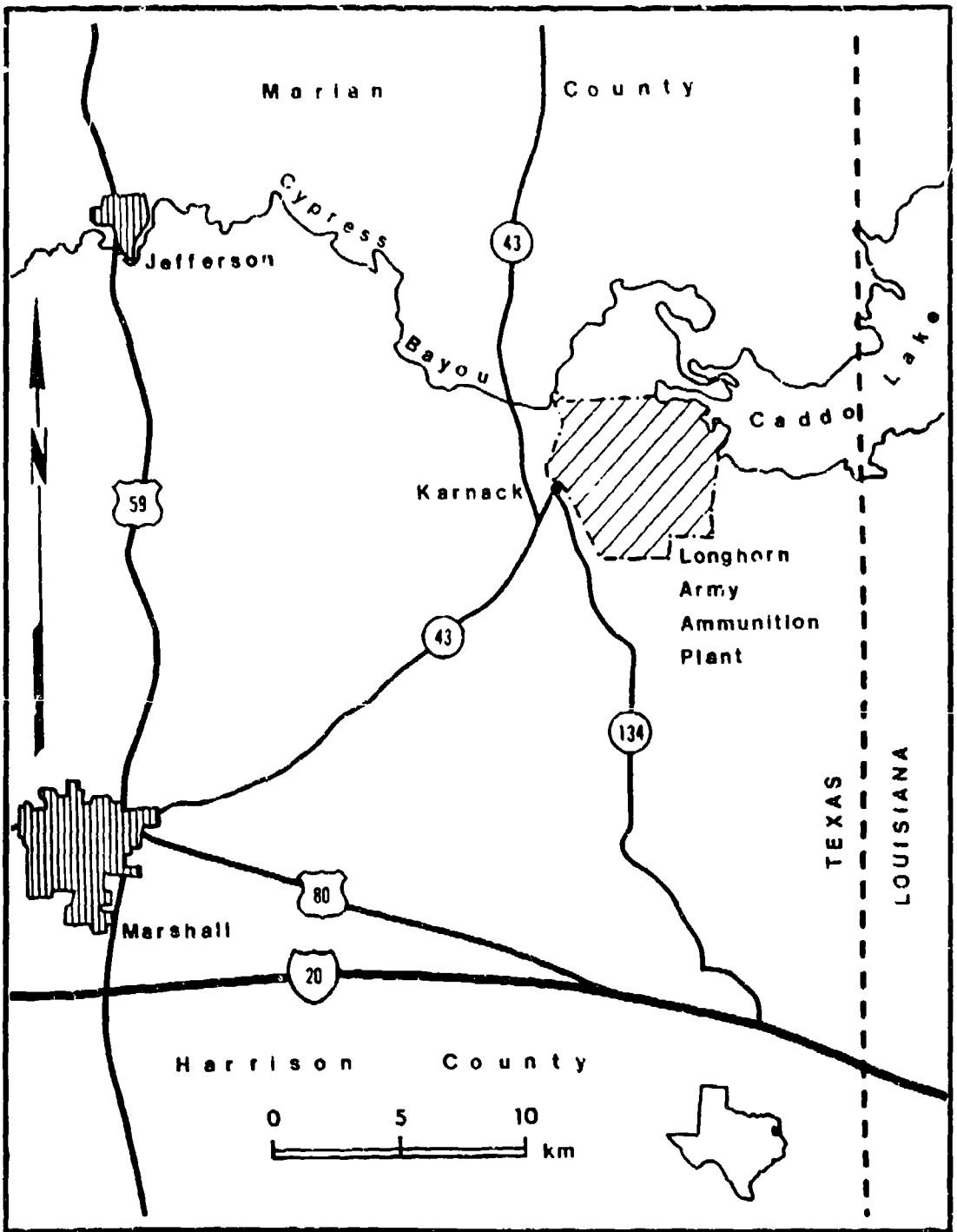

Figure 1. General location of the Longhorn Army Ammunition Plant in northeast Texas.

The physiography of the facility is characterized by gently undulating hills, upland flats and marshy alluvial flats. Although the entire area was once upland ridges and hills dissected by intermittent and permanent streams, the impoundment of Caddo Lake within the past millennium has resulted in the formation of alluvial flats and marshy bottomlands within the tributary drainages. At the present time, three streams (Harrison Bayou, Martins Bayou, and Saunders Creek) may be classified as permanent streams within the facility. The gently rolling topography of the facility varies in elevation from 170 to 335 feet above mean sea level (amsl)(USGS 1962 Karnack, TX and Potters Point, TX-LA, 7.5' Quadrangles). The greater portion of this relief is limited to the northwest portion of the facility where the Hayner Cemetery and the radio tower are located.

As Dieste et al. (1985:2-5 to 2-8) and Gibson (1970:11-14) have previously noted, the LHAAP area contains a variety of microenvironments which offer a rich abundance of plant and animal resources. The vegetation of the facility is characterized by a mixed pine and oak overstory (Arbingast and Kennamer 1963). Gibson characterizes the microenvironmental diversity of the facility area best with the delineation of five microenvironments: (1) lacustrine and riverine, (2) lowland cypress fringe, (3) hardwood flats, (4) mixed hardwood-pine ridges and hills, and (5) grassy prairies. These microenvironments are delineated on the basis of topography and associated faunal species and floral communities. The dominant feature of the Caddo Lake biome is, of course, the lacustrine and riverine microenvironments which provide an abundance of aquatic wildlife and plants. The lowland cypress fringe which borders the lowland lake shore and the adjacent bayous provides a habitat for gray squirrels, raccoons and nesting avian species. Water elm and cypress comprise the overstory vegetation.

Between the streams and the upland ridges and hills are low, poorly drained areas known as "pin oak flats". These areas are dominated by willow oak, but water tolerant species such as cypress, water oak, and button bush also occur. Deer and squirrel, attracted by the oak mast production, and various species of ducks frequent this microenvironment (Gibson 1970:12).

As one moves up into the uplands, consisting of Tertiary uplands and Quaternary terraces, the floral communities change. Adjacent to the lowland microenvironments the overstory is predominantly hardwood with an occasional pine. A variety of oaks, elms, hickory, pecan, and sweetgum are most common. Plum, dogwood, buckeye, hackberry, hawthorn, grapes, and blackberry comprise dense understory thickets. Higher within the uplands a pine-oak overstory with a more open forest floor is characteristic. Deer, opossum, fox, squirrel, black bears, cougar, bobcat, and wild turkey would have been the predominant species in the uplands prior to habitat reduction and hunting pressure (Gibson 1970:14).

Within the uplands, a fifth microenvironment, that of the grassy prairies, was observed by early explorers and settlers. These areas were small in acreage and occurred as isolated pockets within the "mixed hardwood pine ridges and hills". Other than providing a habitat for small rodents, it is unlikely that this habitat was of major significance to the prehistoric inhabitants of the area. Contrary to Gibson's (1970:14) suggestion, it is unlikely that bison ever frequented these areas.

Climatically, the LHAAP is within a zone of humid subtropical climate which extends throughout much of the southeastern United States. Winter, spring and fall temperatures are mild. During the summer, average high temperatures are above 98° F and high humidity levels are characteristic. Precipitation, primarily in the form of rainfall, occurs predominantly during the winter and spring months. The mean yearly precipitation is 45-50 inches. Tropical depressions moving inland from the Gulf Coast are occasionally responsible for heavier rains later in the summer or fall.

The prehistoric climatic history of the LHAAP area, as presently known, indicates a gradual warming trend following the end of the Pleistocene, interrupted only by a period of warmer temperature than today (Delcourt and Delcourt 1985:12-22; Kelley et al. 1988:8; Bryan 1988:10; Howard and Fields 1988:15-16). During the Late Wisconsin Full-glacial Interval (ca. 21,000-14,500 B.C.), it is believed that climatic conditions in the region were considerably cooler and more mesic than today (Bryan 1988:10). The general area has been reconstructed as falling within, or close to, a mixed deciduous forest refugia within the larger Southeastern Evergreen forest. A short distance to the north was a narrow belt of

mixed conifer-northern hardwood forest beyond which was the beginning of true boreal forest, similar to that which today characterizes eastern Canada (Delcourt and Delcourt 1985:Figure 7a, 15-16). Although pollen evidence currently exists for only three refugial locations of mixed communities of mesic, temperate hardwoods (Noconnah Creek, Tennessee; Goshen Springs, Alabama; and Sheelar Lake, Florida), others were widely dispersed across the Gulf Coastal Plain. Such refugial locations would have included beech (Fagus grandifolia), sugar maple (Acer saccharum), basswood (Tilia), walnut (Juglans), buckeye (Aesculus), tulip poplar (Liriodendron tulipifera), chestnut (Castanea dentata), and certain mesic species of ash (Fraxinus), hickory (Carya), and oak (Quercus) (Delcourt and Delcourt 1985:13). Despite the presence of such temperate species, the forests may still have been dominated by pines (Bryan 1988:10); for example, as much as 10% of the forest may have been composed of spruce (Delcourt and Delcourt 1985:Figure 9a). Vegetational response to the onset of the Full Wisconsin Late-Glacial Interval (about 14,500 B.C.) in the project area must have been almost immediate, given its location close to the southern full-glacial limit of the boreal forest. Declines of northern Diploxylon Pinus species, accompanied by increasing populations of mesic boreal and cool-temperate deciduous taxa, between 14,500 and 10,500 B.C. has been interpreted as indicating the persistence of a cool climate with an increased availability of precipitation during the summer growing season (Delcourt and Delcourt 1985:18-19).

During the succeeding Early-Holocene Interval (10,500 to 6,500 B.C.), cool-temperature, mesic tree species became dominant throughout the mid-latitudes of the southeastern United States (Delcourt and Delcourt 1985:19). Reconstructed vegetation maps suggest that the project area was located in the Southeastern Evergreen forest (Delcourt and Delcourt 1985:Figure 7b). The Middle-Holocene Interval, also known as the Hypsithermal (6,500 - 2,000 B.C.), was a period of warming and drying which resulted in the expansion of prairie at the expense of forest (Delcourt and Delcourt 1985:19; Bryan 1988:10; Howard and Fields 1988:16). By 3,000 B.C., the Southeastern Evergreen Forest had shifted from being dominated by xeric species of oak and hickory to being dominated by species of southern pine (Delcourt and Delcourt 1985:Figure 7c, 20). By 2,000 B.C., a slight cooling trend and an increase in moisture resulted in the establishment of modern conditions, with minor fluctuations, subsequent to the beginning of the Christian era (Delcourt and Delcourt 1985:20-21; Bryan 1988:10; Howard and Fields 1988:16). At this time, the forest in the project area would have been dominated by various species of southern pine with the establishment of modern plant communities in the area. A serious decrease in moisture may have begun between the eleventh and thirteenth centuries A.D., especially notable in pollen profiles and floodplain stratigraphy from northeast Texas and southeast Oklahoma (Bruseth et al. 1987:43-47; Peter and Jurney 1988:24-26). This may have affected the project area either directly, as a period of decreased moisture, or indirectly, through the formation of the Great Raft on the Red River to the south and east.

The environment of the project area was radically affected by the presence of the Great Raft on the upper portion of the Red River in Louisiana. The Great Raft was actually a series of smaller "rafts", or accumulations of log jams and driftwood, cemented with mud, sand, and debris, which blocked the flow of the Red River for up to 160 miles from just above Natchitoches to almost the Arkansas boundary (Fenneman 1938:116-117, Figure 29; Humphreys 1984:76). One of the effects of the Great Raft on the Red River was the ponding of tributary valleys (Fenneman 1938:117). A number of such valleys were flooded, creating large lakes on either side of the Red River channel (Fenneman 1938:Figure 29).

The consensus opinion is that Caddo Lake was formed in this manner. However, some researchers support a Pleistocene origin (Hayner 1957). Dieste et al. (1985:2-9,7-1) apparently accept the assumption that the origin of Caddo Lake is much older, perhaps Pleistocene in age. However, the evidence for such age has not been presented; furthermore, there is no evidence of a Pleistocene lake shore within the facility boundaries. More reasonable estimates range from around A.D. 1400 (Humphreys 1984:77), A.D. 1100-1200 (A.C. Veatch in Flores 1984:footnote 1200) or as early as A.D. 500 (Gibson 1970:8). The presence of several submerged sites (Little Sandy, Marshall Brake, Little Green Brake, Big Green Brake, and Tar Island) yielding Caddoan ceramics and arrow points within the lake supports, but does not necessarily confirm, the Late Holocene origin of Caddo Lake.

The Raft was not successfully removed until 1873, when nitroglycerine could be used to blast it apart (Flores 1984:footnote 135). Prior to that, Captain Henry Shreve had successfully forced a channel through the Raft between 1833 and 1838 (Kelley et al. 1988:34; Bryan et al. 1988:35; Freeman 1988:46-47), but the Raft began to reform less than three months later (Humphreys 1984:87). Additional clearing in 1841 was negated by the "freshet" of 1842, and by the beginning of the Civil War the Raft had reformed (Humphreys 1984:89, 90). It is very doubtful that any of these impermanent clearings of the Great Raft had much effect on tributary lakes, such as Caddo Lake. After the Raft's final removal in 1873, it took 20 years for the Red River channel near Shreveport to drop 15 feet (Fenneman 1938:117). Apparently, Caddo Lake was reduced to half its former size during the last quarter of the nineteenth century (Gibson 1970).

1.3 Cultural Setting

The Longhorn Army Ammunition Plant lies within what has been referred to as the Great Bend region of the Caddo area. As an archeological region, the Great Bend includes portions of Oklahoma, Texas, Louisiana, and Arkansas (Schambach 1982:1, Figure 1-2). This region stretches from southeastern Oklahoma downstream to the vicinity of Shreveport, Louisiana (Kelley et al. 1988:17). Previous archeological research in the more immediate project area within the Great Bend region has been ably reviewed by Campbell et al. (1983:11-19), Kelley et al. (1988:17-21), Thurmond (1981), Gibson (1970:15-16), Dieste et al. (1985), Perttula et al. (1986), GSRI (1975), Driskell and Howard (1988), and Cliff et al. (1988:10-11); consequently, another such review is not presented here.

Archeological research within the limits of the LHAAP has been extremely limited. The first known investigations within the facility area were conducted by Edward F. Nield of Shreveport, Louisiana in 1935. Mr. Nield's efforts to locate prehistoric archeological sites and obtain surface collections included the recording of the Harrison Bayou site (41HS240) within the eventual boundaries of LHAAP. The collection of 171 sherds from the site were described by Ford (1936:96) initially in his formulation of a Caddo "complex". Later in 1948, Webb used a larger assemblage (237 sherds) from the Harrison Bayou site, along with 14 other site assemblages, as the basis for his definition of the Bossier focus (Webb 1948).

Gibson (1970) conducted an archeological reconnaissance along the margins of Caddo Lake during the fall of 1968. This survey was conducted to record the sites to be impacted by the construction of a new dam which would result in raising the pool level of Caddo Lake 3 feet. The work was sponsored by the River Basin Salvage Program through an agreement between the National Park Service and the Department of Anthropology at Southern Methodist University. Eleven sites were recorded. Two of these sites, 41HS240 (X41HS1) and 41HS241 (X41HS2) are located within the LHAAP. The Harrison Bayou site (41HS240) was merely revisited and additional surface collecting was conducted. An additional site, 41HS241 was recorded by Gibson (1970:29); however, only two sherds and one burned rock were recovered.

Late in 1983, Bennett (1984) conducted an intensive survey of 360 acres within the LHAAP. Systematic transect intervals of 20 to 25 meters and associated shovel testing at 20/25 meter intervals comprised the survey strategy. The only cultural resources noted were the Hope No. 2 cemetery and the site of the former TNT production area and associated settling ponds. More recently, personnel of the Fort Worth District, Corps of Engineers, (Roemer and Newman 1988) surveyed limited portions of the LHAAP which would be modified by actions associated with the Static Test Area and the Ground Signal Test Area. A total of 339 acres was surveyed using systematic survey transects at 25 meter intervals and associated shovel testing in perceived high probability areas for site locations. This survey resulted in the recording of two historic sites which date to the early twentieth century. No prehistoric sites were located.

The cultural-historical sequence presented here for the LHAAP represents a brief summary overview. This summary does not attempt to resolve differences in chronology and terminology; rather, aboriginal and Euroamerican culture history is presented in broad temporal periods. The following periods are

used for the purposes of this report: Paleo-Indian, Archaic, Early Ceramic, Caddoan, Protohistoric, and Anglo-American settlement.

The reconstruction of Paleo-Indian adaptations within northeast Texas is hindered by a lack of information from sites with good contextual integrity. Occupations of the Paleo-Indian period are recognizable through the numerous surface finds in northeast Texas (Carley n.d.) and surrounding areas (Schambach 1982; Gadus and Howard 1988:21). Diagnostic point forms include Clovis, Plainview, Dalton, Scottsbluff, and San Patrice. The Forrest Murphey Site at the Lake O' The Pines apparently was one of the few terrace sites which has yielded spatially discrete concentrations of Paleo-Indian diagnostic tools as well as faunal remains of extinct mammals (Perttula et al. 1986:46-47). Unfortunately, the site was destroyed before investigations could be completed (Northern and Skiles 1981:28). Similar contexts or components deeply buried beneath the recent Holocene alluvium will have to be examined before the Paleo-Indian adaptation in east Texas is understood.

At the present time no dated Paleo-Indian contexts exist within northeast Texas or adjacent areas. The temporal span (10,000-6,000 B.C.) of these occupations is inferred from dated contexts to the west. The continued debate (Story 1981; Webb et al. 1971; Duffield 1963; Wallace 1982) of whether San Patrice points and associated assemblages, such as those at the John Pearce site (Webb et al. 1971), represent a late Paleo-Indian or an early Archaic adaptation is partially fueled by the lack of a sound chronological framework (Story 1981; Ensor 1987). The lack of knowledge concerning settlement-subsistence strategies also contributes to this problem. Although the data base is extremely limited, Shafer's (1977) suggestion that the Paleo-Indians of the woodland regions were supported by a diversified economic base is generally accepted. Nevertheless, the presence of large herbivores in northeast Texas between 11,000 and 9,000 B.P. (Hemmings 1983; Slaughter and Hoover 1963) indicates that big game hunting may have been a part of the subsistence strategy.

Our knowledge of the long Archaic period (6,000-200 B.C.) is similarly hampered by a lack of data from stratified or single component contexts. Archaic components, although more numerous, have yielded little additional information concerning settlement-subsistence strategies. The majority of the sites are merely surface finds or are frequently multicomponent and severely mixed (Campbell et al. 1983; Story 1981). Consequently, only general temporal trends, mostly for projectile points, have been proposed (e.g., Johnson 1962). The examination of food residue, tool assemblages, mortuary practices, settlement patterns and areal distributions has been severely hindered by the lack of distinctive components in the long Archaic period (Story 1981).

During the Early Archaic (6,000-4,000 B.C.), the occurrence of small and widely distributed sites likely reflects high group mobility within large and poorly defined territories (Story 1985:35,39). A generalized subsistence economy is hypothesized for this period. The occurrence of stylistic similarities within the projectile forms from the Ozark Highlands to the Edwards Plateau suggests that interregional contacts were quite extensive.

Assemblage data for the Middle Archaic (4,000-2,000 B.C.) are less limited; however, chronological and subsistence data remain extremely scarce. Perttula et al. (1986:50-51) note several excavated components within the Sabine River drainage which exhibit sufficient vertical and horizontal stratification to permit some viable generalizations concerning the Middle Archaic adaptations. Several trends are apparent: (1) an increased diversity of tool types; (2) greater interregional variability; (3) addition of ground, pecked and polished stone tools, and (4) an increased use of plant foods as indicated by the addition of mortars, pestles, and mealing stones (Gadus and Howard 1988:23). Diagnostic dart points include Palmillas, Yarbrough, Yantis, Kent, and Ellis points in east Texas and Johnson and Big Sandy points in Arkansas. The dependence upon abundant forest species (oak mast production, deer, and other small mammals) which are evenly distributed over most of the region likely resulted in evenly distributed population densities and favored the development of exclusive territories (Story 1985:41).

The increase in the number of sites, their more expansive distribution over the landscape, and evidence of some degree of sedentism reflect the increasing populations of the Late Archaic period (2,000-200 B.C.), limited group mobility, and the probable formalization of interregional contact. The wide

dispersal of sites likely reflects the intensification of a diffuse economic system dependent upon the use of all available floral and faunal resources. There is no evidence that the domestication of tropical and local plant species had taken place as it had in the Eastern United States during the Late Archaic period (Ford 1985:347-349). Of course, the lack of good preservation contexts in east Texas may seriously bias our perception of such developments.

The period from about 200 B.C. to A.D. 800 has been differentially classified along state lines. In northeast Texas, the cultural manifestations of this period have been referred to as Early Ceramic (Story 1981:145-146), Woodland (Shafer 1975), and Transitional (Doehner and Larson 1978:10-2). Fourche Maline (Schambach 1970), Bellevue, Hutt, and Crenshaw phases (Hoffman 1969; Schambach 1970; Fulton and Webb 1953), Marksville and Coles Creek periods are all concepts which have been used to characterize the pre-Caddo developments in Arkansas. The Lower Mississippi Valley terminology consisting of Tchefuncte, Marksville, and Coles Creek is generally applied to pre-Caddo assemblages in northwest Louisiana (Campbell et al. 1983:26). It is apparent that the premise of a pre-Caddoan cultural complex is accepted; however, the roots of this development and its relationship to the subsequent Caddoan cultures is by no means clear. This profusion of terminology is the result of not only very limited data bases and the lack of any truly regional syntheses, but also reflects the expected regional complexity associated with the development of horticultural societies.

The Early Ceramic period marks the introduction of pottery, mound building, burial ceremonialism, and horticulture into the LHAAP region. Early ceramics in this region are characterized by plain, grit-grog tempered wares (similar to Williams Plain, diagnostic of the Fourche Maline in Arkansas and the Early Ceramic in East Texas) and plain, bone-tempered wares (Schambach 1982a:160-172; Webb 1982:258-261). Sandy paste ceramics (Bear Creek Plain) are common south of the Sabine River to the Gulf Coast (Story 1981:146). Influences from the Lower Mississippi Valley apparently continued throughout this period, specifically from the Tchefuncte "culture" in south-central Louisiana (ca. 500 B.C. - A.D. 300), the Marksville complex (ca. A.D. 1-400), and Coles Creek (ca. A.D. 800-1000)(Gadus and Howard 1988:26). Much of this influence occurs in northeast Texas and northwestern Louisiana in the form of ceramic types which were either manufactured elsewhere or which were manufactured locally but whose form and decoration are influenced by stimuli from elsewhere.

The Coles Creek horizon is well represented in northwestern Louisiana and appears to represent the first, widespread, ceramic-using society in this area, characterized by both large ceremonial-civic centers and associated villages and hamlets (Gadus and Howard 1988:27-28). It is arguable whether the spread of Coles Creek represents the actual spread of a people, or simply of a "way-of-life", but there is little doubt that Coles Creek "influence" did stretch far beyond northwestern Louisiana into Arkansas, Oklahoma, and Texas, and that it was an important contributor to subsequent Caddoan culture.

The final prehistoric manifestation in northeast Texas was that of the Caddoan period, defined as prehistoric "cultures" believed to be ancestral to the Caddoan-speaking groups occupying that area (and the larger northwest Louisiana, southwest Arkansas, southeast Oklahoma, east Texas area) at the period of initial European contact. The Caddoan period was characterized by a horticultural economy based on maize; various types of ranked or stratified socio-political systems (ranging from chiefdoms to egalitarian confederacies); extensive interaction and trade, both with groups to the east (in the Lower Mississippi Valley) and with groups to the west (on the Southern Plains and Central Texas); and a highly developed and diagnostic ceramic tradition.

The Caddoan period has been subdivided into an early, middle, and late phase, with Early Caddo dating from ca. A.D. 800 to 1200, Middle Caddo from ca. A.D. 1200 to 1500, and Late Caddo from A.D. 1500 to 1700. The Early Caddo period is characterized by what has been traditionally referred to as the Alto "focus". The Alto "focus" shows strong ties to the earlier Coles Creek "culture" (and may actually overlap Coles Creek in time) but also shows a number of new characteristics, including new projectile points (i.e., Colbert, Hayes, Washita, and Homan arrow points), new ceramic vessel forms (i.e., the carinated bowl and the bottle), and also new modes of vessel decoration (i.e., fine engraving with red pigment filler). Mound centers continue, but are larger, and shaft burial pits replace pre-mound burials (Cadus and Howard 1988:29). Another contrast with Coles Creek is that Alto settlement patterns include

mound sites located on floodplains or valley edges and non-mound sites widely distributed along tributary lakes and streams (Gadus and Howard 1988:30).

The Middle Caddo period includes the traditional Haley "focus" (ca. A.D. 1200-1400) and the Bossier "focus" (ca. A.D. 1400-1500). The Haley "focus" was centered in the Great Bend area in Arkansas, but the LHAAP area did fall within its peripheral influence, as demonstrated by a Haley component at the Belcher site in Caddo Parish (Gadus and Howard 1988:30). Despite this presence, the Haley "focus" is apparently not as fully elaborated in northwestern Louisiana as it is further to the northwest. In Louisiana, the Haley "focus" appears to represent an elaboration of earlier Alto ceremonialism, with the retention of much of the earlier period's settlement and subsistence orientation (Gadus and Howard 1988:30).

The latter part of the Middle Caddo period in the LHAAP area and northwestern Louisiana (the Bossier "focus") appears to be characterized by the founding of a number of small village or hamlet sites in the uplands around the Red River Valley (Gadus and Howard 1988:31) and the presence of large ceremonial mound centers located in the alluvial floodplains of major rivers and streams (Dieste et al. 1985:2-20).

A sedentary, agricultural lifestyle is indicated for this period (Webb and Gregory 1986:12). Hamlet settlements typically had less than twelve households with an associated cemetery, and perhaps a central plaza and fields (Dieste et al. 1985:2-20). A lack of exotic or ceremonial artifacts is noticeable for this type of settlement; functional items such as points made of local cherts, plain ceramics, and subsistence-type floral and faunal remains are more common (Webb and Gregory 1986:12-13; Dieste et al. 1985:2-20).

Civic-ceremonial mound centers in this period contain artifactual evidence of an extensive trade network involving ceremonial items of exotic origin and ceramics of exceptional quality. It is likely that any occupational sites dating to this period found within the LHAAP confines would be of the hamlet variety, since ceremonial centers are found almost exclusively on major river courses (Gregory 1988: personal communication).

The Late Caddo period includes the traditional Belcher "focus" (ca. A.D. 1500-1700), centered in the Great Bend region of Arkansas but including the LHAAP area and northwestern Louisiana, as well. Displaying a high degree of ceremonialism and fine ceramic wares even in the later stages, this pre-contact period ended with a change to more dispersed settlement patterns. The Caddoan people had moved from riverine mound complexes with their associated villages, to inhabit almost exclusively the small upland hamlets previously discussed. It is posited that a series of drought-related crop failures contributed to this shift, affecting socio-religious and political institutions as well as settlement patterns (Dieste et al. 1985:2-20; Gregory 1974:236).

The material culture during this period was elaborate and reflected a high degree of skill. At the Belcher mound site near Shreveport, items of personal adornment made from bone, shell and pearl were found, as well as ceremonial cups of conch shell and split cane basketry. The ceramic complex was highly developed; engraving, punctation, trailing and application of pigment were among the techniques employed to create the scrolled, curvilinear designs (Webb and Gregory 1986:16).

The Belcher mound site reflects a high degree of ceremonialism, with shaft burials of one to seven people indicating human sacrifice. Grave goods included food offerings, tools, weapons, and vessels buried even with children, suggesting a hereditarily ranked social system (Webb and Gregory 1986:16-18).

Houses were still constructed of daub and thatch, but were divided into separate rooms with seating and hearths in each section. Floral and faunal remains indicate a diet based on a varied subsistence agriculture supplemented by hunting and fishing. Tools identified at the site included celts, needles, points, awls, and hoes (Webb and Gregory 1936:16).

In the waning days of this period, the population was moving away from large, associated groups centered around a ceremonial complex toward a smaller, more scattered settlement pattern. The socio-political and settlement changes are marked during this period and the Caddoan trade network, directed previously toward the Lower Mississippi Valley, now shifted to the Southern Plains (Dieste et al. 1985:2-20). This trade connection would figure prominently in European-Caddoan relations throughout the 18th century. "In all, late Belcher people were dispersed widely, and their way of life gave rise to the generalized cultural base that existed at the time of European intrusion" (Webb and Gregory 1986:18).

Several tribal divisions within the Caddoan linguistic family can be recognized archeologically as having their beginnings during this time. The most relevant to the LHAAP complex is the Kadohadacho confederacy, comprised of the Kadohadacho (Caddo Proper or Real Caddo), the Petit Caddo, the Nasoni, the Nanatsoho, and the Upper Natchitoches (Fletcher 1907:179). The area around Caddo L ke, inclusive of the LHAAP, was most likely inhabited and traversed primarily by these people. Although only slightly beyond the northern reaches of the Haisinai confederacy, also Caddoan-speakers, it is unlikely that any members of that confederacy settled in the Caddo Lake region.

Protohistoric

According to Hackney (1966:3), the remnants of DeSoto's 1541 entrada passed a large lake system, which he identifies as the Caddo Lake system. Tonty described crossing the narrows of a similar lake system to reach the Kadohadacho, and Joutel documents crossing the narrows of a large lake in this region as well (Hackney 1966:3). It is certain that the companions of LaSalle led by Joutel and Father Douay reached the Kadohadacho around 1685 (Hackett 1931:172-174), and possibly crossed the LHAAP area.

Don Diego Teran de los Rios and his entrada may also have crossed the area of the LHAAP (Dieste et al. 1985:2-22) on their way to the Kadohadacho village located just above the big bend of the Red River near present-day Texarkana (Swanton 1946:57). Teran described Big Cypress Bayou, noting that this concourse emptied into a lake system belonging to the Kadohadacho (Hackney 1966:3). According to local history, there was a brief Spanish occupation of the hill now located within the confines of Caddo Lake State Park. If true, however, this was likely a transitory occupation, at most. Although an attempt was made by the Spanish to establish missions among the Kadohadacho (Hackett 1931:283), no prolonged European contact was maintained until the arrival of the French in 1700.

Upon Pierre LeMoyne d'Iberville's arrival in the Mississippi Valley, he learned of the important Kadohadacho village on the Red River, and of their connections with the Haisinai, or Tejas, Indians. Iberville hoped to establish relations with the Kadohadacho, and through these Indians initiate contact and trade with the Spanish. Iberville himself attempted to reach the Kadohadacho, but was forced to abandon his quest and return to his waiting ships (McWilliams 1981:153). Shortly thereafter, however, Iberville dispatched his brother, Bienville, with Louis Juchereau de St. Denis to travel to the Kadohadachos and seek news of the Spanish (McWilliams 1953:55).

In 1719, Benard de La Harpe established a trading post at the Nassonite village in order to establish French trade in the Kadohadacho territory (Cain and Koenig 1971:110). The French gained a powerful ally in the Kadohadacho, using them as a conduit by which to distribute their guns and other goods, gaining horses, slaves, information, and valuable hides in return.

The Kadohadacho were engaged in trading long before the arrival of the French, and were pivotal to the French in expanding their trading empire. Based upon archeological evidence, Gregory (1974:233) proposes that "the Caddoan groups were engaged in prehistoric commerce, a habit they merely extended into post-contact situations."

In discussing the ecological crises that affected Caddoan maize production, Gregory (1974:236) suggests that "the marginal nature of Caddoan agriculture may be involved as at least a partial cause for their preoccupation with the development of an elaborate trade interaction . . . Once trade became significant agriculture continued to become even more marginal."

Particularly important items traded through the Kadohadacho were salt and wood from the Osage orange tree, Maculura pomifera, used for bows (Figure 2). Joutel observed at the Kadohadacho village that Native Americans came from fifty to sixty leagues away to trade for bows made of Osage orange (Gilmore 1986:6) which grew from the area around Caddo Lake to the bend in Red River where the main Kadohadacho village was located (Figure 2). These items were traded north and west to the Wichita, Comanche and other plains tribes. During the time of French rule in Louisiana, slaves, hides, horses, guns, and European goods would be traded through the Kadohadacho and across the area surrounding Caddo Lake.

Sites associated with this time period reflect band level organization and small villages (Dieste et al. 1985:2-24). Gregory (1974:234-235) modeled the development of mobile trading bands that resulted in either temporary or permanent unions between different bands of Caddoan-speaking people. He states, however, that Caddoan groups did not form dependent bands around European settlements: "Rather, they seem to have served as the nuclei for dependent European populations who relied on the older Indian trade interaction for their economic mainstay" (Gregory 1974:235-236). Evidence supporting this model is represented by the strategic placement of French posts at Natchitoches and Ft. St. Louis near the Kadohadacho territory.

The Kadohadacho confederacy was actively engaged in supplying the French posts with hides to exchange for European goods. Archeologically, ephemeral hunting camps associated with this trade would lack house patterns but would contain high frequencies of gun parts, horse equipment, native pipes, a high sample of deer remains, and an almost total lack of caudal vertebrae from the deer (Gregory 1974:238).

Complicating historical Caddoan archeology in this region is the French custom of living with or marrying Indian women, residing either in their villages or in isolated homesteads. In a site of this nature, high frequencies of both Native American and European goods often make it difficult to distinguish between Native American and European homestead sites based on archeological evidence alone.

The French maintained close ties to the Kadohadacho until the cession of Louisiana to Spain in 1762. Some movement of Caddoan bands had taken place by this time. Bolton (1913) places a Petit Caddo village on upper Caddo Lake in 1770. Spanish policy prohibited Indian trade unlicensed by the government, and the Frenchman, Athanase de Mezieres, was assigned the task of controlling trade with all the Caddoan-speaking people (Bolton 1913:79). Spanish policy restricted trade to licensed traders who travelled to the native villages to deliver yearly presents (Bolton 1913:89). There are no sites within the Kadohadacho area that indicate Spanish-Indian interaction outside of habitation areas.

During the Spanish occupation, many tribes with ancestral homelands east of the Mississippi River began to move west into Louisiana and Texas to escape the influx of Euro-Americans. The Choctaw easily invaded the Caddoan area, creating a domino effect upon indigenous tribes (Kinnaird 1980:350-351). As the English and Americans pushed the Choctaw west of the Mississippi, they sent smaller tribes fleeing before them, pushing Louisiana and Texas tribes in their wake (Kinnaird 1980:364-365).

Toward the end of the 18th century, the Kadohadacho abandoned their villages along the bend of Red River in an attempt to escape their traditional enemies, the Osage, and moved south to inhabit the area around Caddo Lake (Glover 1935:897). Several Caddoan-speaking bands had moved together by this time, with the Kadohadacho absorbing smaller groups within the confederacy (Webb and Gregory 1986:23). They would maintain this position until the Americans purchased Louisiana in 1803.

The coming of the Americans spelled the end of Caddoan interaction within this area. Although able to maintain close trading ties with the Europeans, the Kadohadacho would be squeezed out of their lands by constant Anglo-American encroachment and hunger for farmlands. By 1804, the Kadohadacho, then numbering approximately 800, were settled on the hills to the southwest of Caddo Lake, with the Alabama-Coushattas settled around their ancestral Red River homelands (Flores 1977:59,61).

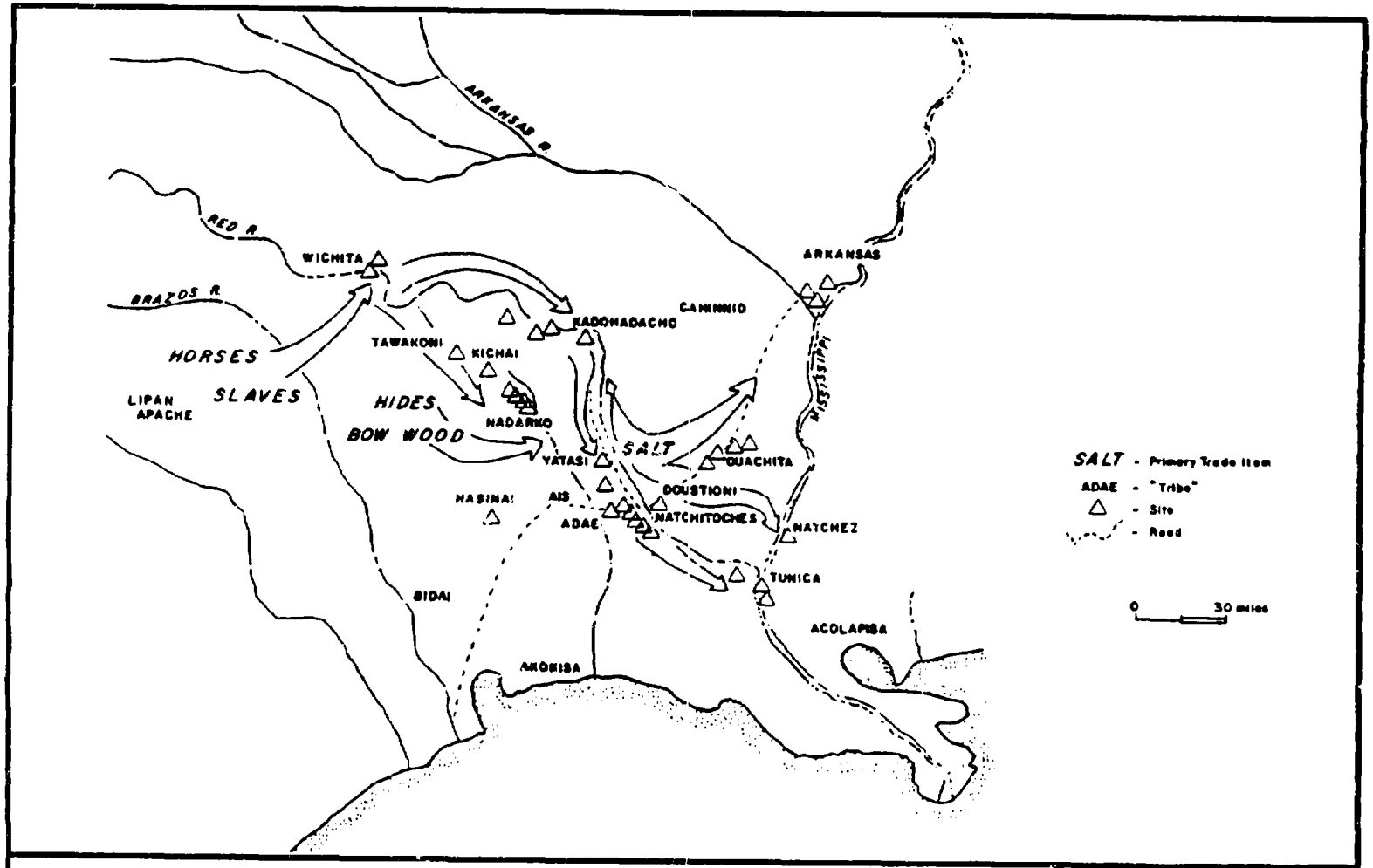

Figure 2. Map of 18th century Caddoan contact and trade (from Gregory 1974:246).

Under European rule, the Caddoan people had been able to maintain tribal autonomy and the freedom to move their villages when the need presented itself. The United States developed the Indian Factory System and appointed Indian agents in an attempt to regulate annuities, trade, and the movement of Indian tribes. The Indian agency was first located at Natchitoches, but was later moved up the Red River to Sulphur Fork north of the Caddo Lake area. This tract assigned by Captain George Gray, the Caddo agent, was bounded on the east by the Red River, on the west by the Sabine, and on the south by Cypress Bayou (Dieste et al. 1985.2-25), placing it to the north of the LHAAP facility; however, the area of the facility would have been frequented by hunting parties of these tribes.

The tribes of the Sulphur Fork agency found themselves estranged from the old Haisinai confederacy, their kinsmen, who fell under Spanish, then Texas Republic domain. Anglo-American encroachment into Sulphur Fork was common, and after 1824 the agency was located on the Caddo Prairie in present day Caddo Parish, Louisiana. Caddo Prairie became home to many displaced tribes as Shawnees, Delawares, Cherokees, Quapaws, and Pascagoulas joined the Caddoan-speakers and Alabama-Coushatta already there. Of these Indians, Captain Gray noted only the Caddo, Quapaw, Pascagoulas, and Alabama-Coushatta engaged in agricultural activities, and game was scarce (Flores 1977:70-71). Not yet settled by Anglo-Americans, the Caddo Lake area was one of the last hunting grounds of these consolidated tribes.

By 1834 American agents treated these tribes as a single unit and began to use the cover term, Caddo. Under intense pressure from white settlers, the United States government, and their new agent, Jehiel Brooks, to cede their lands, the Caddo signed a treaty in 1835 selling approximately one million acres of land to the United States. Although many of the Caddo left the region, many stayed near Shreveport and around Caddo Lake (Webb and Gregory 1986:24-25).

The Caddo Lake area and all of present-day Harrison County was included in the disputed Neutral Strip, caught in the division between Texas and Louisiana. This boundary dispute was supposedly settled in 1819 with the Adams-Onis Treaty between the United States and Mexico. Some Caddoan people continued to live around Caddo Lake, however, taking advantage of the confused boundary until around 1840.

In 1838, the Caddo appealed to their agent in Shreveport, Charles Sewell, for protection against troops from the newly-formed Republic of Texas. Sewell filed a complaint against the "Texians" with the commander at Ft. Jesup for the invasion into the territory of the United States. General T.J. Rusk led his army against the Caddo, who had been advised by Sewell to settle temporarily near Shreveport (Tarpley 1983:2-3). Rusk made this move against the Caddo to prevent their movement back into Republic territory and impeding the activities of the Anglo-Americans who were beginning to settle there. Shortly thereafter, all the tribes who had banded together under the Caddoan confederacy were driven from their ancestral homelands, and the Caddo Lake area was opened for Anglo-American settlement.

Anglo-American Settlement

Antebellum

The first major area of Anglo-American settlement within the bounds of present-day Harrison County centered around Caddo Lake, especially the later site of Port Caddo. Long a central area for Indian trading activities, this area had a well defined trail, the Comanche Road, to the west, and Trammell's Trace running from Nacogdoches to the mouth of Cadron Creek near present-day Conway, Arkansas (Webb and Carroll 1952:266).

Settlement began with colonizing efforts under empressarial contracts issued by the Mexican government. One such contract was issued to General Arthur Wavell in 1826 to colonize an area that included all of present-day Harrison County. The United States protested, however, that this area was part of the United States as designated in the Adams-Onis Treaty of 1819. General Wavell's contract was cancelled

by the Mexican authorities, since they did not recognize the Treaty; consequently, Anglo-American settlement of this area was postponed (Hackney 1966:5).

Another Anglo-American attempt to inhabit this area was initiated by James Long in 1819. Spanish soldiers, led by Don Ygnacia Perez, defeated Long and swept through the Nacogdoches district and across the lake area to expel Anglo-Americans, Spanish agitators, and 'barbarous' Indian tribes (Hackney 1966:6).

In the intervening years until Texas Independence in 1836, Anglo-American settlement became established in the area. In 1835, twenty-two special land patents were issued by the Mexican Land Commissioner, most averaging around 4000 acres. These patents were in the newly-formed Tenehaw municipality, of which present Harrison County was a part (Hackney 1966:6-7). Because of the American boundary dispute, however, no titles were issued on these patents until Texas' independence from Mexico on March 2, 1836 (Dieste et al. 1985:2-26).

In general terms, the majority of the land grantees can be classified culturally as Anglo-Americans. These grantees received their lands at various periods from the Mexican Government, the Republic of Texas, and the State of Texas. The grants range in size from 119 to 2678 acres (Table 1; Figure 3) and were awarded for various reasons such as rewards to veterans of the Mexican-American War or from accepting applications for public lands (Hackney 1966:5-8; General Land Office Map; Dieste et al. 1985:2-24, 2-29; Harrison County Historical Museum: Hope Family file, Starr Family file, Map Collection).

Cotton farming, cattle grazing, and subsistence farming were the main economic interests of these early settlers. Cotton farming in the area was a facet of the larger cotton growing industry that dominated the Antebellum South. The region's cotton growers were linked to the Port of New Orleans, via Caddo Lake and the Red River, where thousands of bales were shipped annually from Swansons Landing, Port Caddo, and the city of Jefferson by steamboat (Harrison County Historical Museum: Hope Family File, Probate Records Vol. A:374-377, Vol. D:79-81, Estate Records Vol. K:276-289; Hackney 1966:24-28; Eaton 1975:211-214).

In 1836, the settlement of Port Caddo on the Big Cypress Bayou was logged as a "landing" by the captain of the steamboat, Nicholos Biddle, indicating that Port Caddo had become a town (Hackney 1966:7-8). With the establishment of the Republic of Texas in 1836, Port Caddo became the port of entry for the Republic in the northeast. It was through Port Caddo that goods were distributed through Caddo Lake, on to the Red River, then down the Mississippi to New Orleans (Webb and Carroll 1952:266).

After 1836, the Congress of the Republic of Texas gave land to settlers who moved to Texas with their families and established a homestead for three years. The settler was issued a certificate after fulfilling the conditions required for settlement, the land was then surveyed out of public domain, and a patent was issued through the General Land Office and the Governor in Austin. In all, twenty-one land patents were issued for present Harrison County between 1842 and 1911 (see Table 1). At least two of the original twenty-one grants were awarded by the Texas Republic for service at the Battle of San Jacinto: George W. Lewis (426) and John B. McDaniel (494) (Miller 1967:415,449).

In 1839, Harrison County was created through a division of Shelby County, and Port Caddo was the hub of Harrison County. Connected to the Comanche Trail and Trammell's Trace (discussed previously), Port Caddo was now along the Shreveport Road and the road to Marshall, as well as connected by water to Jefferson, Shreveport, and ultimately, New Orleans. Supplies and manufactured goods made their way into Texas, and agricultural products, especially cotton, were shipped out daily. Port Caddo was a designated mail terminus in 1839, and the site of a customs house to regulate imports and exports, although it was a duty free port for some time (Hackney 1966:25-26).

Port Caddo continued a steady growth after the United States' annexation of Texas in 1845. New communities developed, too, and stagecoaches travelled roads from Port Caddo to Arkansas, Louisiana and the Texas interior (Hackney 1966:29). In the late 1840s, Jefferson began to gain ascendancy over

Table 1. Abstracts of Harrison County, Texas, Land Grants for Properties within the Longhorn Army Ammunition Plant (See Figure 3.)

ABSTRACT NUMBER	GRANTEE	CLASS & FILE*	CERTIFICATE NUMBER	PATENT DATE	NO.-VOL.	ACRES	PATENTEE**
33	JAMES ADAMS	S-1-176-7	133	2-11-1842	8-3	1929	
34	do			2-15-1842	13-3	2678	
48	JNO. W. ADAMS	3-267	11	6-5-1849	1105-4	320	
164	J.M. COX	3-379	58	1-17-1867	32-37	640	
171	WILLIAM CROUCH	3-192	373	12-12-1848	256-5	137.4	Wm. C. Swenson
833	DAY LAND & CATTLE CO	D-143	161	3-7-1893	29-8	119.3	L.M. Thorn
834	do				30-8	520.3	
251	CALVIN FULLER	2-49	18	6-7-1849	538-2	400	
252	do				539-2	240	
324	JAS. C. HAWLEY	3-233	524			640	
302	O. HENDRICK	S-1-183	159	2-17-1842	17-3	659.7	
885	O.HOPE	SF6594		9-5-1912	562-44	610.5	
338	JOHN A. HUESER	D-68	263	4-23-1858	602-2	640	Samuel J. Taylor
417	JAS. LASTER	3-54		1-23-1846	454-1	320	
426	GEORGE W. LEWIS	B-124	3258	12-14-1893	515-16	320	
863	E. KEY	SF7686	B-122	2-10-1910	497-39	134	
884	HOBART KEY	SF9845		1-21-1911	601-41	82	
431	HENRY MARTIN	2-14	188/287	11-12-1858	771-11	2460	
494	J. B. McDANIEL	S-B-13	1119	2-15-1842	399-1	320	O. Hendrick
606	WM. REYNOLDS	3-255	26	6-1-1849	1103-4	320	
827	J. W. ROBINSON	D-138	25/13	9-4-1883	559-4	102	Amory R. Starr
661	E.T. SALTER	3-213	11	1-19-1849	332-5	320	James D. Todd
724	M.H. USSERY		207	12-16-1872	153-15	245.32	
730	HENRY VOGT	3-947	58	3-12-1873	453-40	299	Hugh H. Perry
780	JNO. B. WEBSTER	3-339 1/2	522	10-25-1850	631-3	320	J.M. Sanders
828	A.C. WALTERS	D-140	25/23	9-4-1883	558-4	320	Amory R. Starr

*D=Don; S=Shelby; B=Bounty; SF=School

**If other than grantee

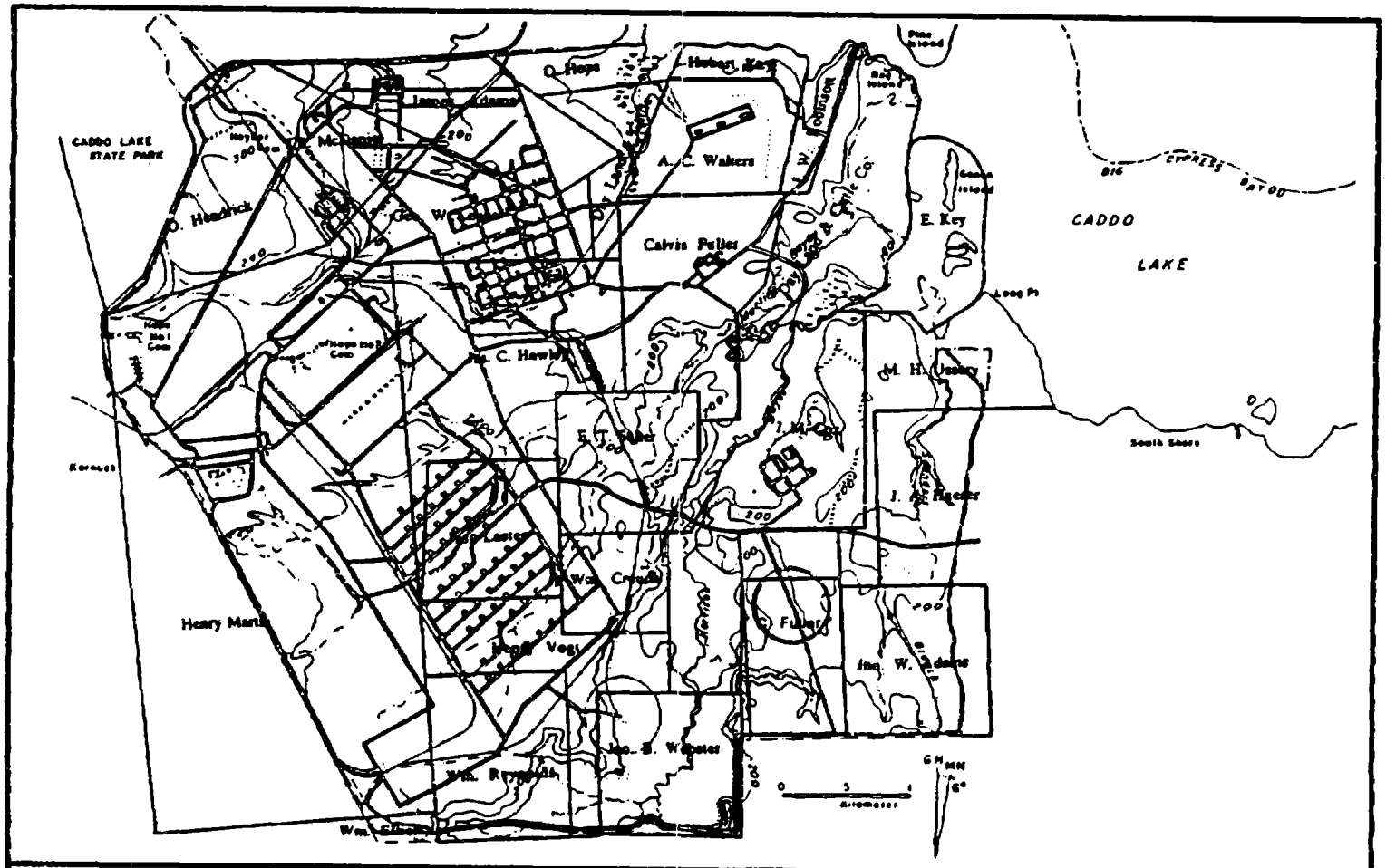

Figure 3. Map of original land grants which encompass the Longhorn Army Ammunition Plant.

Port Caddo as a shipping station, Marshall began to grow, and by the late 1850s Port Caddo was no more than a plantation village with a cotton economy (Hackney 1966:30). During the Civil War, it would enjoy a brief resurgence as a Confederate shipping port, but its rebirth would be short-lived. River traffic through these Caddo Lake ports would come to an end after 1873 when the Red River log jam was cleared and the water levels in the lake dropped (Sutton and Conrad 1985:26).

Settlement of Harrison County after annexation was achieved primarily by Americans from the southern cotton-producing states. These settlers came in quest of lands with productive soil, which they found in Harrison County. In the 1850s, the county was "overwhelmingly rural," and most inhabitants lived on small farms or plantations (Campbell 1983:20-21). In 1850, nearly three of every four families depended on farming for a living, and the majority of households owned at least one slave. Two-thirds of all households owned property (Campbell 1983:25-33).

Following President Lincoln's election in 1860, Harrison County voted to secede from the Union in 1861. Men and supplies were committed to the Confederate army, and Port Caddo became strategic once again. Harrison County suffered from a lack of supplies such as coffee, paper, and manufactured items, but food was plentiful and cotton export continued. Neither invaded nor occupied by Union forces, Harrison County's basic economic, social and political structure remained basically unchanged throughout the Civil War (Campbell 1983:183, 208, 245). A Confederate powder mill was located outside of Marshall, and a Confederate bullet factory was purportedly located just beyond the northern LHAAP facility boundary (Dieste et al. 1985:4-1).

Post Civil War

Cotton remained an important commodity in Harrison County for several years after the Civil War. Freedmen were contracted by former slaveowners to work their land. The development of sharecropping replaced wage labor and was probably the most important economic development during Reconstruction. Although presenting a step forward for the blacks of Harrison County, "sharecropping did not affect patterns of land ownership, and it had the potential to lock blacks into patterns of debt to planters and merchants that would be extremely limiting in the future" (Campbell 1983:294). Sharecropping was still common in the 1930s, and most Afro-American sites within the confines of the LHAAP would likely be associated with sharecroppers and tenant farmers (Doris Powell 1988: personal communication).

The rise of sharecropping marked the end of plantation agriculture in Harrison County. Without slaves or wage labor under their control, planters found it was economically unfeasible to cultivate cotton on the scale of the 1850s. Plantations were broken into smaller farms, although this did not necessarily indicate a change in land ownership, or in the socio-economic status of the planter class (Campbell 1983:295).

Agriculture remained the primary economic activity in Harrison County after the Civil War. With the establishment of local rail lines, the timber industry gained importance after the 1880s. A rail line had been established from Swanson's Landing to Marshall in 1859, and by 1872 Southern Pacific connected Swanson's Landing (on the south side of Caddo Lake) to Longview (Campbell 1983:94,324). Karnack, established in 1900, was on the Louisiana and Arkansas rail route (Key 1964:37), and Marshall housed Texas and Pacific shops, as well as a division of the New Orleans and Pacific Railroad. By 1894 there were numerous sawmills located on these routes, and traffic in timber was heavy (Marshall Morning Star 1894:9).

The area of Harrison County located within the confines of the LHAAP complex was primarily used for agricultural purposes until the government acquired lands in 1940-1941 (Dieste et al. 1985:3-3). Subsistence farming has always been a part of the regional economy. This method of farming is usually associated with a social class designated as yeomen farmers. These farmers rarely raised much cotton, but concentrated upon corn, food crops such as sweet potatoes, cattle, and hogs for their livelihood. Far from being "poor", these people lived without the luxury items more commonly identified with the upper

classes. They were involved for the most part in a localized economic sphere and in competition with freed blacks after the Civil War (Eaton 1975:51-52, 270, 273; Campbell 1983:40-41).

The timber industry and oil/gas exploration were relatively late economic avenues for the people in and around the Karnack area. Although thought of as a predominantly pine forest area, the uplands and slopes adjacent to lakes and streams contain cypress, hickory, walnut, ash, and oak among others. Timber was shipped by rail on one of three railroads servicing the area. The Texas and Pacific Railroad was organized in 1871, and stopped in Marshall. Competition was provided by the New Orleans and Pacific Railroad and the Texas and Gulf Railroad which had divisions here. The sawmills were strung along the various railroad lines, gaining ready access to consumer markets for their finished products (Marshall Morning Star, 1894:1-9). At the turn of the century, the Hope Lumber Company was dominant within the LHAAP area. The presence of a German timber agent in Marshall in 1892 who was engaged in shipping hardwoods back to Germany for furniture manufacture (Marshall Morning Star 1894:9) is a prime example of the importance of the timber industry within the region.

The first oil field on Caddo Lake was discovered just after the turn of the century near Oil City, Louisiana. Gulf Oil Company leased most of the lake bed before drilling production wells. Wildcat exploration accompanied drilling by major oil firms. Most notable in the Karnack area was T.J. Taylor who completed at least six wildcat wells before 1917. Leasing large blocks of land and later selling percentages of the well production was identified as one method of raising capital to finance this type of exploration. Lease prices ranged from 25 to 50 cents per acre in the early years and rose to as much as 5 dollars per acre on leases located on Pine Island (Sutton and Conrad 1985:83-85; Doris Powell 1988: personal communication).

Even with the development of the timber and oil industries, it appears that land use and settlement patterns did not change drastically in the years between the Civil War and United States acquisition of the LHAAP lands. Farming was still the primary occupation with land ownership still basically in the control of a white "planter class." Blacks within this area appear to be primarily sharecroppers or tenant farmers throughout the period with no known major black settlements or villages.

CHAPTER II
RESEARCH OBJECTIVES AND METHODS

2.1 Introduction

The scope of work for this study involved the following responsibilities: (1) evaluation of landform types and the historic and modern impacts associated with the landform types, (2) archival research to trace land ownership patterns and to identify military and pre-military sites of potential significance, and (3) reconnaissance survey efforts to evaluate the potential for archeological resources. The following sections present the methodology of the field reconnaissance and the archival research.

2.2 Field Reconnaissance

Five days of field reconnaissance were conducted within the LHAAP confines between December 1 and 9, 1988. The purpose of this on-site investigation was threefold: (1) to conduct an assessment of ground disturbance within the plant confines; (2) to view examples of various landforms present within the plant confines; and (3) to assess the potential for prehistoric and historic sites in undisturbed contexts on these landforms. As part of the investigation, shovel tests were placed in various landforms to evaluate soil profiles as well as to test the potential for archeological sites on particular landforms. In addition to these stated objectives, several known prehistoric and historic sites were revisited in order to assess any recent disturbance and also to update previously reported information.

The field crew first concentrated on mapping the disturbances within the plant confines and updating the maps presented in the Dieste et al. (1985) report. From the updated maps, areas of varied landforms were then chosen for on-site investigation in portions of the plant which are seemingly undisturbed. These areas included transects through the eroded uplands between Harrison Bayou and Saunders Creek, transects bordering Caddo Lake in the northeast corner of the plant; transects along the uplands bordering Harrison Bayou (including a visit to site 41HS240), and transects into the dissected upland area in the northwest corner of the plant confines (see Figure 4). Several of these transects produced potential site areas which were mapped for future evaluation.

In addition to the transects, several specific areas were pinpointed for investigation. Plant employees identified areas of known or suspected historic site locations which were examined and mapped for future evaluation. The three historic cemeteries were visited and marker data were recorded. Field investigation also included a visit to the Harrison County Soil Conservation Office for detailed information on soil profiles in order to update the soil survey published in 1913.

The field investigation resulted in the sampling of varied upland landforms throughout the plant area. Many of these areas did in actuality contain prehistoric or historic cultural remains as the survey identified 5 localities for future evaluation. This investigation also updated the map of known disturbances within the plant confines and collected information on soils and past disturbance in order to present a recommendation for future cultural resource management.

2.3 Archival Research

Archival investigations were conducted to identify potential historic localities within the Longhorn complex, to assess their potential significance, and to complete a detailed background study of those properties considered significant. A tripartite methodology was used to meet these objectives. Initially, a synthesis of previous research was completed to provide baseline data on the complex. This was followed by compiling data at the local, county, and regional levels to identify persons or locations potentially significant, and ended with a detailed background search on significant potential resources. The following is a discussion of these efforts.

Review of the previous research conducted at LHAAP revealed that an historic properties survey had been conducted in 1983 (MacDonald 1984). Since LHAAP had been built just prior to or during World War II, the historic importance of all buildings was evaluated regardless of age. This evaluation of 452

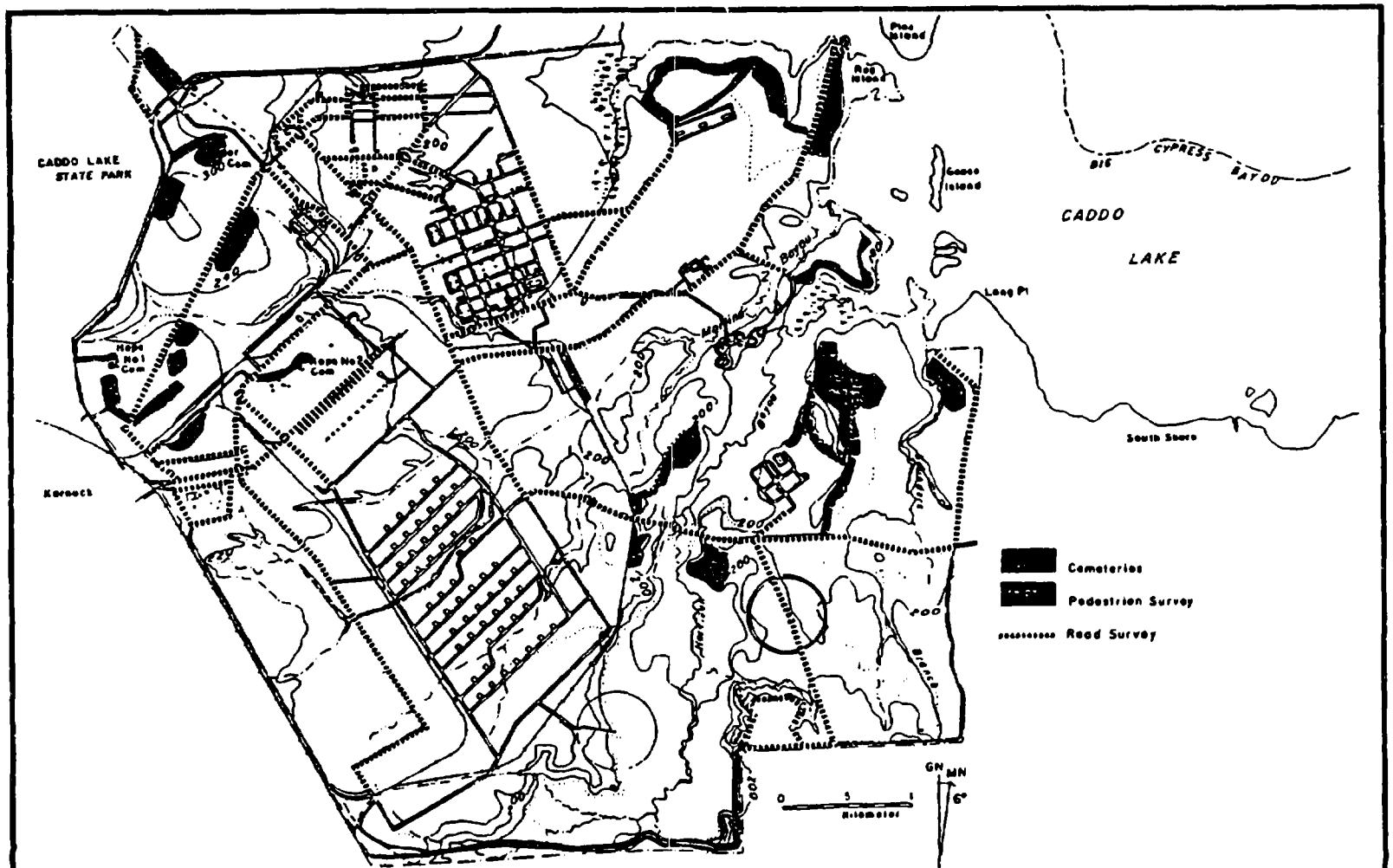

Figure 4. Areas investigated within the Longhorn Army Ammunition Plant during reconnaissance survey.

utilitarian structures, 151 of which date from World War II, resulted in the designation of no Category I, II, or III properties. Therefore, the extant buildings at LHAAP are not considered to be of historical significance and are not given any further consideration in this assessment.

Archival research began at the Marshall Public Library, progressed to the Harrison County Historical Museum and ended with a deed/title/probate search at the Harrison County Clerk of Court and Tax Assessor's offices. Interviews were conducted with people familiar with the history of Harrison County in order to gain more specific data on potential localities.

The Marshall Public Library was utilized to gain a broad background perspective of the area by consulting regional and locally oriented histories, biographies on the area's leading citizens, volumes of marriage records, and newspapers. More detailed data were gathered at the Harrison County Historical Museum under the direction of Mrs. Inez Hughes. Here, files that contained family histories, interviews, genealogies, and personal information were consulted. Furthermore, a map collection with information pertaining to old road systems, land surveys and tracts, Caddo Lake and its surrounding environs, and the Harrison County region was available. These maps were photocopied and used as a guide to deed/title research and the evaluation of the potential for sites within specific areas of the LHAAP.

The Harrison County Clerk of Court's Office holds public records including deeds, probate minutes, estate records, and land surveyor's notes. These data were used to trace the transfer of land associated with potential site locations. The results of the deed/title search are discussed in Chapter 3 and presented in Appendix A. Tax records for the years 1844-1850, 1860, 1865, 1870, and 1876 provided valuable information concerning property holdings within the project area. Census records for 1850 and 1860 were also examined to determine the early settlers within the area.

The Harrison County Surveyor's Office also provided invaluable map data for the project area. Mr. Hart, county surveyor, had transferred the 30 original land grants (tracts) located in or near the project area to 7.5 minute quadrangle maps, Karnack and Potter's Point, and made copies of these maps available to Geo-Marine, Inc. personnel. By overlaying these grants upon a map depicting present and future disturbance and known or potential site locations, researchers gained an invaluable tool for identifying those properties subsequently selected for immediate study.

From these various data sources, several conclusions and research goals were formulated. For example, portions of two tracts, the O. Hendrick and J.B. McDaniels, lay within the property boundaries of LHAAP and warranted additional work. Modern disturbance to the historic James Laster, G.W. Lewis, and Henry Vogt grants lessened their potential research value and were assigned a relatively lower research priority.

The following properties were assigned a high research priority due to the relatively low level of modern disturbance in each historic tract, the presence of known or potential site locations within these tracts, and their relative historic importance in the development of the region. These properties are: (1) J.C. Hawley, (2) Calvin Fuller, (3) Henry Martin, (4) M.H. Ussery, (5) E.T. Salter, (6) Jno. W. Adams, (7) Hobart Key, and (8) O. Hendrick land grants.

Research objectives pursuant to these grants included the recognition of early plantations or homesteads within these tracts, land use trends within these grants, subsequent land transfer through succession or sale, and locating potential sites within these tracts. The completion of these objectives has aided the formulation of assessments of cultural resource potential of these areas and recommendations for the preservation or investigation of the potential sites identified by this study.

CHAPTER III
RESEARCH RESULTS

3.1 Introduction

This chapter presents the results of the archival research and the reconnaissance survey described in Chapter II. Section 3.2 presents the results of the archival research. It includes a description of known and potential site locations, and a discussion of general land ownership patterns. Section 3.3 presents brief summaries of the previously recorded archeological sites and of those sites noted during the reconnaissance. Section 3.4 which concerns the definition of landforms deviates from the usual usage of the term "landform," for it was decided that landforms such as knolls, saddles, ridges, etc. were not particularly useful in classifying the environmental and topographic variability exhibited by the LHAAP area. Rather, the microenvironments defined for the Caddo Lake area by Gibson (1970) were judged to be more appropriate. The floral and faunal communities of Gibson's microenvironments, combined with the topography of the LHAAP provide a meaningful division of the facility which appears to be strongly correlated with the prehistoric and historic use of the area. Section 3.5 presents an updated discussion of the historic and modern impacts on the landforms within the LHAAP. This presentation necessarily relies on the previous work by Dieste et al. (1985); however, our evaluations differ in important respects.

3.2 Archival Results

Examination of the maps and data maintained by the Harrison County Historical Society, the Government Land Office, the Harrison County Clerks' Office, the Soil Conservation Service, and the Moseley Abstract Office resulted in the recognition of thirty-one known or potential historic sites (see Figure 5). The 1913 soil survey map of Harrison County was particularly useful in providing information concerning the locations of 27 dwellings and one church (Van Duyne and Byers: 1913). Unfortunately, the scale of the soils map provides an unknown degree of error in correctly plotting the locations of such sites on the modern topographic maps. Nevertheless, the relative locations of these potential sites may be plotted. In addition, four sites were also located through the examination of modern maps and archival data at the Harrison County Historical Society Museum.

Examination of the 1913 soils survey map revealed that a select number of headright grants were represented as containing dwellings in 1912. The southern segment of the Calvin Fuller grant contained 6 dwellings; the Henry Martin grant contained 6 dwellings and a church; the James C. Hawley, John W. Adams, and James Laster grants each contained 3 dwellings; the O. Hendrick grant contained 2 dwellings; and the northern segment of the Calvin Fuller grant and the William Reynolds grant each contained 1 dwelling. The remaining four sites from other archival resources appear within the Hobart Key, A.C. Walters, and Day Land & Cattle Co. grants.

Although these sources probably do not list all of the farmsteads or plantations within the LHAAP, they provided a starting point for the deed/title and census record investigations. The more detailed archival research was focused on potential sites within relatively undisturbed areas and associated with the earlier grants.

Of the 32 potential historic properties recognized through archival research, thirteen were chosen for deed/title research and an examination of the census records and tax rolls. These thirteen potential sites were labelled with the letters, A through M (Sites 1 through 13 on Figure 5). These potential sites were chosen because of their association with early land grants, important families within the area, and their location within areas which are relatively undisturbed within the confines of the LHAAP. The O. Hendrick grant is particularly important in regard to the position of Port Caddo and was originally scheduled for deed/title research; however, the voluminous abstracts (over 1,000 pages) associated with this grant precluded any such effort in the time frame of this research effort.

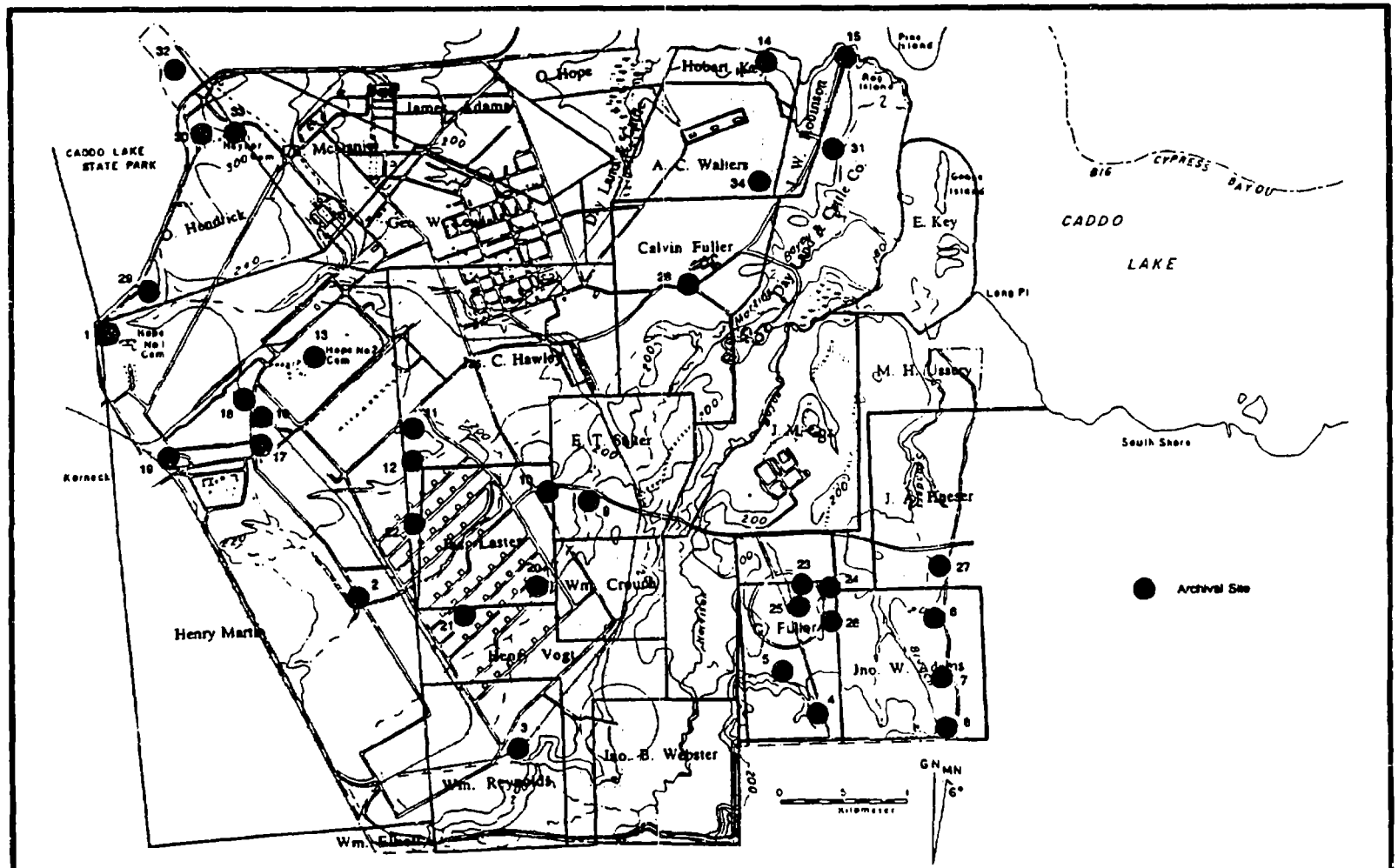

Figure 5. Locations of archival sites in relation to original land grants within the Longhorn Army Ammunition Plant.

Locality 1 (Site A)

This locality is the site of the original homestead of Oscar Hope I and his wife Rebecca. In 1845, the Hopes purchased 1,000 acres from Henry Martin. This acreage included the northern half of the H. Martin survey. Oscar Hope apparently did not arrive empty handed for the 1846 tax rolls indicate that he owned 24 slaves, 8 horses or mules, a wagon, a watch, and hogs.

Oscar Hope began construction of a two-story timber house which was completed after his death in 1848.

The house was built of pine logs cut on the plantation, sawed or hewn on two sides, put together with mortised joints, and fastened with wooden pegs. The walls were sixteen inches thick, and the chinks between the logs were filled with clay. The roof was shingled with split cypress boards. The house was built upon sills placed on squared pillars of ferruginous sandstone which is abundant in the area. There were eight rooms in the house, and a gallery across the sixty-foot front of the house.

Associated with the house site was a sixteen foot cistern dug deep into the ground (Cargill n.d.). Adjacent to the cistern was a dairy barn and there may also have been a church and a school located 150 ft northwest of the house (Inez Hughes 1988: personal communication). This house, barn, school and church is purported to have been located adjacent to Hope Cemetery I.

Although the estate proved difficult to settle (not settled until 1870), this land remained in control of the Hope family until 1940 when 862 acres were sold to T.J. Taylor. During this time the tax and census records indicate a small number of cattle and horses as property, but no other improvements are noted.

In 1914, Gaines Cargill, a son-in-law of Oscar Hope II, covered the house with milled siding which he then painted. The residence remained in the Hope family until 1927 when Annie Hope, widow of Oscar Hope II, moved to Marshall and Mr. Hayner, a relative of Oscar Hope II, moved in (Harrison County Historical Society Museum:Hope family files; Deed Records:Vol. 9-P175, Vol. 75-P-112; Probate Records Vol. 0-P208-217). When the United States acquired the land and house in 1941, the government demolished the Hope home, but left standing most of the cedar trees which lined the drive from the road to the south of the house, approximately one thousand feet. The home site was on top of a gentle slope of about one-half mile on all four sides, and LHAAP officials designated this location for housing their top officials. According to Mr. Cargill (n.d.), therefore, the home site now rests under facility construction.

Associated with the Hope plantation is the Hope Cemetery which is a well-tended graveyard currently in use by the local community. The cemetery contains tombstones dating from the Civil War era to the present. The Hope family plot is located in the center of the graveyard and is surrounded by a rectangular cement border. Sixty-five headstones are currently present throughout the cemetery. A chainlink fence surrounds the cemetery. During the present survey, artifact scatters of broken glass and historic ceramics were observed in the fire road leading to the entrance of Locality 1.

Further investigation of the Locality 1 area is recommended. In Locality 1, remains of the activities associated with the church, school and plantation may still be intact. The cistern and outbuildings associated with the Hope occupation may also be undisturbed. Even though local folklore places the Hope homestead at the location of the later officers' housing development, additional field investigations should be conducted to determine the location and context of this early site. This location has the potential to reveal valuable information concerning planter life from the Antebellum period to the early 1940s, providing information on both the first and second generations of a prominent planter family who lived in the area during the transition periods between slaveholding to tenant farming and from tenant farming to sharecropping.

Locality 2 (Site B)

Locality 2 is also situated within the Henry Martin survey (Figure 5); however, it is located within the southern half which was transferred to William R. Hargrove in 1858 (see Appendix A). Although the records are not clear, it appears that this property was transferred to his son, R.H. Hargrove, and then to his widow, A.E. Hargrove. The tax rolls, however, indicate that the Hargroves probably never lived on this property. The ownership of lots in Marshall, Texas and other tracts within the general area suggests that the Hargrove family likely resided elsewhere.

Locality 3 (Site C)

Locality 3 is situated within the William Reynolds survey which was patented prior to 1848. Reynolds transferred the entire survey to William Pinkney Hill in 1848 (see Appendix A). The 1849 tax rolls indicate that W.P. Hill also owned lots in Marshall, Texas and land tracts in other surveys. Hill sold the property within the Reynolds survey two years later to William J. Scott. Although W.J. Scott owned this property until 1862, his name does not appear in the tax records for 1850 or 1860.

In 1862, the property was acquired by a large landholder in Harrison County, Levin Perry. Perry, according to the 1860 tax rolls, owned 450 acres elsewhere in the county, but by 1865 he owned 137 acres in the Crouch survey, 320 acres in the Laster survey, 320 acres in the Salter survey, 640 acres of the Hawley survey, and an additional 3,188 acres in surveys outside the LHAAP. However, at his death, Perry was deeply in debt and the Reynolds survey property was sold to James Sawyer at a sheriff's auction in 1869. Sawyer, in turn, sold the property to Edward Kahn in 1872. The records do not show whether Sawyer ever occupied this property. The 1870 tax rolls, however, do show that Kahn owned a lot in the town of Jonesville as early as 1870; consequently, Kahn may not have established a residence on this property even though he owned it until 1881. Ben Williams acquired this property on which site C is located in 1881. Although the deed/title record is not clear during the early twentieth century, it does appear that the Williams family maintained control of this property until after 1930. Before 1942 T.J. Taylor and N.L. Howard gained control of this property, for they sold it to the U.S. Government at that time.

Locality 4 (Site D)

Locality 4 is situated within the C. Fuller survey which was patented in 1848. This southern portion of the Fuller estate was sold to W.C. and J. M. Swanson in November of 1848. The tax rolls for 1849 reveal that the Swanson family, led by Peter Swanson, owned over 9,600 acres within Harrison County. In addition, Peter Swanson is listed as owning 54 slaves, 17 horses, 75 cattle, wagons, sheep, and hogs. This property within the C. Fuller survey was likely an additional holding where only outbuildings or slave quarters were present. In 1850 the property was transferred to the trust of Swanson's grandson, James Edward Doty Blades (Appendix A).

In 1870 the property again changed hands. A.B. and Eliza Waskom took ownership of the survey. In 1895, eighty seven acres in the southern portion of the survey is transferred to Thomas Ruffin. Although the present research found no definitive evidence regarding the establishment of a homesite within this survey tract, it is most likely that actual residence of the property was initiated between 1870 and 1900. Discussions with Tom Brantley, Forester for LHAAP, have revealed that a grist mill was likely present at this locality. This property remained in the control of the Ruffin family until the U.S. government acquired it in 1942.

Locality 5 (Site E)

Locality 5 shares a history of transfers with Locality 4 through 1912. It is only then that the Ruffin family sells blocks 1, 2, and 3 to W.E. Webster. As many other landowners within the area, Webster sold his holdings to T.J. Taylor in 1919.

Locality 6 (Site F)

Locality 6 is situated within the John W. Adams survey which was patented in 1849. Although the records are incomplete, J.M. Saunders acquired the land after 1849 and sold it to T.M. Gilmer of DeSoto Parish, Louisiana in 1854. Saunders then regained this property, for it appears in his will in 1860. Settlement of the estate, however, was not completed until 1875.

The 1860 tax rolls indicate that the Saunders family owned 320 acres within the J. Webster survey, 320 acres of the J.W. Adams survey, and 2,040 acres elsewhere in the county in addition to the J.M. Saunders survey of 320 acres where they likely settled. Whether or not any of the family settled in the J. W. Adams survey is unclear from the documents examined. The tax rolls indicate that the family owned 22 slaves, 12 horses, and 100 head of cattle in 1860. The land remained in the family for a number of years; however, numerous transactions occurred among family members (Appendix A). Unfortunately, the records are not clear concerning the appearance of individuals such as G.F. Heard and Edward Kahn as having an interest in the property. Nevertheless, this property was sold by Kahn to Henry Sims in 1884. Site F is not the home place for the Sims family, for the deed and title records indicate that it was situated in the southern portion of the survey.

Locality 7 (Site G)

Locality 7 is situated in the east central portion of the J.W. Adams survey. The deed title chain for this site is the same as that of Locality 6 through 1883. However, this property is transferred to Henry Sims by C.W. Sanders in 1894 in two 25 acre parcels. Site G is located on the boundary of these two parcels.

Locality 8 (Site H)

Locality 8 is situated in the southeastern portion of the J.W. Adams survey. It shares the same deed/title chain as sites F and G, except that the Sims family acquired this parcel earlier in 1884 from J.N. Sanders. Site H may be the location of the Sims home place, for the deed/title records indicate that their home place was in a 100 acre tract in the southern portion of the survey.

Therefore, site F, if it has not been destroyed by the development of the fenced boundary of the LHAAP, may be representative of the smaller landholder sites around the turn of the century.

Locality 9 (Site I)

Locality 9 is situated within the E.T. Salter survey. James D. Todd was the patentee of this survey in 1849. Todd was apparently a land speculator, for in 1851 he sold the Salter survey, the Laster survey, the Hawley survey. and the Crouch survey to James I. Branden and Hugh F. McKenna of New Orleans, Louisiana (Appendix A). These gentlemen were merchants and traders under the name of Branden, Williams and Co. of New Orleans. In 1859 these gentlemen sold all of these properties to Levin Perry who was acquiring thousands of acres in Harrison County as the Civil War started. Perry's debts at his death, however, forced his widow to forfeit the Salter, Laster, Hawley, and Crouch surveys to Glendy Burke of New Orleans in payment of $2,725 in promissory notes. Therefore, these lands became the property of Mrs. Caledonia Rodgers in 1867, for Burke was acting as her agent. This property remained in the hands of Mrs. Rodgers until 1880 when it was inherited by her son, Edmond Sager. In 1885, Sager transferred the property to J. Brander Matthews of New York for $1.00.

It was not until 1895 that these lands were transferred into the hands of Alonzo P. Hope, a local landowner. Prior to this time these lands were owned by absentee landlords. For some unknown reason, these lands changed hands four times between June 14, 1904 and November 18, 1904. A.P. Hope and his wife (J.A. Hope) transferred these properties to G.B. Dennis and his wife; subsequently, through two transfers Dennis transferred these properties back to J.A. Hope. Upon J.A. Hope's death, the land once again passed into the possession of A.P. Hope.

Following A.P. Hope's death in 1910, the land on which site J is located was inherited by the James M. Hall (brother to J.A. Hope) family. By 1922, T.J. Taylor had acquired the first parcel (100 acres) of the Laster survey from James W. Hall. By 1930, Taylor had succeeded in acquiring the entire Laster survey. This was to be a small part of the large parcel of land which Taylor would eventually sell to the U.S. Government in 1942 for $70,000.

Since this property remained in the hands of speculators and absentee landowners for most of its history, it is highly unlikely that an original homestead will be found on this property. Overseer homes and associated outbuildings and sharecropper or later tenant farmer homes are the only sites which might be expected within this land tract.

Locality 10 (Site J)

Locality 10 shares the same deed/title chain as Locality 9; it is merely within the Jas. Laster survey. As a part of the "Todd lands" (see Appendix A), this property was transferred from one absentee owner to another until it was acquired by A.P. Hope in 1904. Hope family members owned this property until 1923 when T.J. Taylor acquired the Laster survey along with many other parcels of land.

Locality 11 (Site K)

Locality 11 is situated within the J.C. Hawley survey which was transferred to Marshall Spell in 1848. Less than one month later, Spell sold the entire headright survey to Dr. William A. Starnes. Less than two years later the property was again sold to W.W. Allen; four months later in 1850 this property became a part of the "Todd lands." It therefore shares a deed/title chain with sites I and J; consequently, it is extremely difficult to assign a time period or occupants for site K, for this land was controlled by absentee landowners for most of its history. As with the previous two sites, this land did not come under local ownership until 1904 when the Hope family acquired these lands. These lands were then purchased by T.J. Taylor in the 1920s.

Locality 12 (Site L)

Locality 12 is also situated within the J.C. Hawley survey. Like site K, the site was passed from one absentee landowner to another (Appendix A) until it was acquired by the Hope family at the turn of the century. The position of the site near the boundary dividing the parcels owned by the Hall family and those of Robert and Carlisle Hope, however, raises questions concerning who controlled the area of site L in the early 1900s. Nevertheless, this property also became a part of the T.J. Taylor acquisitions in the 1920s.

Locality 13 (Site M)

Locality 13 shares the deed/title history of Locality 1, for Locality 13 is the site of the A.P. Hope residence and the associated Hope No. 2 cemetery (41HS270). The Alonzo P. Hope residence was located seventy yards northeast of the Hope No. 2 cemetery (Harrison County Probate Record, Vol. O, p. 213). A.P. Hope, the oldest son of Oscar Hope, Sr., married Juliet A. Hall in 1868 and built his house subsequent to this event. No issue evidently came from the marriage because he left the majority of his estate to his nephews Robert Hope, Carlisle Hope, Ernest Vaughn, and niece Atelia Hope Cargill. Alonzo also granted permanent access to his house and surrounding land to his mother-in-law and his wife's aunt (Harrison County Historical Museum: Hope family file). It is uncertain when this house was demolished; however, W.J. Bennett's survey (1984:5-6) of the area indicates that the site has been destroyed.

Site 41HS270 (Hope Cemetery 2) contains four graves in a small area enclosed by a wrought-iron fence. The gate contains an embossed plate stating its origin to be the Stewart Ironwork, Cincinnati, Ohio. Ornamental vegetation has been planted within the enclosed area, along the fence and adjacent to the footstones. Two evergreens are planted on either side of the gate, outside the enclosed area. All four headstones are alike and are elaborately carved. A drainage ditch encircles the area to prevent flooding

and erosion as the cemetery is situated in a low area of the hill top. Bennett recorded the presence of this cemetery in 1984. Both this site and Locality 1 can be associated with the families of Oscar Hope I and Oscar Hope II (see Appendix B for genealogy).

Locality 14

Key Ranch or West Wind is a potential historic site located within the Hobart Key grant patented in 1911. It is shown on historic and modern maps as one or two buildings situated on the shoreline of Caddo Lake. The area was visited during the current survey and a dense artifact scatter of brick, window glass, bottle glass, historic ceramics, and metal was located. Ornamental vegetation, including crepe myrtle, was observed. The artifact scatter is located on the boundary of the alluvial bottomland and upland flats zones. Hobart Key built the original homestead on the southwest shoreline of Goose Prairie which was transferred later to Edmund Key, Sr., his brother (Key 1964:43; Deed Records:Vol. E-P162-163; Estate Records:Vol. D-P43-44, 78-79). After the death of Edmund Key, Sr., this land and residence was given to his son, Edmund Key, Jr. (Deed Records:Vol. 13-P286-290, 423).

In all probability, the structures shown on maps and the artifact scatter observed in the field are in some way related to this residence and may be related to either the agricultural interests and/or the recreational interests of the Key family. Further investigation is recommended to determine the possibility of intact deposits in the locality as well as additional background information to definitely tie Locality 14 with the Key occupation of the area.

Locality 15

This locality is known as Starr Ranch or Starr Plantation; possibly encompassing portions of the historic A.C. Walters land grant (patented in 1883) and the J.W. Robinson land grant (patented in 1883). A ranch or club house was built in the 1880s-1890s by Amory Reilly Starr on what is known as Starr Point, probably a part of the original J.W. Robinson grant. The club house seems to have been constructed as a hunting and fishing lodge for the enjoyment of family and friends. This structure was built of logs and stood until it was razed in 1956 (Key 1964:43). This site may or may not have been connected with the main Starr family residence. Conflicting data from interviews place the actual living area as either north of Goose Prairie or on 1800 acres along the south bank of Goose Prairie (Inez Hughes 1988: personal communication; Haywood Mosely 1988: personal communication). In any case, the situation has not been resolved by current research.

Information recovered from this site would be associated with recreational activities of the Starr family and friends. No other present or future impacts have been identified with the site location. Should this area be potentially impacted, additional archival research should be completed to locate the probate records related to Amory R. Starr (not located in Harrison County Clerk of Courts Office records) and a pedestrian survey be conducted to locate potential archeological deposits.

The club house was situated on the boundary of the alluvial bottomland and upland flats zones and overlooks Caddo Lake. At present, another ranch house exists and is used as a fishing station by employees of the plant. Plant employees believe that this is a rejuvenated structure built around the original log cabin. A line of oaks just south of the house suggests that the ranch grounds were once more extensively cleared.

Localities 16 through 30

These localities were plotted as dwellings on the 1913 soil survey map for Harrison County (Van Duyne and Byers 1913). Many of these sites have been disturbed by installation activities conducted since 1942. Minimally, the standing structures were razed in these localities. In some cases the entire site context has been removed through borrow pit activities (e.g., Locality 30) or severely disturbed through installation expansion (e.g., Localities 16-23, 25, 28). Other localities, such as 24, 26, 27, and 29, may have been impacted, but their status needs to be checked through field survey.

Locality 31

This locality was initially reported by several informants and subsequently relocated by the survey crew. It consisted of a high density scatter of historic bottles, ceramic fragments and metal containers. Many of the bottles dated to the early 20th century. No structures were observed during survey; however, one informant stated that a well is present within the locality. Ornamental vegetation was observed along the fire road bordering Caddo Lake. This locality is situated in both the upland flats and alluvial bottomlands zones and is purported to be a boat landing and fishing station for a colorful historic character named Jack Daddy Dowdy. The locality falls within the Day Land and Cattle Company grant, patented in 1893.

Locality 32

This locality is situated within a small portion of the LHAAP property bordering Big Cypress Bayou, within the dissected uplands zone. Earlier research and local folklore indicate that three potential site areas may be found within this locality: the remains of a portion of the Port Caddo community, a Civil War era bullet factory and an early 20th century Civilian Conservation Corps (CCC) camp. Exact locations for these sites are as yet unknown; local historians and informants are the sole sources for this information. However, the archival research revealed that only the CCC camp is likely to have been situated within the boundaries of the LHAAP.

Obediah Hendrick was granted 660 acres by the government of Texas and incorporated the town of Port Caddo, selling stock and lots for businesses and homes. The site of Port Caddo has been identified as lying within the extreme northern area of the Obediah Hendrick abstract 302, fronting the Big Cypress Bayou (Hooper 1940). It is therefore likely that the Port Caddo site is within the confines of Caddo Lake State Park, especially centered around the prominent hill within the park. Port Caddo flourished until the 1850s, when the city of Jefferson took over as the main shipping port for the area (Hackney 1966:5-23). The area remained in private ownership until the government began buying land for the proposed Caddo State Park in the late 1930s (Deed Records:Vol. 222-225, 227, 229).

The site has been impacted by the construction of Caddo State Park by CCC personnel. It is suggested that material from the stone house foundations was used in park construction. Foundation stones may also have been used for the construction of bridges in the northwest corner of LHAAP by CCC workers (Doris Powell 1988: personal communication; Haywood Mosely 1988: personal communication).

Dieste et al. (1985) record the possibility that portions of a Civil War era bullet factory may exist within the LHAAP confines. The location of the factory was given during an interview with Mr. J.L. Jones (Dieste et al. 1985:4-6). Hackney also discusses the factory and locates it within the boundaries of Port Caddo. A photograph of a structure which is reportedly part of the factory is shown (Hackney 1966). Recent archival research within the Confederate records at Northwest State University and limited reconnaissance survey have failed to gather additional data on site location and description.

Informants from the plant grounds and maintenance crews reported the remains of the CCC habitation within Locality 32. This occupation purportedly dates to the 1930s and represents the CCC quarters during the construction of Caddo State Park. The survey crew briefly examined the area but did not relocate the camp.

Locality 33

Locality 33 is the Hayner Cemetery which is located on one of the prominent hills within the northwest portion of the LHAAP. The cemetery is enclosed by a barbed wire fence. Engraved tombstones record the birth and death dates of 29 persons, some of whom lived during the Civil War. An added feature of this cemetery is a series of graves marked by unlabelled, roughly hewn sandstone blocks; one area of the graveyard contains a rectangular wall of blocks within which up to three graves may be present. Although well within the plant confines, Hayner cemetery is still in use, for the last burial occurred there in 1986. Only two graves contain engraved headstones identifying Hayner family members. As the

unmarked sandstone block graves are not confined to any one area of the cemetery, it is uncertain how many members of the Hayner family are interred there.

Locality 34

This locality is situated on the upland flats zone within the A.C. Walters land grant. A.C. Walters acquired his grant as a reward for being a veteran of the Mexican-American War. Amory Starr repatented the land in 1883 after it had changed ownership from Walters to S.D. Thomas in 1881 (Deed Records:Vol. 16-P278). One or two potential site locations are located within the grant.

A map, dated 1894, located a school in the area of Walters grant (Marshall Morning Star 1894). Mrs. Doris Powell (1988: personal communication) described a black school and church on the "old road to the Starr Ranch." Jesse Carter's map of 1900, shows the old road bisecting the Walters grant southwest to northeast. It is apparent that at least a school stood in this area and possibly a church.

The problem of one or two structures has not been solved at the present date. The article in the Morning Star stated that schools would be built, but, in some instances, churches doubled as schools and vice versa. Until the problem is settled it must be assumed that two structures may be located by pedestrian survey.

The potential school and church site information could be directly compared to the Hope school and church. This would allow for comparisons between two distinct social and ethnic classes. The buildings have been razed, but no other present or future impacts have been identified for the site location.

Summary

Examination of the census records for the 1850s and 1860s and the tax rolls mentioned earlier revealed that most of the early owners of land within the confines of the LHAAP lived elsewhere and never actually established a homestead within the survey tracts. In fact, the Hope family holdings are the only presently established lands which were developed prior to 1850 and served as plantation headquarters until the 1920s. Most of the land within the LHAAP was transferred numerous times from one absentee landowner to another. The "Todd lands" which consisted of the Salter, Laster, Hawley, and Crouch surveys are a primary example of this pattern of ownership. The southeastern portion of the LHAAP, however, appears to have been broken up into smaller parcels during the late nineteenth century and homesteads, such as that of the Sims family were established. It is also within the 1880s that additional lands were available for claim following the lowering of Caddo Lake; consequently, plantations established outside the LHAAP expanded their holdings along the shoreline of Caddo Lake. The Key and Starr Ranch developments along Caddo Lake are primary examples of this expansion of already large holdings within the region.

Interestingly, this landholding pattern was largely unaffected by the Civil War. Campbell (1983:385-395) lists three reasons for the continuation of this pattern: (1) Harrison County was not directly impacted by the war, (2) most of the sons of the prominent planters returned home, and (3) loss of the Civil War meant an end to slavery but not the confiscation of property. The loss of the slave work force caused the large landholders to experiment with alternative systems of obtaining a work force. In the early Reconstruction period (1865-1868), for example, Adam Hope entered into a contract with nineteen freedmen, promising to furnish food and wages of which one-third would be paid monthly and the remainder after the year's harvest (Campbell 1983:263). By late Reconstruction (1868-1870), the development of sharecropping replaced wage labor, however, and was probably the most important economic development during Reconstruction. Blacks preferred sharecropping to wage labor because it gave them more freedom concerning working hours and crops planted.

From the 1850s to the 1940s, the area of Harrison County within the confines of the LHAAP was a part of the agricultural industry which was dominant until the twentieth century. Because of the dominance of plantation agriculture and the cotton industry, broader economic development, such as commercialization and industrialization, was stymied in Harrison County until the twentieth century.

In the Antebellum period, only two commercial ventures, both associated with the cotton industry, were established. One was a cotton gin factory owned by J.S. Alexander and the other was a textile mill owned by Henry Ware. Both of these industries disappear during the Civil War and the only new industries to appear in the late nineteenth century are extractive industries such as saw mills to exploit the local timber resources, grist mills, and slaughter houses. For the most part, the economy of the region remained primarily agricultural well into the twentieth century and consequently had little effect on land ownership patterns.

3.3 Synopsis of Known Archeological Sites

Six previously recorded sites and five potential site localities have been identified within the plant confines (Figure 6). In addition, the reconnaissance survey verified the presence of archeological contexts at three sites identified through the archival research (Localities 14, 15 and 31). Descriptions of the six known sites have been detailed elsewhere (Bennett 1984; Ford 1936; Gibson 1970; Dieste et al. 1985; Roemer and Newman 1988; Webb 1948) and have been outlined in Table 2. Of the six, three are prehistoric campsites (41HS240, 41HS241, 41HS385), one is an early 20th century cemetery (41HS270) and two are historic artifact scatters, possibly representing homestead or tenant farming activity (41HS395, 41HS396). Summary information pertaining to these sites was compiled during this project. Data concerning 41HS270 were presented in Section 3.2.

Harrison Bayou Site (41HS240)

The Harrison Bayou Site (41HS240) has been recognized as a significant cultural property due to its contribution to the development of the Caddo complex concept (Ford 1936) and the definition of the Bossier focus (Webb 1948). The site locality has also yielded diagnostic artifacts of the Late Pleistocene - Early Holocene period.

Gibson's (1970) visit to the site in 1968 resulted in the observation that the site possibly contained as much as 70 cm of stratified midden deposits. The site was clearly recognized as having the potential to yield information important to an understanding of the prehistory of the region and could be regarded as eligible for nomination to the National Register of Historic Places (NRHP).

A recent visit to the Harrison Bayou Site (41HS240) by Roemer and Newman (1988), however, revealed that the site had been impacted by a fire lane, planting activities, and uncontrolled artifact collection. Very limited shovel testing yielded neither midden deposits nor significant quantities of artifacts. In order to familiarize themselves with the archeological sites of the region, Geo-Marine, Inc. personnel also visited site 41HS240. Limited shovel testing yielded no evidence of a midden and only one Caddoan grog-tempered body sherd. Although Roemer and Newman (1988) attribute the present state of the site to uncontrolled collecting and the impact of the fire lane, it is also apparent that the "midden" area was extremely limited spatially. Further evaluation of the site is needed; however, the present potential of the site for NRHP eligibility is low, unless one considers the role of the site in the development of archeological constructs for the region.

Site 41HS241

Site 41HS241 was initially reported by Gibson (1970:29) as a result of the survey of the area to be impacted by the raising of the impoundment level of Caddo Lake. This site is located on a floodplain rise adjacent to the Harrison Bayou channel. The topographic context of the site suggests that the site would have been suitable for habitation only during drier periods. The recovery of only two sherds (one Pease-Brushed Incised; the other plain) and one piece of burned rock suggests that occupation was likely very limited in duration during the Caddo period.

Site 41HS385

Site 41HS385 is not well documented, for no site form has ever been filed. Examination of the files of the Texas Archeological Research Laboratory revealed a brief mention of the site in notes accompanying

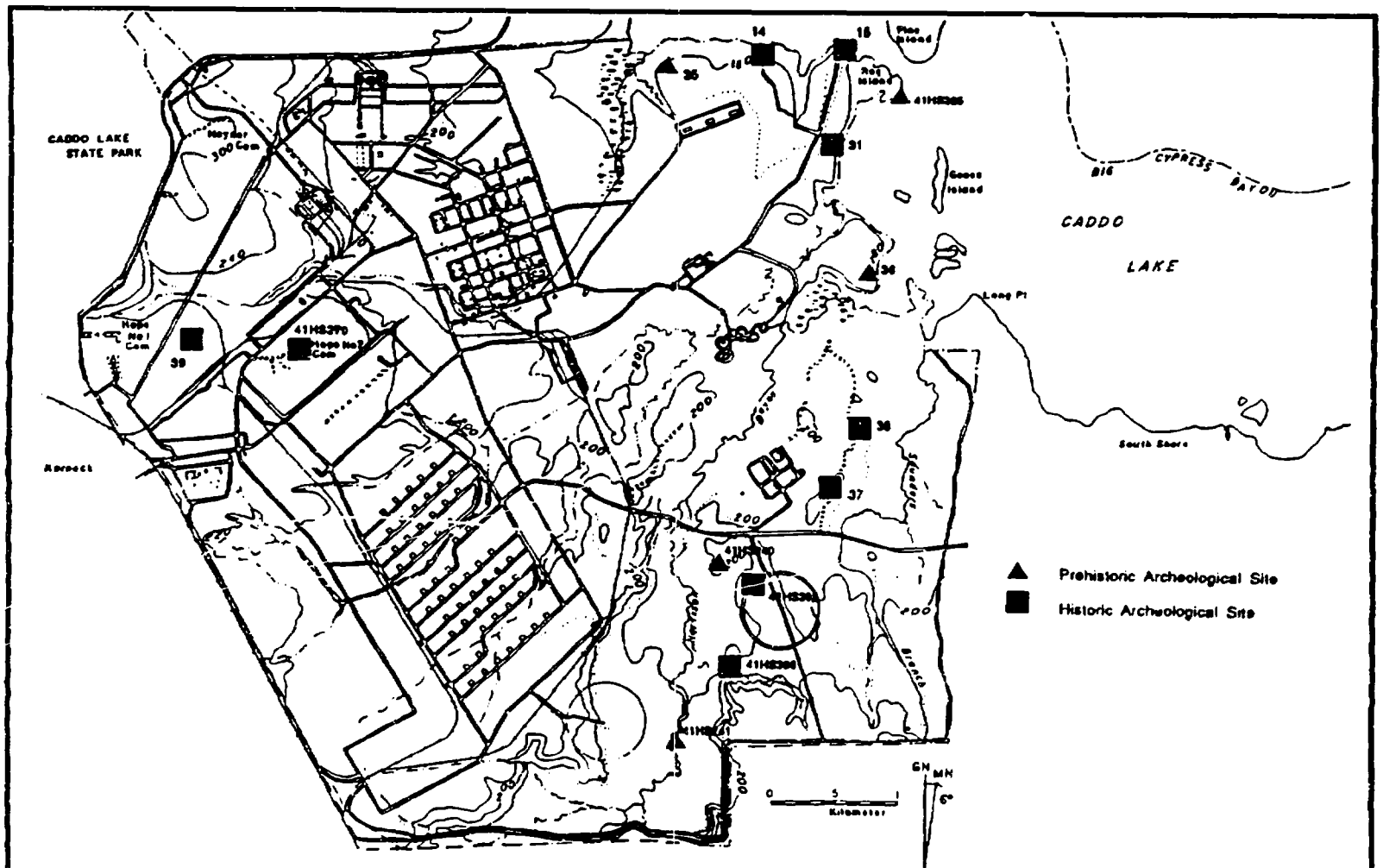

Figure 6. Locations of designated archeological sites identified within the Longhorn Army Ammunition Plant.

TABLE 2. DESIGNATED SITES AND POTENTIAL SITE LOCALITIES WITHIN THE LONGHORN ARMY AMMUNITION PLANT (SEE FIGURES 5 & 6).

SITE	PERIOD	AGE	PROBABLE FUNCTION	LANDFORM*	DISTURBANCE AT THE TIME OF SURVEY **	PRIMARY REFERENCES
41HS240	PREHISTORIC	7000 B.C. TO A.D. 1400	CAMP, HAMLET	3	EXTENSIVE (65%)	FORD 1936;WEBB 1948;
41HS241	PREHISTORIC	A.D. 1500 TO 1700	CAMP	4	UNKNOWN	GIBSON 1970
41HS385	PREHISTORIC	ARCHAIC (?)	CAMP	4	EROSION	TARL FILES
41HS270	HISTORIC	1905-1920	CEMETERY	1	CEMETERY PROTECTED	BENNETT 1984
41HS395	HISTORIC	LATE 19TH-EARLY 20TH	HOMESTEAD	3	LOGGING / ROAD	ROEMER & NEWMAN 1988
41HS396	HISTORIC	EARLY 20TH CENTURY	HOMESTEAD	3	LOGGING	ROEMER & NEWMAN 1988; CURRENT SURVEY
LOCALITY 1	HISTORIC	MID-19TH-EARLY 20TH	CEMETERY/PLANTATION	1	FACILITY CONSTRUCTION; CEMETERY PROTECTED	1913 SOIL SURVEY MAP
LOCALITY 2	HISTORIC	LATE 19TH-EARLY 20TH	FARMSTEAD	3	UNKNOWN	1913 SOIL SURVEY MAP
LOCALITY 3	HISTORIC	LATE 19TH-EARLY 20TH	FARMSTEAD	3	UNKNOWN	1913 SOIL SURVEY MAP
LOCALITY 4	HISTORIC	LATE 19TH -EARLY 20TH	FARMSTEAD	3	UNKNOWN	1913 SOIL SURVEY MAP
LOCALITY 5	HISTORIC	LATE 19TH -EARLY 20TH	FARMSTEAD	3	UNKNOWN	1913 SOIL SURVEY MAP
LOCAL	HISTORIC	LATE 19TH-EARLY 20TH	FARMSTEAD	3	UNKNOWN	1913 SOIL SURVEY MAP
LOCALITY 7	HISTORIC	LATE 19TH-EARLY 20TH	FARMSTEAD	3	UNKNOWN	1913 SOIL SURVEY MAP
LOCALITY 8	HISTORIC	LATE 19TH-EARLY 20TH	FARMSTEAD	3	UNKNOWN	1913 SOIL SRUVEY MAP
LOCALITY 9	HISTORIC	LATE 19TH-EARLY 20TH	FARMSTEAD	3	UNKNOWN	1913 SOIL SURVEY MAP
LOCALITY 10	HISTORIC	LATE 19TH-EARLY 20TH	HOMESTEAD	3	UNKNOWN	1913 SOIL SURVEY MAP
LOCALITY 11	HISTORIC	LATE 19TH-EARLY 20TH	FARMSTEAD	2	UNKNOWN	1913 SOIL SURVEY MAP
LOCALITY 12	HISTORIC	LATE 19TH-EARLY 20TH	FARMSTEAD	1	UNKNOWN	1913 SOIL SURVEY MAP
LOCALITY 13	HISTORIC	1868-EARLY 20TH	FARMSTEAD	1	EXTENSIVE	PROBATE RECORDS
LOCALITY 14	HISTORIC	LATE 19TH-EARLY 20TH	FARMSTEAD; RECREATIONAL	2	EROSION	CURRENT SURVEY
LOCALITY 15	HISTORIC	LATE 19TH-EARLY 20TH	RANCH / CLUB HOUSE	2	MINIMAL	CURRENT SURVEY
LOCALITY 16	HISTORIC	LATE 19TH-EARLY 20TH	FARMSTEAD	1	EXTENSIVE	1913 SOIL SURVEY MAP
LOCALITY 17	HISTORIC	LATE 19TH-EARLY 20TH	FARMSTEAD	1	EXTENSIVE	1913 SOIL SURVEY MAP
LOCALITY 18	HISTORIC	LATE 19TH-EARLY 20TH	FARMSTEAD	1	EXTENSIVE	1913 SOIL SURVEY MAP

TABLE 2. CONTINUED

SITE DESCRIPTION	PERIOD	AGE	PROBABLE FUNCTION	LANDFORM*	DISTURBANCE AT THE TIME OF SURVEY **	PRIMARY REFERENCES
LOCALITY 19	HISTORIC	LATE 19TH-EARLY 20TH	FARMSTEAD	1	EXTENSIVE	1913 SOIL SURVEY MAP
LOCALITY 20	HISTORIC	LATE 19TH-EARLY 20TH	FARMSTEAD	3	EXTENSIVE	1913 SOIL SURVEY MAP
LOCALITY 21	HISTORIC	LATE 19TH-EARLY 20TH	FARMSTEAD	3	EXTENSIVE	1913 SOIL SURVEY MAP
LOCALITY 22	HISTORIC	LATE 19TH-EARLY 20TH	FARMSTEAD	2	EXTENSIVE	1913 SOIL SURVEY MAP
LOCALITY 23	HISTORIC	LATE 19TH-EARLY 20TH	FARMSTEAD	3	EXTENSIVE	1913 SOIL SURVEY MAP
LOCALITY 24	HISTORIC	LATE 19TH-EARLY 20TH	FARMSTEAD	3	UNKNOWN	1913 SOIL SURVEY MAP
LOCALITY 25	HISTORIC	LATE 19TH-EARLY 20TH	FARMSTEAD	3	EXTENSIVE	1913 SOIL SURVEY MAP
LOCALITY 26	HISTORIC	LATE 19TH-EARLY 20TH	FARMSTEAD	3	UNKNOWN	1913 SOIL SURVEY MAP
LOCALITY 27	HISTORIC	LATE 19TH-EARLY 20TH	FARMSTEAD	3	UNKNOWN	1913 SOIL SURVEY MAP
LOCALITY 28	HISTORIC	LATE 19TH-EARLY 20TH	FARMSTEAD	2	EXTENSIVE	1913 SOIL SURVEY MAP
LOCALITY 29	HISTORIC	LATE 19TH-EARLY 20TH	FARMSTEAD	1	UNKNOWN	1913 SOIL SURVEY MAP
LOCALITY 30	HISTORIC	LATE 19TH-EARLY 20TH	FARMSTEAD	1	EXTENSIVE	1913 SOIL SURVEY MAP
LOCALITY 31	HISTORIC	EARLY 20TH CENTURY	FISHING STATION	2	EROSION	CURRENT SURVEY
LOCALITY 32	HISTORIC	LATE 19TH-EARLY 20TH	CCC CAMP	1	UNKNOWN	LOCAL HISTORIAN
LOCALITY 33	HISTORIC	MID-19TH-EARLY 20TH	CEMETERY	1	CEMETERY PROTECTED	CURRENT SURVEY
LOCALITY 34	HISTORIC	LATE 19TH-EARLY 20TH	CHURCH/SCHOOL	2	UNKNOWN	LOCAL HISTORIAN
LOCALITY 35	PREHISTORIC	LATE ARCHAIC	CAMP	2	MINIMAL	CURRENT SURVEY
LOCALITY 36	PREHISTORIC	A.D. 800-1700	CAMP	3	MINIMAL	CURRENT SURVEY
LOCALITY 37	HISTORIC	UNKNOWN	HOMESTEAD	3	SOME DOZING	CURRENT SURVEY
LOCALITY 38	HISTORIC	UNKNOWN	HOMESTEAD	3	EXTENSIVE DOZING	CURRENT SURVEY
LOCALITY 39	HISTORIC	LATE 19TH-EARLY 20TH	HOMESTEAD	1	MINIMAL	CURRENT SURVEY

* 1 = DISSECTED UPLAND
2 = UPLAND FLAT
3 = ERODED UPLAND
4 = ALLUVIAL BOTTOMLAND

** ALL STRUCTURES HAVE BEEN RAZED

a map of sites located and tested by E.W. Hayner. Hayner notes that the site is "on a land point and is eroding away" (Hayner n.d.). He also mentions that points and burned rock were recovered. One can only assume that the points recovered were dart points, for Hayner recognizes the site as being of the Archaic period but does not describe any of the artifacts.

Site 41HS395

Site 41HS395 is located in the Calvin Fuller tract, granted in 1849. This site, an artifact scatter 400 sq. m in area, was originally recorded during a survey of a signal test area in the northeastern portion of the plant (Roemer and Newman 1988). They report that the site is located within an area associated with the estate of John D. Estes, et. ux. Current research indicates that Estes purchased the land from Freeland and Susie Hynson before the breakup of the Freeland Hynson estate (Deed Records:Vol. 167, p. 531). The remains are probably associated with one of several farmers in the tract (Roemer and Newman 1988:15; Doris Powell 1988: personal communication; Tax Records:1926, 1927, 1937, 1940). The ethnic identity of these farmers has not been ascertained at this date.

Potential data recovery at this site has been lessened by the impacts of timber cutting. Because of these impacts and the limited potential for data recovery, site 41HS395 is considered ineligible for nomination to the National Register of Historic Places (Roemer and Newman 1988:17).

Site 41HS396

Site 41HS396 was recorded during a survey of the proposed expansion area for the Ground Signal Test Area (Roemer and Newman 1988:14-16). This historic site is situated on a distinctive upland projection overlooking Harrison Bayou. Although no surface indications of an historic site were evident, shovel testing yielded sherds of window glass and whiteware, a wire nail, a cut nail, a metal strap fragment, a natural piece of silicified wood, and some hardened, unidentified seeds. This site does not appear on the 1913 soil map; however, the limited data base provides no indication of whether the site was occupied before or after the soil survey. Unfortunately, the deed-title data at the Harrison County Courthouse provide little or no information concerning the actual establishment of homesteads in the C. Fuller or J.M. Cox land grants.

Two additional prehistoric localities were discovered through the reconnaissance effort. These localities would not have been discovered except for the shovel testing effort. Since this was a reconnaissance effort, full site recording techniques were not used.

Locality 35

This locality was found during shovel testing of the upland flat area bordering Caddo Lake. A possible Late Archaic dart point made of chert was recovered from a shovel test. No other material, either prehistoric or historic was noted on the surface or within the six shovel tests placed nearby. Further examination of the area is recommended to determine if this single artifact represents a site or an isolated find.

Locality 36

This locality is situated on an arm of an upland remnant within a portion of the eroded upland zone bordering Caddo Lake. It is represented by two shovel tests, placed 15 m apart, both of which contained prehistoric non-diagnostic lithic and ceramic artifacts. The presence of grog-tempered ceramics, however, places the locality within the Caddoan time period of approximately A.D. 800-1700. No surface artifacts were observed. This locality probably represents a prehistoric camp site placed to exploit the resources of the lacustrine/riverine and hardwood flats microenvironments (Gibson 1970) present on Caddo Lake and the nearby deltas of Harrison and Martin Bayous. Further investigation of this locality should include an extensive exploration of the complete upland remnant for prehistoric activity since this landform is located on an ideal setting for resource procurement from a variety of microenvironments.

Localities 37 and 38

These localities are located within the historic John M. Cox grant and may represent activities associated with plantation or tenant farming practices. Further investigation of these localities is recommended to determine their age, function, and site status.

Locality 37 is situated on an upland remnant within the eroded upland zone between Harrison Bayou and Saunders Creek and was identified during the current survey. Surface features included an intact portion of an historic brick lined well, brick piles resulting from the recent bulldozing of a structure, and ornamental vegetation not found in the original floral inventory of the area. The brick exhibited features of local, handmade manufacture. No other artifact types were observed.

Locality 38 is also situated on the upland between Harrison Bayou and Saunders Creek within the eroded upland zone. Rodent burrowing revealed historic whiteware and glass fragments dislodged from below the surface. Two shovel tests placed nearby did not produce any additional artifacts. No surface features or evidence of former structures were evident. This locality is also located in the John M. Cox grant.

Locality 39

This locality is the site of an historic farmstead. Reconnaissance of this hilltop location revealed a brick-lined well, sandstone slabs which may have served as piers for a structure, stonewares, numerous pieces of metal, and the frame of possibly a Model A or Model T car. The site area is relatively undisturbed; consequently, it may have been abandoned prior to the government purchase of the land. While the absence of this site on the 1913 soils map might suggest a late nineteenth century occupation, the large quantity of metal on the site suggests activity at this site during the twentieth century. The contextual integrity of this site in comparison with the other sites within the LHAAP is extremely good. Consequently, its research potential may be very good, depending upon the time period represented.

3.4 Definition of Landforms

The Longhorn Army Ammunition Plant (LHAAP) is located in the northeast portion of Harrison County, Texas. This area is included in the Gulf Coastal Plain physiographic region of the United States. The slightly rolling to hilly topography evident in the plant confines is the result of differential resistance of the Eocene-age ferruginous sandstone bedrock to weathering (Van Duyne and Byers 1913:6). Within the plant confines, dissection of the upland plain is the result of four stream systems, all of which now flow into Caddo Lake. The lake itself forms the northeast boundary of the plant. The potential for archeological sites within the plant confines is directly related to Caddo Lake, the streams and their associated ecosystems.

Gibson (1970:11-14) defined five microenvironments for the area included in and surrounding Caddo Lake: lacustrine and riverine; lowland cypress fringe; hardwood flats; mixed hardwood-pine ridges and hills; and grassy prairies. Soil profiles compiled in 1913 and 1988 combined with on-site observation of current biological habitats suggest that most of Gibson's microenvironments (lacustrine, riverine, lowland cypress fringe; hardwood flats; and mixed hardwood-pine ridges and hills) occur within or border the plant confines. Based on the data provided by topography, floral ecosystems and soil profiles, LHAAP can be divided into four environmental/topographic zones (see Figure 7).

Zone 1: Dissected Upland

This first zone is located in the northwest corner of the plant confines and consists of elevations of 220 ft amsl and above. It is characterized by rolling hills and a predominance of pine forest. Intermittent stream channels occur, however, current wet weather conditions produce more of a temporary marsh situation rather than flowing streams in the lower elevations. Soils in this zone are primarily the upland soils of rolling hills and sloping elevations, typically Susquehanna fine sandy loam and Caddo fine sandy loam (Van Duyne and Byers 1913). These soils have been redefined in 1988 to Scottsville very fine

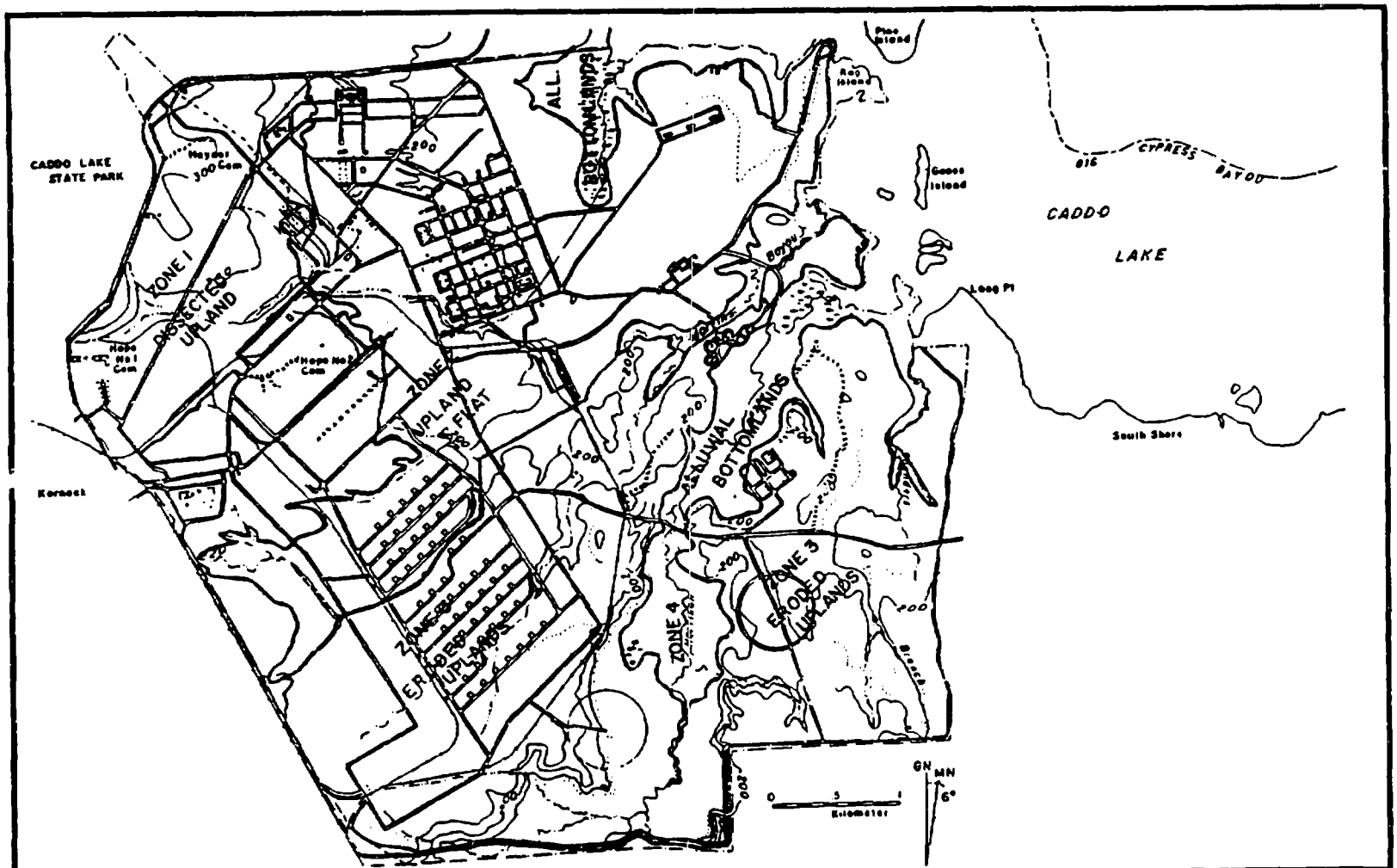

Figure 7. Delineation of environmental/topographic zones within the Longhorn Army Ammunition Plant.

sandy loam (0-2% slope), Eastwood very fine sandy loam (1-5% slope), and Eastwood very fine sandy loam (5-30% slope), among others (Michael Golden 1988: personal communication). Gibson's mixed hardwood-pine ridges and hills microenvironment is dominant and resources available to late prehistoric aboriginal groups would include deer, opossum, fox, squirrel, turkey and nuts and berries from the pine/oak forest and its associated understory (Gibson 1970:13-14).

Zone 2: Upland Flat

This zone is located within the 180-220 ft amsl elevation in the center of the plant confines. Only one of the creek systems flows through the zone and has had very little effect on the overall upland character. Soils again are predominantly upland soils (1913-Susquehanna and Caddo fine sandy loams; 1988-Scottsville very fine sandy loam, 0-2% slope). Gibson's mixed hardwood-pine ridges and hills is also the predominant microenvironment, with the same resources available to prehistoric inhabitants as in the previously described zone.

Zone 3: Eroded Upland

This zone encompasses the southern and eastern portion of the plant confines in areas of 180 to 215 ft amsl elevation. The topography is characterized by deeply entrenched stream valleys which are now aggrading due to historic erosion and the impact of Caddo Lake on the drainage gradients. Upland remnants lay between the three streams actively flowing within the zone. The upland areas resemble Zone 2 in soil profile (1913:Susquehanna fine sandy loam, Caddo fine sandy loam; 1988-Scottsville very fine sandy loam, 0-2% slope) and in microenvironment (Gibson's Mixed Hardwood-Pine Ridges and Hills). These remnant upland flat areas occur on the 195 ft amsl and higher elevations. The lower elevations of this zone (ranging between 180-195 ft amsl) resulted from the down cutting of the upland plain by the three stream systems: Harrison Bayou, Saunders Creek and Martins Bayou. Soils within this elevation are Sanders silt loam with pockets of Kalemia fine sand. These are soils of alluvial origin, found in old stream channels and meanders which are subjected to frequent short periods of inundation (Van Duyne and Byers 1913:39,43). The 1988 reworked soil profile for this elevation range has yet to be described (Michael Golden 1988: personal communication).

Zone 4: Alluvial Bottomlands

The irregular boundary of this zone follows the 180 ft amsl elevation bordering Caddo Lake and encompassing active floodplains of the four drainages that flow through the plant area into the lake. The terrain is characterized by frequent or constant inundation with soil profiles consistent with this surface evaluation. The soil found bordering Caddo Lake and in the bayou and stream delta is Meadow, riverine and lacustrine in origin, and almost continuously inundated (Van Duyne and Byers 1913:46). Reworked soil profiles completed in 1988 characterized this soil as Socagee silty clay loam (frequently flooded) and Cypress clay loam (submerged) (Michael Golden 1988: personal communication). Gibson's lowland cypress fringe microenvironment occurs along the lakeshore and in the submerged delta areas. The predominant floral species are cypress and water elm (Gibson 1970:12). In the bayou and creek floodplain areas of this zone, Sanders fine sandy loam and Sanders silt loam are the predominant soil types (Van Duyne and Byers 1913:37-40). Socagee silty clay loam (frequently flooded) is the reworked 1988 soil profile for this area (Michael Golden 1988: personal communication). Gibson's hardwood flats microenvironment is evident in the floodplains of these drainages. In some areas of Zone 4, displaced soil has clogged portions of the drainage system causing increased flooding and areas of standing water upstream from the blockage.

3.5 Evaluation of Historic and Modern Impacts on Landforms within the LHAAP

Three sources were used to evaluate the extent of modern disturbance within the LHAAP: reports pertaining to work done previously in the LHAAP, the 1988 soil survey maps (unpublished), and a reconnaissance survey conducted during the current field season. The Dieste et al. (1985) report named and detailed the extent and location of demolished facilities using army blueprint data, informants and a report published by the Thiokol Corporation. Other reports detailing area surveys previously

conducted in the area are Roemer and Newman (1988) and Bennett (1984). The areal photographs on which the current and as yet unpublished Harrison County soil survey maps have been superimposed revealed several large areas of cleared ground not apparent on the USGS topographic maps which were photo revised in 1978. The current survey attempted to identify the extent of this clearing, in so much as time permitted. These data sources resulted in the preparation of Figure 8, Table 3, and the accompanying explanation.

Mary of the areas presented in Table 3 correspond to entries in Table 3-1 of the Dieste et al. (1985) report. Table 3 follows the format originally used by Dieste et al. (1985:3-5). This format includes the following categories: (1) Area Number, (2) Disturbance Type, (3) Date of Disturbance, (4) Disturbance Acreage and Depth, (5) Ratio of Disturbed to Total Acreage, (6) References, and (7) USGS Quad sheet designation. It should be realized that the acreage and the ratio figures are estimates from reconnaissance survey and are subject to observer error. Depths of disturbance have been taken from the Dieste et al. report (1985:Table 3-1) for many of the disturbance areas since on-site observation could not confirm or refute these figures.

Areas that can be listed as potential sites have been eliminated from this disturbed area table. These include the Starr Ranch/Plantation and the historic cemeteries listed in Dieste et al. (1985:Table 3-1). Since all archeological sites can be considered disturbances to the natural environment, "disturbance" in this report is defined as post-1942 installation building and clearing and related activities within the plant confines.

Disturbance Area 1: Entry Guard Post and Administration Area

This entry corresponds to the ground disturbance area (GDA) 14 of Dieste et al. (1985). In the previous report only the administration buildings were included in the acreage. Current observation suggests that the large parking lots north and south of the buildings as well as the entry area be included, for any site context would have been significantly altered by such construction.

Disturbance Area 2: Staff Housing

This entry corresponds to GDA 7 of Dieste et al. (1985), and is described as abandoned and demolished staff housing. Informants placed housing slightly southeast of this disturbance area. Archival research places the staff officers' quarters in Disturbance Area 2. Reconnaissance of the area revealed that the location of the former housing is extremely disturbed. The only intact feature is the concrete support structure for a large tank.

Disturbance Area 3: Gravel/Sand Pit

This entry corresponds to GDA 1 of Dieste et al. (1985), a sand and gravel pit on a prominent hill within the northwest portion of the LHAAP. Since the soil matrix has been removed from depths of 3 to 20 feet, any site context within this disturbance area would have been totally removed.

Disturbance Area 4: Shops Area

This entry corresponds to GDA 2 of Dieste et al. (1985). Clearing between the railroad tracks and recent building has increased the disturbed acreage from 10 acres in 1985 to 50 acres in 1988.

Disturbance Area 5: Plants 2 and 3

This entry corresponds to GDA 4 and 5 of Dieste et al. (1985). In this report, these two plants are placed together since one fence surrounds them both and forested areas between them have been cleared in many places to accommodate new buildings, road changes, etc. New stands of pines are present in this area, however the potential for intact archeological material beneath these bulldozed patches would be very low. A total area of 600 areas is estimated to be disturbed.

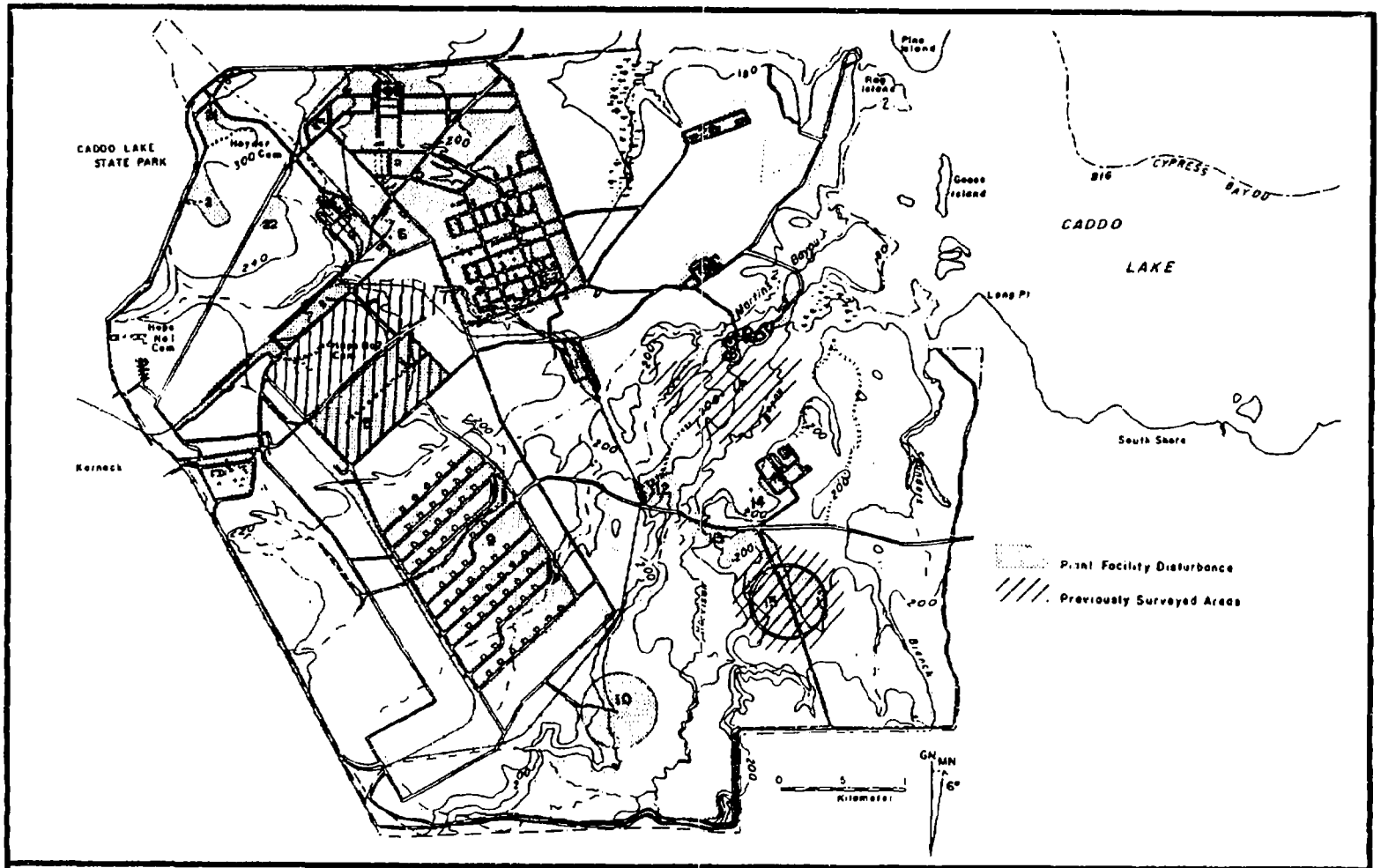

Figure 8. Locations of ground disturbance areas within the Longhorn Army Ammunition Plant.

Table 3. Locations of Ground Disturbance Areas within the Longhorn Army Ammunition Plant (See Figure 8).

AREA NUMBER	DISTURBANCE TYPE	DATE	DISTURBANCE		RATIO OF DISTURBED TO TOTAL ACREAGE	REFERENCES*	USGS QUAD SHEET
			ACREAGE	DEPTH (FT)			
1	GUARD POST & ADMINISTRATION AREA	1940s	60	2-4	10:10	1;3	3294-413
2	STAFF HOUSING (RAZED)	1942-1954	10	2-4	8:10	1;3	
3	GRAVE AND PIT	1942-1960	10	30	10:10	1;3	3294-413
	SHOPS AREA	1941-43	50	1-3	10:10	1	3294-413
	PLANTS 2 AND 3	1944-45	600	2-5	10:10	1;3	3294-413
6	FIREHOUSE AND MISC. BUILDINGS	PRE-1962 POST-1978	30	1-3	6:10	1;3	3294-413
7	RAILROAD AND MISC. BUILDINGS	1940s	60	1-3	10:10	1;3	3294-413
8	PLANT 1 (TNT PRODUCTION / INACTIVE AND DISMANTLED)	1941-1942	310	2-5	8:10	1;3	3294-413
9	MAGAZINE STORAGE AREA	1940s	390	4-6	8:10	1;3	3294-413
10	PLANT 2 TEST AREA	PRE-1962	70	1-2	6:10	1	3294-413
11	WAREHOUSE AREA	PRE-1961	30	2-5	10:10	1;3	3294-413
12	SANITARY LANDFILL	POST-1962	20	2-6	10:10	1;3	3294-413
13	PISTOL RANGE	POST-1962	10	1-2	10:10	1;3	3294-414
14	INACTIVE BURN GROUND	?	10	2-3	10:10	1;3	3294-414
15	GROUND SIGNAL TEST AREA	POST-1962	170	1-2	6:10	1;2;3	3294-414
16	ACTIVE BURNING GOUND	PRE-1962	25	2-3	6:10	1;3	3294-414
17	TEST SERVICES FIRING AREA	POST-1962	140	1-3	6:10	2;3	3294-414
18	STATIC TEST AREA	PRE-1961	25	2-4	10:10	1	3294-414
19	IGNITER AREA	PRE-1961	20	2-4	10:10	1;3	3294-413/414
20	STORAGE MAGAZINES	1940s	20	1-3	10:10	1;3	3294-413/414
21	GRAVEL / SAND PIT	POST-1962	10	3-10	10:10	3	3294-413
22	GRAVEL / SAND PIT	POST-1962	5	4	10:10	3	3294-413

* 1 - DIESTE ET AL. (1985)
2 - ROEMER AND NEWMAN (1988)
3 - CURRENT SURVEY

Disturbance Area 6: Firehouse and Miscellaneous Buildings

This entry corresponds with GDA 3 of Dieste et al. (1985) and has been expanded from 20 acres in 1985 to 30 acres in 1988. Building construction and associated landscaping have resulted in the severe disturbance of the primary archeological context.

Disturbance Area 7: Railroad Yard and Miscellaneous Buildings

This entry corresponds with GDA 8 and 9 of Dieste et al. (1985). Currently this area is cleared of vegetation with evidence of a small amount of bulldozing and/or new building present. Dieste et al. (1985) list the eastern portion of this area as an abandoned and demolished acid plant from early army TNT production (ca. 1942-1943). Barracks for those involved in World War II TNT production were once present at the southwest end of this area. All that remains is an area of bulldozed concrete structure fragments and the remains of an underground concrete conduit system. Much of this area has been planted with pine

Disturbance Area 8: Plant 1

This entry corresponds with GDA 10 of Dieste et al. (1985) and is listed as a TNT production facility, inactive and dismantled. In 1984, W.J. Bennett conducted a survey in this area and recorded the Hope Cemetery #2 (Survey Unit 1) as a site. He noted that much of the flat upland area surrounding the cemetery (Survey Unit 2 and 3) was contaminated during the TNT production of the 1940s: Survey Unit 2 contained signs that warned against excavation and Survey Unit 3 contained cleared patches with test wells (Bennett 1984:4-7). Nearly all the buildings representing the old production facility have been removed. However, across the center of the area, sandwiched between the railroad tracks and 1st Street, are a line of buildings and concrete slabs. These represent the remains of early 1940s buildings on the plant.

Disturbance Area 9: Magazine Storage Area

This entry corresponds to GDA 15 of Dieste et al. (1985). Dieste et al. have suggested that this area is almost totally disturbed since bulldozing to cover the storage igloos removed soil from surrounding areas. Site integrity within this area is consequently suspect, and such areas have been exempted from inventory and evaluation requirements through consultation with the Texas State Historic Preservation Officer (SHPO).

Disturbance Area 10: Plant 2 Test Area

This entry corresponds to GDA 21 of Dieste et al. (1985). This 72 acre area has been used as a test area. Clearing of the area and subsequent testing activities have probably disturbed most of the potential archeological matrix (A-horizon) within this area.

Disturbance Area 11: Warehouse Area

This entry corresponds to GDA 11 of Dieste et al. (1985) and has been expanded to include the railroad areas to the north and south of the warehouses. Approximately 20 acres are included within this area.

Disturbance Area 12: Sanitary Landfill

This entry corresponds to GDA 18 of Dieste et al. (1985). Disturbance of this area has increased from 8 acres to 20 acres due to the recent heavy lumbering activity in the area. Bulldozer clearing to a depth of 2 ft in some areas indicated that little or no intact archeological material currently exists here.

Disturbance Area 13: Pistol Range

This entry corresponds to GDA 26 of Dieste et al. (1985). In actuality, the pistol range itself is contained within a very small area, however clearing from the road south and from the upland bluff west has destroyed much of the pristine environment.

Disturbance Area 14: Inactive Burn Ground

This entry corresponds to GDA 19 of Dieste et al. (1985) with slightly expanded acreage. The topography of this area, together with the debris laying on the surface, suggest that this area was originally a borrow pit which was subsequently used for landfill, and then used as a burning ground. Consequently, the area is not only contaminated but lacks any potential for primary contexts.

Disturbance Area 15: Ground Signal Test Area

This entry corresponds to GDA 22 of Dieste et al. (1985). The acreage for this disturbance area has been expanded from 72 acres in 1985 to 175 acres in 1988. An archeological survey was conducted in May 1988 by Roemer and Newman before this expansion was initiated.

Disturbance Area 16: Active Burning Ground

This entry corresponds to GDA 20 of Dieste et al. (1985). This 23 acre area has been cleared and scraped and subjected to intense burning. It is unlikely that undisturbed archeological contexts remain in this area.

Disturbance Area 17: Test Services Firing Area

This entry corresponds to an area previously surveyed by Roemer and Newman in May 1988. Clearing and landscaping activities related to the set-up of the firing mechanism has likely disturbed the primary archeological context (A-horizon) of this area.

Disturbance Area 18: Static Test Area

This entry corresponds to GDA 13 of Dieste et al. (1985). Recent clearing and building in the area has doubled the 1985 estimate of 12-15 acres.

Disturbance Area 19. Igniter Area

This entry corresponds to GDA 12 of Dieste et al. (1985). Additional parking facilities and a guard booth has expanded the estimate to 20 acres.

Disturbance Area 20: Storage Magazines

This entry corresponds to GDA 6 of Dieste et al. (1985). The construction of the igloos and the landscaping of the surrounding area has effectively destroyed the potential primary archeological context of this area.

Disturbance Area 21: Gravel/Sand Pit

The excavation of borrow material, primarily sand and gravel, from an area of approximately 10 acres northwest of the Hayner Cemetery has resulted in the total removal of any archeological deposits. The depth of removal ranges from three to ten feet.

Disturbance Area 22: Sand Pit

The excavation of borrow material, primarily sand, from a rectangular area of five acres within the northwestern portion of the facility has resulted in the total removal of any archeological deposits. The depth of removal is approximately four feet.

Dieste et al. (1985:3-3) list other sources of disturbance within the plant facilities: road construction, railroad construction, fire lanes, pipelines, roadside ditches, drainage channels as well as the disking and planting of trees connected with a silvicultural program on the plant. Many of these types of disturbances were observed in the current survey. Fire lanes are kept free from vegetation and potholes, and many of these access lanes have been graded deep into the subsoil. Although some lumbering activities have permanently damaged potential site contexts, most areas of the plant exhibit little disturbance other than skid loader tracks and an occasional remnant of agricultural terraces. It appears that varying degrees and methods of lumbering have been used in historic and modern times so that areas slated for this activity contain unknown degrees of disturbance. In other words, intact prehistoric and historic deposits may exist in areas of lumbering management. The same is true for historically farmed portions of the plant; in situ site deposits may have been only minimally disturbed. The limited terracing within the plant confines does not appear to have impacted areas with a high probability of containing prehistoric sites.

In sum, several areas contain permanent disturbance through clearing and building of plant facilities and testing grounds. An additional web of permanent disturbance has occurred through the construction of roadways, railroads, firelanes, and utility pipelines. Much of the remaining portion has been subjected to varying degrees of surface disturbance through historic farming and historic and modern lumbering activities, but this acreage may still contain intact prehistoric and historic site materials. Such activities have much less impact on the contextual integrity of prehistoric and historic sites than the movement of soil for construction purposes.

CHAPTER IV
ASSESSMENT OF THE CULTURAL RESOURCE POTENTIAL OF THE LONGHORN ARMY AMMUNITION PLANT

4.1 Introduction

This chapter presents an assessment of the cultural resource potential of the four environmental/topographic zones presently recognized within the Longhorn Army Ammunition Plant. The information from the presently known sites and the identification of potential site localities through the reconnaissance and archival research efforts provide a basis for evaluating the potential for significant sites being found within each of the four zones (see Figure 9). The integration of these data with the information concerning the historic and modern impacts on each of these zones permits a reliable estimate of the potential contextual integrity of these cultural properties and their potential significance in relation to regional research questions. Recommendations for the management of these cultural resources are presented in the concluding section.

4.2 Cultural Resource Potential within the LHAAP

The Longhorn Army Ammunition Plant has been divided into four environmental/topographic zones on the basis of topography, soil type, floral communities, and associated faunal resources. Each zone contains characteristics that would attract distinct historic and prehistoric settlement and subsistence activities. These characteristics have also had a significant impact upon the contextual environment for archeological assemblages and their subsequent potential as significant properties.

Zone 1 - Dissected Uplands

The dissected uplands zone is located in the northwestern portion of the plant and is characterized by rolling and hilly topography of 220 ft amsl and above. This zone contains a soil profile of upland origin, and flora representing a mixed hardwood/pine forest. This zone contains approximately 1,525 acres, of which approximately 520 acres (30%) have been disturbed by building or quarrying (note: this figure does not include roads, fire roads, pipelines, etc.).

Within Zone 1, twelve sites or potential site localities have been found. All twelve localities are related to the historic Anglo-American occupation of the area. Archival documentation and local history place a church, school and two plantation homesteads in the zone, all built on land owned by Oscar Hope. The original Oscar Hope plantation site (Locality 1) was occupied from the late 1840s to the 1920s. Alonzo P. Hope established a second home site in the late 1860s to the east near the Hope No. 2 cemetery (Locality 13). These two sites represent the history of settlement and development within the LHAAP area. Unfortunately, the Bennett survey (1984) presented results which indicate that Locality 13 is largely destroyed except for the Hope No. 2 cemetery. The context of the original Oscar Hope plantation is uncertain at this time. Archival data, in the form of personal recollections, suggest that the Hope plantation was razed and officers' housing was constructed on the same site. If the site was indeed located within the area of the officers' housing, very little of the site may remain. However, the archival data suggesting that the site was adjacent to a church, school, and the Hope No. 1 cemetery and the soil survey map of 1913 both indicate that the site may be located closer to the Hope No. 1 cemetery; consequently, there remains the possibility that the site may still be present in a relatively good state of preservation. At the minimum, a portion of the plantation complex may still remain; therefore, it is recommended that intensive survey and shovel testing be conducted in this area before any further disturbance of the soil matrix occurs.

In addition to the Hope family holdings, the dissected uplands zone contains a small area purported by local historians to contain a portion of historic Port Caddo (including a Civil War era bullet factory) which flourished from the late 1830s to the early 1870s. This area is labelled Locality 32 and falls within the O. Hendrick land grant, part of which (660 acres) was partitioned into 1,000 lots and a main street. Our archival research revealed that Port Caddo was located at the very northern end of the O. Hendrick survey which is outside Locality 32. Unfortunately, the archival research did not verify the presence

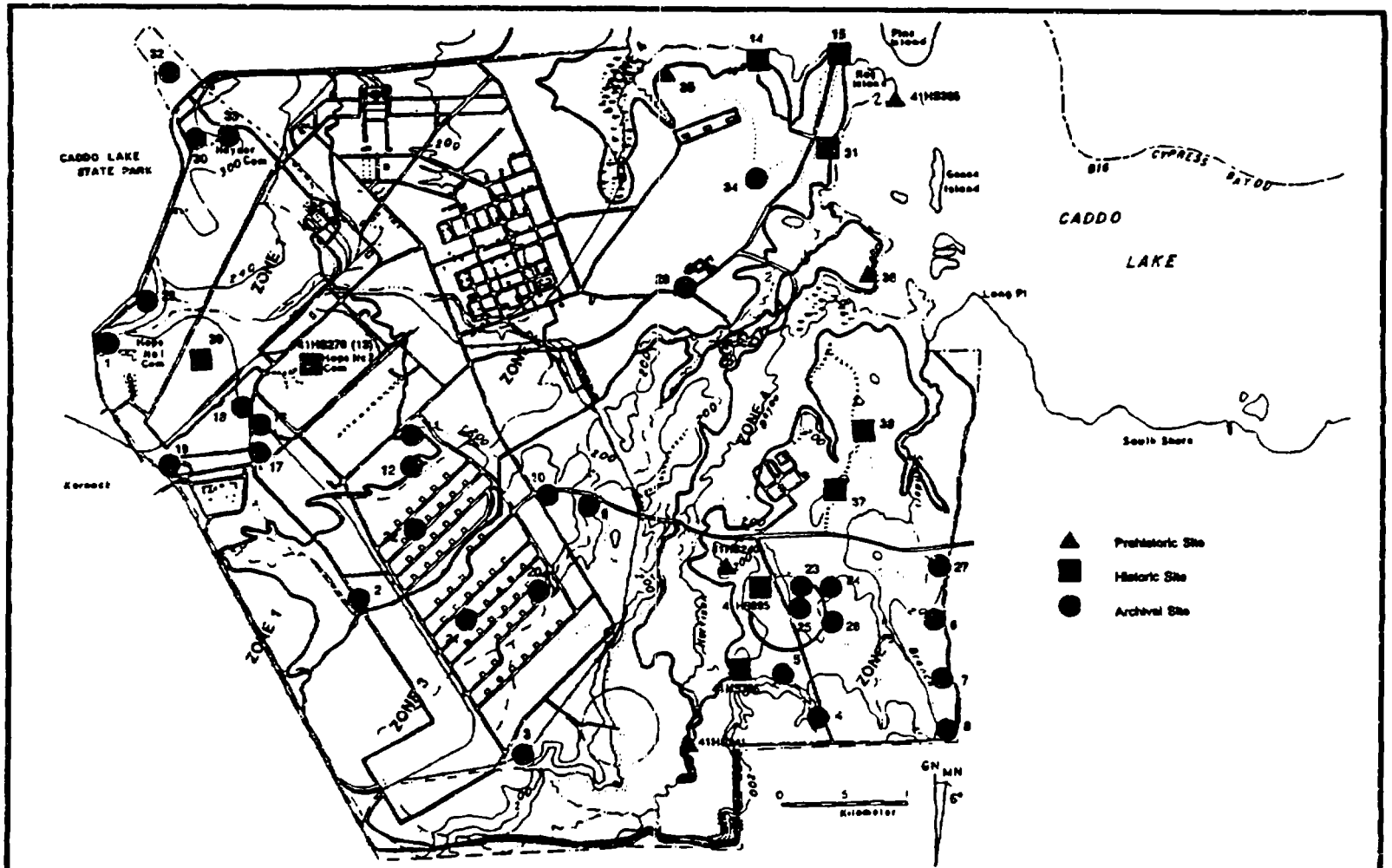

Figure 9. Locations of designated archeological and archival sites in relation to the environmental/topographic zones within the Longhorn Army Ammunition Plant.

or absence of the Civil War era bullet factory, but its association with Port Caddo suggests that it too was located outside the confines of the LHAAP. A Civilian Conservation Corps camp from the 1930s, purportedly the temporary housing of the CCC during the construction of Caddo Lake State Park, is the most likely archeological context to be found within the northwest portion of the facility. Reconnaissance survey of this area, however, revealed no indications of any of these activities.

Eight potential farmsteads (Localities 12, 16, 17, 18, 19, 29, 30, 39) are also present within this zone. Of these farmsteads, only 12, 29, and 39 are present within areas which are relatively undisturbed; the remainder are either in areas which have been disrupted by borrow pit activities (Locality 30) or which have been totally developed and the site contexts likely destroyed (Localities 16-19). Locality 39 exhibits excellent contextual integrity and should be further evaluated before it is impacted by timber harvest activities or any other impact. The remaining locality, that of the Hayner cemetery, is presently being protected; consequently, our only recommendation is that the cemetery be fully documented.

The contextual integrity of these potential localities obviously varies; for example, the razing of the Hope family dwellings and the construction of barracks will have disturbed the earlier archeological context if the activities of the two occupations overlapped extensively. Furthermore, the much later construction of the CCC camp may have affected the earlier Port Caddo or the Civil War bullet factory contexts (if they were indeed within the LHAAP confines). Due to the topographic position of this zone, any archeological context will not be buried; consequently, disturbance or salvaging by later occupations is quite likely. Nevertheless, the potential for isolated components of the early nineteenth century to mid-twentieth century Anglo-American settlement is high within this zone. Locality 39 is a primary example of the contextual integrity which may be expected within limited areas of this zone. The location of Ground Disturbance Area 22 through reconnaissance efforts, however, demonstrated that characterization of this zone as a whole is a risky venture. The potential for remains of the historic period within this zone is high; however, intensive survey effort will be required to delimit those areas with cultural remains and good contextual integrity.

Although an informant has indicated that arrow points have been noted between the Hayner Cemetery and the gravel pit (Disturbance Area 3), the potential for significant prehistoric remains in good contexts is considered to be low for this zone. The distance to water would have discouraged any long term habitations and the surface contexts of any archeological remains would not have been conducive to site preservation.

Zone 2 - Upland Flat

The upland flat zone contains much of the north central portion of the plant with a small arm extending southwest. The terrain in this zone is characterized by a very gentle slow elevation rise of 40 ft, running northwest to southeast. Upland soils support a mixed pine/hardwood microenvironment, as in Zone 1. One drainage system winds through the zone. The uplands flat zone contains approximately 2,515 acres with approximately 830 acres (33%) currently beneath plant facilities (roads, pipelines, etc. are not included in the disturbance factor).

The gentle, almost indistinguishable sloping terrain would have been an ideal place for plantation cash crops such as cotton. The eight historic localities found in this zone represent different activities associated with this agricultural economy: small tenant/sharecropping farm houses (Localities 11, 22, 28), a purported church and school for the black sharecroppers and their families (Locality 34), the Key and Starr plantation localities used for recreational facilities (Localities 14 and 15), and a boat dock/fishing station (Location 31). These localities offer an insight into the settlement and land use pattern of this zone for the century before the LHAAP was created. A complete survey of this zone, designed to plot all possible localities, would produce a working model for small plantation community housing and land use. Research on the black community church and school would provide a source of contrast and comparison to the Hope church and school in Zone 1.

One prehistoric locality (Locality 35) was found along what may have been an upland edge before the formation of Caddo Lake. One artifact, a possible Late Archaic dart point, may represent hunting

activities at a time before prehistoric settlement patterns and lifestyle changed to accommodate the new microenvironments created by the lake. Further search for more evidence of Archaic occupation of the plant is needed before a pattern can be hypothesized.

Because of the relatively flat terrain of this zone, the majority of the facility construction has occurred within this zone. Site contexts within these areas are either destroyed or thoroughly disturbed (e.g., Localities 22 and 28). Nevertheless, large portions of this upland flat zone have seen little more than lumbering activities and fire road construction. Potential for archeological information pertaining to the tenant farming and sharecropping period of East Texas history is high in these undisturbed areas. In addition, evidence for late 19th century/early 20th century recreational activity associated with the lake is also present in this zone. Archival records are plentiful for at least two families who used this area of the lakeshore. And finally, the possibility exists for gathering information on the pre-lake environment and prehistoric land use as evidenced by an Archaic locality within this zone. The position of the northern portion of this zone between Goose Prairie and Harrison Bayou also increases the potential for Caddoan hamlets of the Late Caddo Period.

Zone 3 - Eroded Upland

The eroded upland zone contains the most varied environment of any of the zones within the plant confines. Upland plain areas occur in the southern portion of this zone. Downcutting of this area by Martin and Harrison Bayous and Saunders Creek have produced high benches and gently sloped, irregularly shaped remnants of land cut off in the past by floodwaters or a small meandering stream. Unlike the drainage system present in Zone 2, the three major streams in Zone 3 are active beyond their deltas, with small intermittent tributaries contributing to the water volume in the wet seasons. Soil profiles of the varied terrain reflect the moisture and elevation differences. Upland soils similar to Zones 1 and 2 support the mixed hardwood/pine microenvironment also present in the other two zones. Soils on lower elevation terrain bordering the bottomlands are alluvial in origin and support more water tolerant floral species reflecting the increased moisture found there. The varied terrain and the floral species present in this zone in turn attract a wider variety of fauna, some of which are not available in the two zones to the west. Within this zone, two prehistoric localities (site 41HS240 and Locality 36) have been found. Both are located adjacent to permanent water. One site, 41HS240, is purported to contain evidence of occupation of the Paleo-Indian and Archaic periods; both contain Caddoan period pottery. Harrison Bayou, as a higher order stream with a continuous water flow, was likely the focus of habitation or intensive use throughout the prehistoric period. However, prior to the formation of Caddo Lake it is likely that this area was used primarily for hunting forays or seasonally by small foraging bands. Primary, extended occupations would have been focused on the larger riverine valleys.

In addition to the prehistoric use of Zone 3, historic localities have been found. Most of these potential sites consist of artifact scatters of historic ceramics, metal and glass, and probably represent tenant farmer/sharecropping houses. All are located at elevations of 195 ft amsl or higher, suggesting that these houses were built when the water level of Caddo Lake was higher than it is now. Only Locality 8 has been identified as being the homestead of the Sims family in the late nineteenth century. More archival work is necessary before the remaining potential sites may be identified concerning their occupants and the time period.

Zone 3 contains approximately 3,340 acres, of which a small percentage (20%, 660 acres) contains sites of plant facilities or cleared testing areas (roads, pipelines, etc. are not included). In all, 22 prehistoric and historic sites and localities are recorded for the zone. There is a high potential for finding evidence of prehistoric occupation, primarily campsites, along the higher elevations (200 ft amsl) adjacent to the main stream channels and along the shore of Caddo Lake. However, there is also a possibility that early pre-lake sites may be buried beneath more recent alluvium or colluvium in the lower elevations of this zone. Due to the rugged and irregular character of the zone, historic sites, also found primarily along the higher elevations, probably represent the efforts and/or living quarters of small tenant farmers or sharecroppers. The potential for finding other similar localities in this area is high. The value of these small habitations to archeological and historical research is that they may provide important data critical

to the comparison of the lifestyle and development of the plantations in Zones 1 and 2 and that of tenant farmers or small landowners.

The contextual integrity of many of the potential cultural resources within this zone may have been destroyed by plant activities. For example, Localities 20, 21, 23, and 25 have likely been destroyed by construction activities. It is also uncertain how the construction of the plant boundaries has affected the context of Localities 6, 7, 8, and 27. Intensive survey and shovel testing should be focused on these localities in order to determine their context.

Zone 4 - Alluvial Bottomlands

This zone is a mostly water-saturated area, consisting of bottomlands and marshlands which contain flooded or submerged soils and water-tolerant floral species. This zone is found below the 180 ft amsl elevation and includes the shoreline of Caddo Lake and the floodplains of all four stream systems flowing within the LHAAP confines. Microenvironments within this zone are the hardwood flats, the lowland cypress fringe, and the lacustrine and riverine. The predominant floral species are cypress, water elm, and salt grass. The percentage of facility construction in this zone is understandably low; out of approximately 1,120 acres, only 70 acres (6%) have been built upon. Fire roads and modern erosion are the chief causes of disturbance in this area. Only two sites (41HS241, 41HS385) have been recorded in Zone 4; site 41HS241 is of the Caddoan period while site 41HS385 is of the Archaic period. The potential for finding historic habitation sites here is low; however, recreational boat docks, fishing stations and other sites connected with water usage during the recent past are likely present.

In the late prehistoric period, this area, if not flooded, would have been used as a source of obtaining food resources such as waterfowl, turtles, fish, shellfish, edible water plants, etc. It is doubtful that late prehistoric habitation sites would be found in this zone. However, early prehistoric groups would have lived in the area before the formation of Caddo Lake and there is a high potential that older sites may be buried along the lakeshore and within the deltas and alluvial bottomlands of the major streams.

In summary, the recent archival research and reconnaissance survey conducted at the LHAAP has resulted in the recognition that significant cultural resources of the prehistoric and historic periods may be present even though significant portions of selected zones, particularly Zones 1 and 2, have been heavily impacted by facility construction. The present study reveals that the prehistoric and protohistoric occupation of the facility area likely focused on the permanent sources of water (Harrison Bayou and Caddo Lake). The concentration of sites, both prehistoric and protohistoric, adjacent to the permanent water sources in Zones 2 and 3 suggests that site contexts will be relatively undisturbed, for facility construction (other than fire lanes) is not concentrated within these areas. Consequently, the potential for the recovery of significant data bases pertaining to these periods is very good.

Contrary to the impression created by the former evaluations of the Harrison Bayou Site (41HS240), it does not appear that this upland environment was used intensively in prehistoric times; rather, Zone 3 (Eroded Upland) was likely frequented by small hunting parties or seasonally used by small foraging bands. Sites such as 41HS240 likely represent the recurrent use of a locality with a stable land surface through time. The upland flat of Zone 2 adjacent to Caddo Lake may have been used by larger groups for extended periods following the formation of Caddo Lake; however, evidence of such occupations remains to be documented. Although the character of these prehistoric occupations may not be as impressive as previously perceived, the potential for significant data recovery from temporally limited occupations is far greater than that from contexts which contain thousands of years of occupational debris on a single surface. Admittedly, the depositional environments of Zones 1, 2, and 3 are not conducive to the separation of sequential occupations. The apparent low intensity usage of the area, however, is conducive to the preservation of single component assemblages which probably reflect the use of a locality for only a few generations.

Historic occupation of the area is distributed throughout the LHAAP. Zones 1, 2, and 3 all contain potentially significant remains of the historic period. A temporal trend in the location of these sites, however, is related to the changing water levels of Caddo Lake. Examination of the historic records and

on-site examination of historic localities suggest that pre-1880s house locations will be found on or above elevations of 200 ft amsl. It was not until sometime after the removal of the Red River Raft in 1873 that the lower elevations of the LHAAP were available and/or suitable for habitation. Even then the historic sites adjacent to the lake appear to be recreational in nature rather than functioning farmsteads. Early farmsteads or plantations were most likely located within Zones 1 or 2. It was not until after the Civil War that the development of tenant farming and sharecropping led to an increase in the number of farmsteads in the less desirable portions of the LHAAP. Even after the Civil War, however, large portions of the LHAAP lands remained in the hands of large landowners who did not reside within the area.

Archival records and known site locations reveal that the LHAAP contains evidence of the entire spectrum of historic occupation beginning with the first plantation owners who used slave laborers, the transition to tenant farming, and the establishment of the sharecropper economic system which was still in existence in the 1930s. Campbell (1983:293-294) states that economically, agricultural production changed little in East Texas in the decades following the Civil War. Although former slaves became tenant farmers or sharecroppers after 1865, the land ownership for the most part remained in the hands of the wealthy upper class. Campbell's analysis may hold true for the region in general, however, preliminary archival research on the land grants and patents within the LHAAP shows several patterns. First, the Hope family appeared to retain their land (first deeded to Oscar Hope I by Henry Martin in 1845) through family ties until the late 1920s. There is documented information that although the Hopes employed slave labor before the Civil War on their cotton plantation (Cargill n.d.), A.P. Hope was the first man in the region to contract a tenant/sharecropping system with former slaves (Campbell 1983:263). In contrast to the Hope land use, it appears that by 1894 a portion of the John M. Cox holding was divided into lots and subdivided into holdings passed to the heirs of the Hynson and Freeman family. Although actual occupants of these lots may also have been tenants, this economic partition decreases the importance of a large plantation and instead places the smaller land holdings within the tenant farmer's reach. More research concerning the differences between the tenant farming and sharecropper system in these two situations is recommended.

Although not all of the identified historic properties will be found in undisturbed contexts, the relatively low percentage of heavily disturbed acreage (2,075 acres out of 8,500 = 24%) makes it highly probable that important information of the transition periods from nineteenth century plantation agriculture to twentieth century tenant/sharecropping systems can be recovered from archeological contexts at the LHAAP and associated archival resources. Nevertheless, several of the localities recognized through archival research have been severely disturbed or destroyed and are of no further interest archeologically. Localities 13, 16-23, 25, 28, and 30 are presently regarded as lacking contextual integrity and therefore are considered ineligible for nomination to the National Register of Historic Places.

4.3 Recommendations

As Dieste et al. (1985) aptly suggested, an Historic Preservation Plan is needed for the long term management of the cultural resources on property either owned or controlled by the LHAAP. As defined by Army Regulation 420-40, an Historic Preservation Plan is a management document which allows an Army installation to fulfill its legal obligations for cultural resource preservation as outlined by the National Historic Preservation Act of 1966, as amended, the Archaeological and Historic Preservation Act of 1974, as amended, and Executive Order No. 11593. One of the components of the plan is an overview which "is a summary of available information to determine if the installation has or is likely to have historic properties that may be adversely affected by Army undertakings," (AR 420-40:2-1). The results of the reconnaissance survey and archival research reported here represent an initial effort to provide such an overview and to provide an assessment of the potential for significant cultural resources remaining after years of facility construction and related activities.

The recent research efforts have revealed that the potential for significant resources of both the prehistoric and historic periods is quite high. Even though approximately 25 percent of the LHAAP controlled land has been modified or built upon, numerous areas remain where prehistoric and historic archeological remains may be found with a high degree of contextual integrity. Of course, not all zones

of the LHAAP offer the same types of sites or the same site contexts. Zones 1 (Dissected Upland) and 2 (Upland Flat), for example, may contain sites which will provide an understanding of the antebellum plantation economy, the role of water transportation in providing greater access to markets and status goods, post-Civil War adjustments as reflected in settlement patterns and access to material goods, and the archeological visibility of the various segments of the tenant farming/sharecropping system as it developed between 1865 and 1930. Zone 3 (Eroded Upland), on the other hand, offers not only segments of the tenant farming/sharecropping system, but also the potential for short term prehistoric occupation within the area. Zone 4 (Alluvial Bottomlands) perhaps provides the best environment for well preserved prehistoric sites in sealed contexts; however, such sites may be deeply buried within the aggrading sediments of Caddo Lake and its tributaries, such as Harrison Bayou. The position of these sites deep within waterlogged sediments, however, protects them from facility construction or most any impact other than natural deterioration.

Contrary to the recommendations of Dieste et al. (1985:6-11 to 6-14), the development of a model of areas of high and low probability for the identification of significant resources will not diminish the need for a survey of all areas which are not disturbed. However, it will affect the survey methodology which will be used in the various areas of high or low site probability. For example, in Zone 1 (Dissected Uplands) where the presence of the potentially significant historic properties is fairly well documented and the potential for significant prehistoric properties is very low, survey transect intervals may be widely spaced (ca. 30 meters) and shovel testing may be limited to those areas previously designated through archival research.

Within Zone 2 (Upland Flat) a similar survey methodology may be used in locating unknown historic properties. Shovel testing should be conducted in the potential areas of known historic sites (Localities 11 and 34), if ground cover is dense. The northernmost segment of this zone which is adjacent to Caddo Lake and between Goose Prairie and Martins Bayou, however, contains potentially significant resources of the prehistoric period. Given the ground cover within this area, shovel testing will be necessary to locate these sites. Of course, this shovel testing should focus on those landforms adjacent to the water courses and Caddo Lake. Further archival research should also be conducted to determine the exact nature of the Key Ranch and Starr Ranch occupations and to determine if it warrants further investigation.

Zone 3 (Eroded Upland) exhibits the highest probability of containing significant cultural resources of the prehistoric period. The benches and ridges which parallel Harrison Bayou and overlook Caddo Lake all have a high probability of yielding numerous short term hunting or foraging camps. The identification of these site localities will depend on intensive shovel testing on the benches and ridges adjacent to the water courses. Survey transect intervals within this area should be no greater than 20 meters. Elsewhere within Zone 3, on landforms more removed from the water courses, the survey transect intervals may be widened. Intensive survey and shovel testing efforts should be focused on those localities which are outside presently disturbed areas.

A geological assessment of the landforms within this zone is also essential to the recognition of localities which will exhibit the greatest potential for contextual integrity. Sealed archeological contexts may exist in the lower elevations of this zone where colluvial material has buried the site or alluvial deposits related to once higher levels of Caddo Lake contain buried site contexts. The geological assessment, which must be conducted prior to any other field investigations, is also essential to the location of those landforms where shovel testing will be effective and those landforms where site contexts may be reached only through trenching or coring.

Zone 4, the alluvial bottomland, would usually be regarded as having the greatest potential for containing significant cultural properties of the prehistoric period. However, the unique circumstances surrounding the formation of Caddo Lake during the Late Holocene period raises questions concerning the presence of prehistoric sites within the recent alluvium of the upland drainages such as Harrison Bayou. The relatively recent formation of Caddo Lake likely resulted in the submersion of landforms and the rapid accumulation of alluvial sediments within the tributary drainages. Therefore, sites of the Early or Middle Holocene period are likely buried even deeper than normal within such alluvial settings.

Even sites of the Caddoan period may be deeply buried. Such a context within the alluvial sediments prevents the easy detection and assessment of these sites. The unlikely need for construction or other impacts within this zone, however, renders the need for detection as a extremely low priority for the management of cultural resources within the LHAAP. Cut bank exposures should be examined, if possible, but no other archeological survey of the bottomlands would be fruitful. Rather, a geological survey of the bottomlands would be far more productive. The examination of cores extracted from transects crosscutting the bottomlands would yield invaluable information concerning the formation of Caddo Lake. The potential recovery of datable material would also make a significant contribution concerning the period in which Caddo Lake was formed.

Given the near surface contexts of both the prehistoric and historic properties in Zones 1, 2, and 3, it is extremely important that archeological assessment be conducted prior to any further disturbance of the areas and that presently known sites or undisturbed potential site localities be avoided. Therefore, it is recommended that an incremental survey plan be implemented which precedes the harvesting of trees as scheduled in the silvicultural program and that any gas/oil exploration areas be surveyed prior to any actual impact. Furthermore, the presently designated sites not determined ineligible and the potential site localities not in heavily disturbed areas should be protected from all impacts (fire lane grading, vandalism, tree harvest, construction, etc.) until these properties are properly evaluated to determine their eligibility for nomination to the National Register of Historic Places.

The goals of the sample percent survey, suggested by Dieste et al. (1985:6-13), to assess the actual degree of disturbance in both high and low probability areas have been achieved through this research effort by focusing on the definition of landforms, archival research, and reconnaissance survey. Therefore, it is recommended that no further sample survey efforts are needed; rather, an incremental survey program related to management needs should be ongoing while an Historic Preservation Plan is being developed for the long term management of the cultural resources within the LHAAP. Testing of the presently known sites or potential site localities and related archival research for the determination of National Register eligibility may be postponed as long as these properties are protected from any and all impacts. However, such work should be scheduled well prior to the actual planned impact, so that viable design alternatives for the project may be explored if it is determined that a significant cultural property is to be impacted.

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APPENDIX A

Deed/Title Data Search on Selected Grants

H. Martin Survey

Site A

Type of Record	Vol:Page	Date	Description of Transaction
Deed	F:26	26 Jun 1846	State of Texas to Henry Martin (Patent)
Deed	D:513	11 Jun 1845	Henry Martin to Oscar Hope ($2000 for approximately the northern 1/2 of H. Martin Survey.)
Probate	A:372-378	Dec 1848	Oscar Hope to heirs (Oscar Hope died intestate late Sept. 1848. Wife Rebecca Hope and Barnett Frazier appointed administrators Dec. 1848.)
Estate	K:276-289	1870	(Estate proved difficult to settle, final settlement not reached until 1870.)
Deed	9:268	14 Apr 1879	Oscar Hope, S.F. Vaughn and wife R.A. Vaughn, heirs of Oscar Hope, deceased to Alonzo Perkins Hope (Appears to transfer land containing Site A "for value received".)
Deed	57:290	11 Jun 1904	Alonzo P. and Juliet A. Hope to G.B. Dennis ($1.00 for 500 acres of H. Martin Survey and other land; may not include Site A.)
Deed	56:317	19 Nov 1904	G.B. Dennis and wife Mary M. to J.A. Hope ($1.00 for all lands transferred above.)
Probate	N:179-185	Sep 1907	Juliet A. Hope to Alonzo P. Hope (J.A. Hope bequeaths everything to husband with proviso that he provides for mother-in-law, Mrs. Rebecca J. Barret and aunt-in-law, Miss Mary F. Johnston.)
Probate	O:211-219	Jan 1910	A.P. Hope to Robert and Carlisle Hope (Will is difficult to follow, but gives western half of O. Hope, deceased, estate to Robert and Carlisle Hope. This ought to include Site A. Another peculiarity is that while Robert and Carlisle Hope are described as "sons of my brother O. Hope II"; Carlisle does not appear on the family tree given on page B-2.)

H. Martin Survey
(cont'd)

Site A

Type of Record	Vol:Page	Date	Description of Transaction
Probate	242:609-612	30 Oct 1940	Adam Hope and wife Pearl, Bess Hope Moore and husband JJ. Moore, all of Caddo Parish, LA, and G.E. Cargill and wife Atelia Hope Cargill, R.A. Hope and wife Christine, and O.C. Hope and wife Mary Steve Hope to T.J. Taylor ($17,500 for 862 acres, including 420 acre plot [Hope est. of 1930s plat] containing Site A.) (Adam Hope, Atelia Hope, R.A. Hope, O.C. Hope and Bess Hope Moore siblings of Carlisle Hope. Possibly they inherited land from Carlisle Hope, however, Carlisle Hope's death, much less will, not known or documented.)
Probate	245:415-419	5 Aug 1942	T.J. Taylor and wife Ruth to USA ($70,000 for very large tract of land, including tract containing Site A.)

H. Martin Survey

Site B

Type of Record	Vol:Page	Date	Description of Transaction
Deed	F:26	26 Feb 1846	State of Texas to Henry Martin (patent)
Deed	K:402	22 Jul 1858	Henry Martin to William P. Hargrove ($2500 for 1280 acres. Headright not named, but appears to be H. Martin Survey.) (Chain of title appears to go from William R. Hargrove to his son R.H. Hargrove, and from R.H. Hargrove to his widow A.E. Hargrove. J.P. Alford and H.C. Fitzpatrick may be executors of R.H. Hargrove estate.)
Deed	23:233-235	16 Dec 1887	Josiah P. Alford to A.C. Fitzpatrick to Annie E. Hargrove
Probate	1004-A	1900/1901	A.E. Hargrove to C.R. Hargrove, Raymond, Harry, Leon, Ethlene, Oswald, Aubrey and Zephyr Runthilla Hargrove, children of A.E. Hargrove (Homestead was in Marshall. A "farm" in H. Martin HRS valued at $2000. A.E. Hargrove died Dec. 27, 1900.)
Deed	47:119-121	11 Mar 1901	John G. Brown and wife Zephyr J. to O.L. Hargrove of Caddo Parish ($1334.35 for tracts on USA maps labeled A-32, A-7, A-8, A-30, parts of A-9, A-29 and A-44. "This includes all the land ... owned by the Estate of A.E. Hargrove deceased."
Deed	49:225-227	12 Apr 1901	O.L. Hargrove (of Caddo Parish) to Henderson Hygh ($500 for 105-1/2 acre tract.) (Henderson Hygh and Susie Hygh, deceased to heirs)
Deed	155:621-623	16 Feb 1928	James Hygh, Annie and Willie Amie, Haywood Hygh, Carrie and Samuel Deadman, Aubrey Irvin, Annie and Alvoid Pilot, Levonia Irvin, Emma Irvin, Idessa Irvin, Dotsey V. Irvin, Mary S. Irvin and Henry Irvin, being all heirs of Henderson and Suzie Hygh (Heirs decide to partition land. Block 1 [17.52 acres] to James Hygh; Block 2 [17.52 acres] to Annie Amie; Block 3 [17.52 acres] to Haywood Hygh; Block 4 [17.52 acres] to Carrie Deadman.)

H. Martin Survey
(cont'd)

Site B

Type of Record	Vol:Page	Date	Description of Transaction
Deed	181:36	26 Mar 1928	Carrie and Sam Deadman to Haywood Hygh ($350 for Block 4 [17.52 acres].)
Deed	248:633-635	19 May 1942	James and Theo Hygh to USA ($1100 for Block 1 [17.52 acres] and 144 acres elsewhere in H. Martin H.R.S., west part of A-30.)
Deed	248:590-591	9 May 1942	Haywood and Georgia Hygh to USA ($850 for Blocks 3 and 4 [35.04 acres total], possibly site of homestead as "we do hereby release all rights of homestead, dower and courtesy heretofore belonging to the said Georgia Hygh." [A-7])
Deed	243:643-644	19 May 1942	Annie Amie and Willie Amie to USA ($350 for Block 2 [17.52 acres], east part of track A-30.)

Wm. Reynolds Survey

Site C

Type of Record	Vol:Page	Date	Description of Transaction
Not Known		Not known	Texas to Wm. Reynolds
Deed	G:133	26 Oct 1848	William Reynolds to William Pinkney Hill ($320 for entire Headright Survey.)
Deed	K:203	3 Sep 1850	William Pinkney Hill to William J. Scott ($2000, includes the 320 acre Wm. Reynolds Headright Survey, 320 acre Thomas Hicks Headright Survey and 100 acres including parts of Martha Duncan and Elisha Williams Headright Survey.)
Deed	T:250	1 Jan 1862	William J. Scott to Levin Perry ($640 for entire H.R. Survey.) Levin Perry to Nancy G. Perry (Nancy G. Perry, surviving widow of Levin Perry. Levin Perry dies 1864 or early 1865 while deeply in debt. No legal action was taken until Nancy G. Perry was forced to by court order.)
Deed	V1:684	5 Jan 1869	Nancy G. Perry to James H. Sawyer ($80; land sold at sheriff's auction for $0.25 per acre.)
Deed	Y:315	22 Apr 1872	James H. Sawyer to Edward Kahn ($1200 for entire H.R. Survey.)
Deed	26:514	1 Nov 1881	Edward Kahn to Ben Williams ($502 for a 100 acre tract in the northeast part of Wm. Reynolds Survey and southern portion H. Vogt Survey.) (Beyond this point, the chain of title proved difficult to follow. On a 1930 plat map the land is owned by a F. Williams. Because of the surname and the fact that other lands owned by Ben Williams are in the hands of other Williams family members on the 1930 plat map, it appears F. Williams inherits the land from Ben Williams.However, no will could be found. Sometime between 1930 and 1942, F. Williams loses possession of the land and T.J. Taylor and N.L. Howard sell the land to the USA in 1942.)

C. Fuller Survey

Site D

Type of Record	Vol:Page	Date	Description of Transaction
Deed	I:157-158	26 Sep 1848	State of Texas to C. Fuller (Patent) (Surveyed for William O. Swanson, Assignee of Peter Swanson, administrator for the Calvin Fuller estate.)
Deed	H:245-246	7 Nov 1848	William Swanson (administrator for C. Fuller) to William C. and James M. Swanson ($89.60 for both C. Fuller H.R.S. in project area, 640 acres total.)
Deed	H:523-526	4 Mar 1850	Amelia Swanson (widow of Peter Swanson), William C. Swanson, James M. Swanson, Thomas F. Swanson, and Foster H. Blades to James Edward Doty Blades (Grandson of Peter Swanson by deceased daughter Aphelia) (leaves large amount of land, including C. Fuller property, in trust to James Edward Doty Blades.)
Deed	X:227-228	25 Jan 1870	J.E.D. Blades to A.B. and Eliza Waskom (Although no records found covering this land, the deed states Eliza James [?] Waskom, nee Swanson, had a 1/2 interest in the C. Fuller 240 acre H.R.S. among other land and property.)
Deed	35:200-202	1 Jan 1895	A.B. Waskom and Wife Sue A. to Thomas Ruffin ($350 for 87-1/2 acres in southern portion of C. Fuller H.R.S. Sue A., appears to be another wife, perhaps A.B. Waskom inherits land from Eliza. No will was found to show this.)
Deed	77:634-635	11 Nov 1912	Partition deed between the heirs of Thomas Ruffin (at this point, it is difficult to place Site D in just one block, as its plotting is not highly accurate. However, it must be in Block 4, bequeathed to Mary Patterson; Block 5, bequeathed to Matilda Ruffin or Block 6, bequeathed to Queen Batt. On the plat map of tracts acquired by the USA these are, respectively, D119, D118 and D117.)
Deed	243:625-626	8 May 1942	Mary L. Patterson and husband P.L. to USA (Block 4 [D119] sold for $375.)

C. Fuller Survey
(cont'd)

Site D

Type of Record	Vol:Page	Date	Description of Transaction
			(No record was found for other land sales to USA. Block 5 (D118) is shown on one USA plat map as being acquired from Matilda Ruffin, while another shows it being acquired from Henry Phillips. Block 6 (D117) is shown as being acquired from Alonzo and/or Queen Batt but no deed was found.)

Calvin Fuller H.R.S.

Site E

Type of Record	Vol:Page	Date	Description of Transaction
Deed	I:157-158	26 Sep 1848	State of Texas to C. Fuller (Patent) (Surveyed for William O. Swanson, Assignee of Peter Swanson, administrator for the Calvin Fuller estate.)
Deed	H:245-246	7 Nov 1848	William Swanson (administrator for C. Fuller) to William C. and James M. Swanson ($89.60 for both C. Fuller H.R.S. in project area, 640 acres total.)
Deed	H:523-526	4 Mar 1850	Amelia Swanson (widow of Peter Swanson), William C. Swanson, James M. Swanson, Thomas F. Swanson, and Foster H. Blades to James Edward Doty Blades (Grandson of Peter Swanson by deceased daughter Aphelia) (leaves large amount of land, including C. Fuller property, in trust to James Edward Doty Blades.)
Deed	X:227-228	25 Jan 1870	J.E.D. Blades to A.B. and Eliza Waskom (Although no records found covering this land, the deed states Eliza James [?] Waskom, nee Swanson, had a 1/2 interest in the C. Fuller 240 acre H.R.S. among other land and property.)
Deed	35:200-202	1 Jan 1895	A.B. Waskom and Wife Sue A. to Thomas Ruffin ($350 for 87-1/2 acres in southern portion of C. Fuller H.R.S. Sue A., appears to be another wife, perhaps A.B. Waskom inherits land from Eliza. No will was found to show this.)
Deed	79:179	20 Nov 1912	Louis Ruffin to Thomas Ruffin, Jr. (Gives Block 1 to Th. Ruffin, Jr., his brother.)
Deed	81:102-103	7 Dec 1912	Thomas Ruffin, Allen Lee and wife Savannah Lee to W.E. Webster (Sells Blocks 1, 2, and 3, a total of 46-1/2 acres, for $465.)
Deed	106:219	24 Dec 1919	W.E. Webster, Sr. to T.J. Taylor (Sells Blocks 1, 2, and 3, 46-1/2 acres, for $930.)
Deed	243:629-630	9 May 1942	T.J. Taylor to USA (Sells Blocks 1, 2, and 3, 46-1/2 acres total, for $500.)

Jno. W. Adams Survey

Site F

Type of Record	Vol:Page	Date	Description of Transaction
Deed	K:85	5 Jun 1849	State of Texas to John W. Adams (Patent) (No indication of what J.W. Adams did to land. Somehow, it comes into the possession of Jefferson M. Saunders.)
Deed	N:525	27 Nov 1854	J.M. Saunders to Thomas M. Gilmer, DeSoto Parish, LA. ($9600 for three sections of land, including J.W. Adams Survey.) (Somehow J.M. Saunders reacquires land as it is part of his estate when split among his heirs.)
Probate	E:347	1860	J.M. Saunders to heirs (J.M. Saunders leaves wife Mary Saunders and children Cora I., J.N. and C.W. Saunders interests in land. Case doesn't leave hands of courts until Jan. 29, 1875.)
Deed	10:208	31 Dec 1879	C.W. Sanders to Cora I. Hill (sister of C.W. Saunders) ($250 for 320 acre J.M. Saunders H.R.S., 320 acre Elisha Lipscomb H.R.S. and 320 acre J.W. Adams Survey. Presumably sells his interest in these lands.) Geo. F. Heard to Claiborne W. Sanders, Cora I. Hill, A.G. Hill and J.N. Saunders (Transfers 1/4 interest of J.W. Adams, T.G.[?] Saunder and Elisha Lipscomb H.R.S. in exchange for land in the City of Marshall. No indication how Heard got interest in land.)
Deed	17:79-80	27 Aug 1883	A.G. Hill to C.W. Saunders (Sells half interest in J.M. Saunders, J.W. Adams, J.B. Webster H.R.S. A.G. Hill apparently gets 1/2 interest from Cora I. Hill, nee Saunders, deceased wife.) (Another gap in the record. J.N. Saunders and C.W. Saunders probably inherit part of land from Cora I. Hill. How Edward Kahn got part of land not known.)
Deed	41:209	15 Jan 1896	Edward Kahn to Henry Sims ($100 for 50 acres in northeast corner J.W. Adams Survey.)

Jno. W. Adams Survey
(cont'd)

Site F

Type of Record	Vol:Page	Date	Description of Transaction
Probate	T:22-24 T:220-222	May 1918	Jane Sims (widow of Henry Sims) to Mary Jane Hynson (daughter of Jane and Henry Sims) (Will was for 96.6 acres, somehow became 100 acres. Homeplace was on land in Jno. W. Adams Survey, bequeathed either to Marion Sims or Mary Jane Hynson.)
Deed	249:317	7 July 1942	Mary Jane Hynson to husband David Standford Hynson to USA (Sells 41.79 acres of land, all west of Marshall-Long Point Road for $1000.)

Jno. W. Adams Survey

Site G

Type of Record	Vol:Page	Date	Description of Transaction
Deed	K:85	5 Jun 1849	State of Texas to John W. Adams (Patent)
			(No indication of what J.W. Adams did to land. Somehow, it comes into the possession of Jefferson M. Saunders.)
Deed	N:525	27 Nov 1854	J.M. Saunders to Thomas M. Gilmer, DeSoto Parish, LA. ($9600 for three sections of land, including J.W. Adams Survey.)
			(Somehow J.M. Saunders reacquires land as it is part of his estate when split among his heirs.)
Probate	E:347	1860	J.M. Saunders to heirs (J.M. Saunders leaves wife Mary Saunders and children Cora I., J.N. and C.W. Saunders interests in land. Case doesn't leave hands of courts until Jan. 29, 1875.)
Deed	10:208	31 Dec 1879	C.W. Sanders to Cora I. Hill (sister of C.W. Saunders) ($250 for 320 acre J.M. Saunders H.R.S., 320 acre Elisha Lipscomb H.R.S. and 320 acre J.W. Adams Survey. Presumably sells his interest in these lands.)
			Geo. F. Heard to Claiborne W. Sanders, Cora I. Hill, A.G. Hill and J.N. Saunders (Transfers 1/4 interest of J.W. Adams, T.G.[?] Saunder and Elisha Lipscomb H.R.S. in exchange for land in the City of Marshall. No indication how Heard got interest in land.)
Deed	17:79-80	27 Aug 1883	A.G. Hill to C.W. Saunders (Sells half interest in J.M. Saunders, J.W. Adams, G.J.B. Webster H.R.S. A.G. Hill apparently gets 1/2 interest from Cora I. Hill, nee Saunders, deceased wife.)
			(Another gap in the record. J.N. Saunders and C.W. Saunders probably inherit part of land from Cora I. Hill. How Edward Kahn got part of land not known.)
Deed	39:497	1 Feb 1894	C.W. Sanders to Henry Sims (25 acres of land in east central part of Survey.)

Jno. W. Adams Survey
(cont'd)

Site G

Type of Record	Vol:Page	Date	Description of Transaction
Deed	39:495		C.W. Sanders and wife G.B. Sanders to Henry Sims ($75 for 25 acres of land adjacent to tract mentioned above. Site G appears on or very near boundary between the two.)
Probate	T:22-24 T:220-222	May 1918	Jane Sims (widow of Henry Sims) to Mary Jane Hynson (daughter of Jane and Henry Sims) (Will was for 96.6 acres, somehow became 100 acres. Homeplace was on land in Jno. W. Adams Survey, bequeathed either to Marion Sims or Mary Jane Hynson.)
Deed	249:317	7 July 1942	Mary Jane Hynson to husband David Standford Hynson to USA (Sells 41.79 acres of land, all west of Marshall-Long Point Road for $1000.)

Jno. W. Adams Survey

Site H

Type of Record	Vol:Page	Date	Description of Transaction
Deed	K:85	5 Jun 1849	State of Texas to John W. Adams (Patent) (No indication of what J.W. Adams did to land. Somehow, it comes into the possession of Jefferson M. Saunders.)
Deed	N:525	27 Nov 1854	J.M. Saunders to Thomas M. Gilmer, DeSoto Parish, LA. ($9600 for three sections of land, including J.W. Adams Survey.) (Somehow J.M. Saunders reacquires land as it is part of his estate when split among his heirs.)
Probate	E 347	1860	J.M. Saunders to heirs (J.M. Saunders leaves wife Mary Saunders and children Cora I, J.N. and C.W. Saunders interests in land. Case doesn't leave hands of courts until Jan. 29, 1875.)
Deed	10:208	31 Dec 1879	C.W. Sanders to Cora I. Hill (sister of C.W. Saunders) ($250 for 320 acre J.M. Saunders H.R.S., 320 acre Elisha Lipscomb H.R.S. and 320 acre J.W. Adams Survey. Presumably sells his interest in these lands.) Geo. F. Heard to Claiborne W. Sanders, Cora I. Hill, A.G. Hill and J.N. Saunders (Transfers 1/4 interest of J.W. Adams, T.G.[?] Saunder and Elisha Lipscomb H.R.S. in exchange for land in the City of Marshall. No indication how Heard got interest in land.)
Deed	17:79-80	27 Aug 1883	A.G. Hill to C.W. Saunders (Sells half interest in J.M. Saunders, J.W. Adams, G.J.B. Webster H.R.S. A.G. Hill apparently gets 1/2 interest from Cora I. Hill, nee Saunders, deceased wife.) (Another gap in the record. J.N. Saunders and C.W. Sanders probably inherit part of land from Cora I. Hill. How Edward Kahn got part of land not known.)
Deed	19:95	5 Aug 1884	J.N. Saunders to Henry Sims (Sells 100 acres of land in southeast part of Jno. W. Adams Survey for $300. This area contains Site H.)

Jno. W. Adams Survey
(cont'd)

Site H

Type of Record	Vol:Page	Date	Description of Transaction
Probate	T:22-24 T:220-222	May 1918	Jane Sims (widow of Henry Sims) to Mary Jane Hynson (daughter of Jane and Henry Sims) (Will was for 96.6 acres, somehow became 100 acres. Homeplace was on land in Jno. W. Adams Survey, bequeathed either to Marion Sims or Mary Jane Hynson.)
Deed	249:317	7 July 1942	Mary Jane Hynson to husband David Standford Hynson to USA (Sells 41.79 acres of land, all west of Marshall-Long Point Road for $1000.)

E.T. Salter Survey

Site I

Type of Record	Vol:Page	Date	Description of Transaction
Deed	H:360	19 Jan 1849	State of Texas to E.T. Salter (Patent)
Deed	E:464	19 Jan 1849	Edward T. Salter to James D. Todd (Buys entire Headright Survey for $160)
Deed	J:483-484	5 May 1851	James D. Todd and wife Susan to James I. Branden and Hugh F. McKenna, both of New Orleans, LA ($1000 for 320 acre J. Laster H.R. Survey, 320 acre E.T. Salter H.R. Survey, 640 acre J.C. Hawley Survey, and 130 acre Wm. Crouch Survey. In Deed Records Branden G. McKenna are labelled Merchants and traders under the name of Branden, Williams and Co., of New Orleans.)
Deed	R:693-697	23 Nov 1859	James I. Branden and Hugh F. McKenna to Levin Perry ($8502 for J. Laster, E.T. Salter, J.C. Hawley and Wm. Crouch Surveys.) Levin Perry to Nancy G. Perry (Nancy G. Perry, surviving widow of Levin Perry. Levin Perry dies 1864 or early 1865 while deeply in debt. No legal action was taken until Nancy G. Perry was forced to by court order.)
Deed	V:162	11 Oct 1867	Levin Perry (by surviving widow) to Glendy Burke of New Orleans (J. Laster, E.T. Salter, J.C. Hawley, and Wm. Crouch Surveys given in lieu of $2725 in unpaid promissory notes.)
Deed	V:232-233	11 Dec 1867	Glendy Burke (of New Orleans) to Mrs. Caledonia Rodgers (of Liverpool, England) (Glendy Burke acted as agent for Mrs. Rodgers when purchasing land from Nancy G. Perry.) Mrs. Caledonia Rodgers to Edmund Sager (Mrs. Caledonia Rodgers, previously Mrs. Caledonia Sager, nee Branden. Edmond Sager was the son and sole heir of Mrs. Rodgers who bequeathed all her property to Edmund Sager in a will probated April 20, 1880 in the city of Liverpool (Deed Record 33:347-349.)

E.T. Salter Survey
(cont'd)

Site I

Type of Record	Vol:Page	Date	Description of Transaction
Deed	33:347-349	9 Jan 1885	Edmund Sager (of Liverpool, England) to J. Branden Matthews (of New York, New York) ($1.00 for J. Laster, J.C. Hawley, E.T. Salter and Wm. Crouch H.R. Surveys.)
Deed	33:349-351	1 Feb 1895	J. Branden Matthews to A.P. Hope ($1813.18 for Wm. Crouch, J.C. Hawley, J. Laster and E.T. Salter H.R. Surveys.)
Deed	57:290-291	14 Jun 1904	Alonzo Perkins Hope and wife J.A. to G.B. Dennis (of Polk County, Arkansas, see Deed Record 56:317) ($1.00 for E.T. Salter, J. Laster, Wm. Crouch and J.C. Hawley Surveys [1417 acres generally known as the Todd Lands], 5 acres of the H. Martin Survey, 162-1/2 acres of the R.O. Watkins Survey, 1/2 interest in 140 acres of the G. Lewis Survey and 2 houses and lots in Block 8, City of Marshall.)
Deed	57:293	14 Jun 1904	G.B. Dennis and wife Mary M. to J.A. Hope (wife of Alonzo Perkins Hope) ($1.00 for all lands mentioned above to J.A. Hope in her own right.) J.A. Hope to G.B. Dennis and wife Mary M. (No deed found, but transaction must have taken place to explain next entry.)
Deed	56:317	18 Nov 1904	G B. Dennis and wife Mary M. to J.A. Hope ($1.00 for all lands mentioned in last two entries.) J.A. Hope to A.P. Hope (Again, no documentation was found. However, J.A. Hope predeceases A.P. Hope, who mentions the land in his will. Therefore, J.A. Hope probably bequeathed the land to her husband.)
Probate	O-211-214	1910	A.P. Hope to James M. Hall, deceased wife's brother, and James. W. Hall, George H. Hall, Mrs. Mary Atelia McBryer, Mrs. Sallie McCrary and Alonzo L. Hall, children of James M. Hall (Bequeathed approximately 1/2 of estate to Hall family and other half to Robert and Carlisle Hope. Portion of Todd Lands owned equally by Hall family includes Site I.)

E.T. Salter Survey
(cont'd)

Site I

Type of Record	Vol:Page	Date	Description of Transaction
Deed	125:195-196	6 Oct 1922	J.W. Hall to T.J. Taylor ($1432 for 100 acres "cut and taken from undivided interest" in the Todd Land.) Atelia McBryer to Sterling McBryer (Minor heir of Atelia McBryer) mentioned Deed Record 129:243.
Deed	129:243		Taylor, P.P. (Guardian of Sterling McBryer) to T.J. Taylor ($3100 for entire 1/5 interest in 872-7/10 acres of land, including 320 acres of J. Laster H.R.S., 137-4/10 acres Wm. Crouch H.R.S., 114-3/10 acres E.T. Salter H.R.S., and 86 acres of J.C. Hawley H.R.S. Also, 81 acres of R.O. Watkins H.R.S., 96 acres H. Martin Survey and 38 acres O. Hendrick Survey.) (While it was difficult to follow specific tracts of land after the A.P. Hope will, by 1930 T.J. Taylor owns the entire E.T. Salter Survey as recorded on the 1930 plat map.)
Deed	249:415-419	5 Aug 1942	T.J. Taylor to USA ($70,000 for land including E.T. Salter Survey.)

James Laster Survey

Site J

Type of Record	Vol:Page	Date	Description of Transaction
Deed	H:361	26 Jan 1846	State of Texas to James Laster (Land Patent)
Deed	H:16	6 May 1848	James Laster to James D. Todd ($240 for entire J. Laster H.R. Survey.)
Deed	J:483-484	5 May 1851	James D. Todd and wife Susan to James I. Branden and Hugh F. McKenna, both of New Orleans, LA ($1000 for 320 acre J. Laster H.R. Survey, 320 acre E.T. Salter H.R. Survey, 640 acre J.C. Hawley Survey, and 130 acre Wm. Crouch Survey. In Deed Records Branden G. McKenna are labelled Merchants and traders under the name of Branden, Williams and Co., of New Orleans.)
Deed	R:693-697	23 Nov 1859	James I. Branden and Hugh F. McKenna to Levin Perry ($8502 for J. Laster, E.T. Salter, J.C. Hawley and Wm. Crouch Surveys.) Levin Perry to Nancy G. Perry (Nancy G. Perry, surviving widow of Levin Perry. Levin Perry dies 1864 or early 1865 while deeply in debt. No legal action was taken until Nancy G. Perry was forced to by court order.)
Deed	V:162	11 Oct 1867	Levin Perry (by surviving widow) to Glendy Burke of New Orleans (J. Laster, E.T. Salter, J.C. Hawley, and Wm. Crouch Surveys given in lieu of $2725 in unpaid promissory notes.)
Deed	V:232-233	11 Dec 1867	Glendy Burke (of New Orleans) to Mrs. Caledonia Rodgers (of Liverpool, England) (Glendy Burke acted as agent for Mrs. Rodgers when purchasing land from Nancy G. Perry.) Mrs. Caledonia Rodgers to Edmund Sager (Mrs. Caledonia Rodgers, previously Mrs. Caledonia Sager, nee Branden. Edmond Sager was the son and sole heir of Mrs. Rodgers who bequeathed all her property to Edmund Sager in a will probated April 20, 1880 in the city of Liverpool (Deed Record 33:347-349.)

James Laster Survey
(cont'd)

Site J

Type of Record	Vol:Page	Date	Description of Transaction
Deed	33:347-349	9 Jan 1885	Edmund Sager (of Liverpool, England) to J. Branden Matthews (of New York, New York) ($1.00 for J. Laster, J.C. Hawley, E.T. Salter and Wm. Crouch H.R. Surveys.)
Deed	33:349-351	1 Feb 1895	J. Branden Matthews to A.P. Hope ($1818.18 for Wm. Crouch, J.C. Hawley, J. Laster and E.T. Salter H.R. Surveys.)
Deed	57:290-291	14 Jun 1904	Alonzo Perkins Hope and wife J.A. to G.B. Dennis (of Polk County, Arkansas, see Deed Record 56:317) ($1.00 for E.T. Salter, J. Laster, Wm. Crouch and J.C. Hawley Surveys [1417 acres generally known as the Todd Lands], 5 acres of the H. Martin Survey, 162-1/2 acres of the R.O. Watkins Survey, 1/2 interest in 140 acres of the G. Lewis Survey and 2 houses and lots in Block 8, City of Marshall.)
Deed	57:293	14 Jun 1904	G.B. Dennis and wife Mary M. to J.A. Hope (wife of Alonzo Perkins Hope) ($1.00 for all lands mentioned above to J.A. Hope in her own right.)
			J.A. Hope to G.B. Dennis and wife Mary M. (No deed found, but transaction must have taken place to explain next entry.)
Deed	56:317	18 Nov 1904	G.B. Dennis and wife Mary M. to J.A. Hope ($1.00 for all lands mentioned in last two entries.)
			J.A. Hope to A.P. Hope (Again, no documentation was found. However, J.A. Hope predeceases A.P. Hope, who mentions the land in his will. Therefore, J.A. Hope probably bequeathed the land to her husband.)
Probate	O-211-214	1910	A.P. Hope to James M. Hall, deceased wife's brother, and James. W. Hall, George H. Hall, Mrs. Mary Atelia McBryer, Mrs. Sallie McCrary and Alonzo L. Hall, children of James M. Hall (Bequeathed approximately 1/2 of estate to Hall family and other half to Robert and Carlisle Hope. Portion of Todd Lands owned equally by Hall family includes Site J.)

James Laster Survey
(cont'd)

Site J

Type of Record	Vol:Page	Date	Description of Transaction
Deed	125:195-196	6 Oct 1922	J.W. Hall to T.J. Taylor ($1432 for 100 acres "cut and taken from undivided interest" in the Todd Land.) Atelia McBryer to Sterling McBryer (Minor heir of Atelia McBryer) mentioned Deed Record 129:243
Deed	129:243		Taylor, P.P. (Guardian of Sterling McBryer) to T.J. Taylor ($3100 for entire 1/5 interest in 872-7/10 acres of land, including 320 acres of J. Laster H.R.S., 137-4/10 acres Wm. Crouch H.R.S., 114-3/10 acres E.T. Salter H.R.S., and 86 acres of J.C. Hawley H.R.S. Also, 81 acres of R.O. Watkins H.R.S., 96 acres H. Martin Survey and 38 acres O. Hendrick Survey.) (While it was difficult to follow specific tracts of land after the A.P. Hope will, by 1930 T.J. Taylor owns the entire J. Laster Survey as recorded on the 1930 plat map.)
Deed	249:415-419	5 Aug 1942	T.J. Taylor to USA (Sells very large parcel of land to USA for $ 70,000 which includes J. Laster Survey.)

J.C. Hawley Survey

Site K

Type of Record	Vol:Page	Date	Description of Transaction
			State of Texas to J.C. Hawley (Patent date not known.)
Deed	F:558-559	15 Mar 1848	J.C. Hawley to Marshall Spell ($320 for entire J.C. Hawley H.R.S.)
Deed	F:560	10 Apr 1848	Marshall Spell to Dr. William A. Starnes ($400 for entire H.R.S.)
Deed	H:194	1 Sep 1849	William A. Starnes to W.W. Allen ($600 for entire J.C. Hawley H.R.S.)
Deed	J:483-484	5 May 1851	James D. Todd and wife Susan to James I. Branden and Hugh F. McKenna, both of New Orleans, LA ($1000 for 320 acre J. Laster H.R. Survey, 320 acre E.T. Salter H.R. Survey, 640 acre J.C. Hawley Survey, and 130 acre Wm. Crouch Survey. In Deed Records Branden G. McKenna are labelled Merchants and traders under the name of Branden, Williams and Co., of New Orleans.)
Deed	R:693-697	23 Nov 1859	James I. Branden and Hugh F. McKenna to Levin Perry ($8502 for J. Laster, E.T. Salter, J.C. Hawley and Wm. Crouch Surveys.)
			Levin Perry to Nancy G. Perry (Nancy G. Perry, surviving widow of Levin Perry. Levin Perry dies 1864 or early 1865 while deeply in debt. No legal action was taken until Nancy G. Perry was forced to by court order.)
Deed	V:162	11 Oct 1867	Levin Perry (by surviving widow) to Glendy Burke of New Orleans (J. Laster, E.T. Salter, J.C. Hawley, and Wm. Crouch Surveys given in lieu of $2725 in unpaid promissory notes.)
Deed	V:232-233	11 Dec 1867	Glendy Burke (of New Orleans) to Mrs. Caledonia Rodgers (of Liverpool, England) (Glendy Burke acted as agent for Mrs. Rodgers when purchasing land from Nancy G. Perry.)

J.C. Hawley Survey
(cont'd)

Site K

Type of Record	Vol:Page	Date	Description of Transaction
			Mrs. Caledonia Rodgers to Edmund Sager (Mrs. Caledonia Rodgers, previously Mrs. Caledonia Sager, nee Branden. Edmond Sager was the son and sole heir of Mrs. Rodgers who bequeathed all her property to Edmund Sager in a will probated April 20, 1880 in the city of Liverpool (Deed Record 33:347-349.)
Deed	33:347-349	9 Jan 1885	Edmund Sager (of Liverpool, England) to J. Branden Matthews (of New York, New York) ($1.00 for J. Laster, J.C. Hawley, E.T. Salter and Wm. Crouch H.R. Surveys.)
Deed	33:349-351	1 Feb 1895	J. Branden Matthews to A.P. Hope ($1818.18 for Wm. Crouch, J.C. Hawley, J. Laster and E.T. Salter H.R. Surveys.)
Deed	57:290-291	14 Jun 1904	Alonzo Perkins Hope and wife J.A. to G.B. Dennis (of Polk County, Arkansas, see Deed Record 56:317) ($1.00 for E.T. Salter, J. Laster, Wm. Crouch and J.C. Hawley Surveys [1417 acres generally known as the Todd Lands], 5 acres of the H. Martin Survey, 162-1/2 acres of the R.O. Watkins Survey, 1/2 interest in 140 acres of the G. Lewis Survey and 2 houses and lots in Block 8, City of Marshall.)
Deed	57:293	14 Jun 1904	G.B. Dennis and wife Mary M. to J.A. Hope (wife of Alonzo Perkins Hope) ($1.00 for all lands mentioned above to J.A. Hope in her own right.)
			J.A. Hope to G.B. Dennis and wife Mary M. (No deed found, but transaction must have taken place to explain next entry.)
Deed	56:317	18 Nov 1904	G.B. Dennis and wife Mary M. to J.A. Hope ($1.00 for all lands mentioned in last two entries.)
			J.A. Hope to A.P. Hope (Again, no documentation was found. However, J.A. Hope predeceases A.P. Hope, who mentions the land in his will. Therefore, J.A. Hope probably bequeathed the land to her husband.)

J.C. Hawley Survey
(cont'd)

Site K

Type of Record	Vol:Page	Date	Description of Transaction
Probate	O:214-215	1910	A.P. Hope to Robert and Carlisle Hope (A.P. Hope leaves most of northern part of Todd Land to Robert and Carlisle Hope, sons of his brother, Oscar Hope.) (No deed could be found showing sale of land to T.J. Taylor. However, in Deed Record 129:610-611 mention is made of 593-4/10 acres sold by Robert and Carlisle Hope to T.J. Taylor prior to December 22, 1923. On 1930 plat map, the area containing Site K is shown as being owned by T.J. Taylor.)
Deed	249:415-419	5 Aug 1942	T.J. Taylor to USA ($70,000 for land including Site K.)

James C. Hawley Survey

Site L

Type of Record	Vol:Page	Date	Description of Transaction
			State of Texas to J.C. Hawley (Patent date not known.)
Deed	F:558-559	15 Mar 1848	J.C. Hawley to Marshall Spell ($320 for entire J.C. Hawley H.R.S.)
Deed	F:560	10 Apr 1848	Marshall Spell to Dr. William A. Starnes ($400 for entire H.R.S.)
Deed	H:194	1 Sep 1849	William A. Starnes to W.W. Allen ($600 for entire J.C. Hawley H.R.S.)
Deed	H:349	26 Jan 1850	W.W. Allen to James D. Todd (Entire J.C. Hawley H.R.S. transferred, no price stated.)
Deed	J:483-484	5 May 1851	James D. Todd and wife Susan to James I. Branden and Hugh F. McKenna, both of New Orleans, LA ($1000 for 320 acre J. Laster H.R. Survey, 320 acre E.T. Salter H.R. Survey, 640 acre J.C. Hawley Survey, and 130 acre Wm. Crouch Survey. In Deed Records Branden G. McKenna are labelled Merchants and traders under the name of Branden, Williams and Co., of New Orleans.)
Deed	R:693-697	23 Nov 1859	James I. Branden and Hugh F. McKenna to Levin Perry ($8502 for J. Laster, E.T. Salter, J.C. Hawley and Wm. Crouch Surveys.) Levin Perry to Nancy G. Perry (Nancy G. Perry, surviving widow of Levin Perry. Levin Perry dies 1864 or early 1865 while deeply in debt. No legal action was taken until Nancy G. Perry was forced to by court order.)
Deed	V:162	11 Oct 1867	Levin Perry (by surviving widow) to Glendy Burke of New Orleans (J. Laster, E.T. Salter, J.C. Hawley, and Wm. Crouch Surveys given in lieu of $2725 in unpaid promissory notes.)
Deed	V:232-233	11 Dec 1867	Glendy Burke (of New Orleans) to Mrs. Caledonia Rodgers (of Liverpool, England) (Glendy Burke acted as agent for Mrs. Rodgers when purchasing land from Nancy G. Perry.)

James C. Hawley Survey
(cont')

Site L

Type of Record	Vol:Page	Date	Description of Transaction
			Mrs. Caledonia Rodgers to Edmund Sager (Mrs. Caledonia Rodgers, previously Mrs. Caledonia Sager, nee Branden. Edmond Sager was the son and sole heir of Mrs. Rodgers who bequeathed all her property to Edmund Sager in a will probated April 20, 1880 in the city of Liverpool (Deed Record 33:347-349.)
Deed	33:347-349	9 Jan 1885	Edmund Sager (of Liverpool, England) to J. Branden Matthews (of New York, New York) ($1.00 for J. Laster, J.C. Hawley, E.T. Salter and Wm. Crouch H.R. Surveys.)
Deed	33:349-351	1 Feb 1895	J. Branden Matthews to A.P. Hope ($1818.18 for Wm. Crouch, J.C. Hawley, J. Laster and E.T. Salter H.R. Surveys.)
Deed	57:290-291	14 Jun 1904	Alonzo Perkins Hope and wife J.A. to G.B. Dennis (of Polk County, Arkansas, see Deed Record 56:317) ($1.00 for E.T. Salter, J. Laster, Wm. Crouch and J.C. Hawley Surveys [1417 acres generally known as the Todd Lands], 5 acres of the H. Martin Survey, 162-1/2 acres of the R.O. Watkins Survey, 1/2 interest in 140 acres of the G. Lewis Survey and 2houses and lots in Block 8, City of Marshall.)
Deed	57:293	14 Jun 1904	G.B. Dennis and wife Mary M. to J.A. Hope (wife of Alonzo Perkins Hope) ($1.00 for all lands mentioned above to J.A. Hope in her own right.)
			J.A. Hope to G.B. Dennis and wife Mary M. (No deed found, but transaction must have taken place to explain next entry.)
Deed	56:317	18 Nov 1904	G.B. Dennis and wife Mary M. to J.A. Hope ($1.00 for all lands mentioned in last two entries.)
			J.A. Hope to A.P. Hope (Again, no documentation was found. However, J.A. Hope predeceases A.P. Hope, who mentions the land in his will. Therefore, J.A. Hope probably bequeathed the land to her husband.)

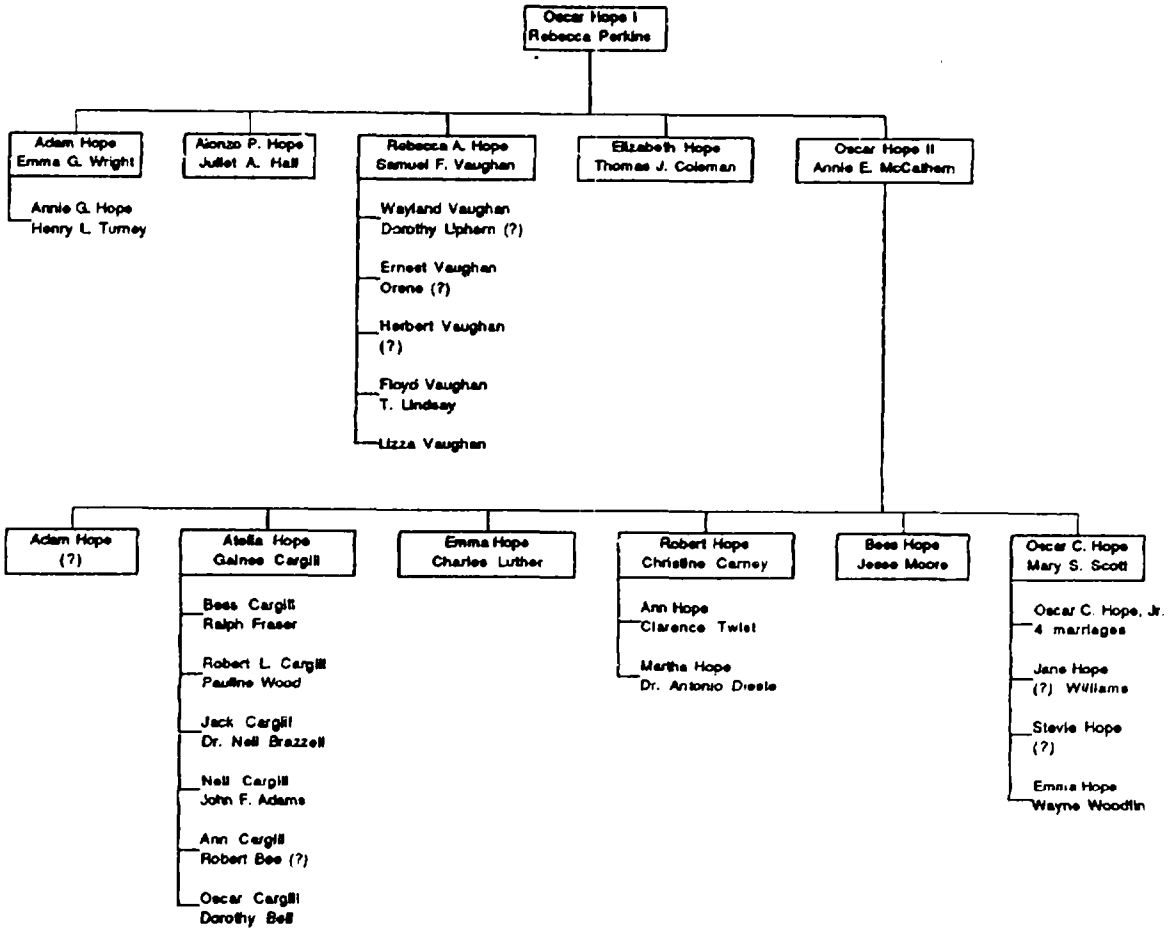
James C. Hawley Survey
(cont')

Site L

Type of Record	Vol:Page	Date	Description of Transaction
Probate	O-211-214	1910	A.P. Hope to James M. Hall, deceased wife's brother, and James. W. Hall, George H. Hall, Mrs. Mary Atelia McBryer, Mrs. Sallie McCrary and Alonzo L. Hall, children of James M. Hall (Bequeathed approximately 1/2 of estate to Hall family and other half to Robert and Carlisle Hope. Portion of Todd Lands owned equally by Hall family includes Site J.)
Deed	125:195-196	6 Oct 1922	J.W. Hall to T.J. Taylor ($1432 for 100 acres "cut and taken from undivided interest" in the Todd Land.) Atelia McBryer to Sterling McBryer (Minor heir of Atelia McBryer) mentioned Deed Record 129:243
Deed	129:243		Taylor, P.P. (Guardian of Sterling McBryer) to T.J. Taylor ($3100 for entire 1/5 interest in 872-7/10 acres of land, including 320 acres of J. Laster H.R.S., 137-4/10 acres Wm. Crouch H.R.S., 114-3/10 acres E.T. Salter H.R.S., and 86 acres of J.C. Hawley H.R.S. Also, 81 acres of R.O. Watkins H.R.S., 96 acres H. Martin Survey and 38 acres O. Hendrick Survey.) (While it was difficult to follow specific tracts of land after the A.P. Hope will, by 1930 T.J. Taylor owns the entire J.C. Hawley Survey as recorded on the 1930 plat map.)
Deed	249:415-419	5 Aug 1942	T.J. Taylor to USA (Sells very large parcel of land to USA for $70,000 which includes J. Laster Survey.)

APPENDIX B

Hope Family Genealogy



Hope Family Genealogy from Oscar Hope I.