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Mechanical Excavation at 41LB42, Luce Bayou Interbasin Transfer Project (LBITP), Liberty County, Texas

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USACE Permit No. SWG-2009-00188
Texas Antiquities Permit 7905

by

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MOORE ARCHEOLOGICAL CONSULTING, INC.

Report of Investigations Number 672

January, 2018

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Prepared for
The Coastal Water Authority
Houston, Texas

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ABSTRACT

In early 2017, Moore Archeological Consulting, Inc. (MAC) conducted archeological monitoring of mechanical scraping at site 41LB42 located on Capers Ridge in Liberty County, Texas. This action was done to offset adverse effects associated with impending pipeline installation as part of the larger Luce Bayou Interbasin Transfer Project (LBITP), a Coastal Water Authority (CWA) infrastructure undertaking that will transport freshwater from the lower Trinity River to Lake Houston. Previously survey, testing and data recovery by MAC identified high density, high integrity finds situated on the summits of three small knolls found within 41LB42. The CWA subsequently repositioned the LBITP pipeline alignment further north, but within the site boundaries to largely avoid these archeological deposits. From February 28th to March 23rd, 2017, MAC archeologists monitored systematic removal of topsoil archeosediments at site 41LB42 within the revised pipeline alignment. A total of 3.2 acres (12,977 m^3) and 514 linear meters (1686 ft.) by 24.4 meters (80 ft.) were excavated to subsoil at depths ranging from 25 to 250 cm. Four features were observed and documented during this work. No culturally significant finds were discovered. All materials collected and records generated have been prepared by MAC for permanent curation at Sam Houston Memorial Museum, Huntsville. It appears that the revised pipeline alignment was largely successful in avoiding and preserving high value archeosediments at 41LB42. Additional monitoring of deep excavations associated with pipeline installation are recommended. Diligent archeological monitoring is recommended for any ground disturbance in the remaining, preserved high contours areas at 41LB42.

INTRODUCTION

From February 28th to March 24th, 2017, Moore Archeological Consulting (MAC) conducted mechanical scraping at site 41LB42, on Capers Ridge in Liberty County, Texas. This work was carried out in advance of pipeline installation within the footprint of 41LB42. The project area is depicted on the Capers Ridge USGS Quadrangle in Liberty County, Texas (Figure 1). This pipeline construction comprises part of the larger Luce Bayou Interbasin Transfer Project (LBITP), a Coastal Water Authority (CWA) infrastructure undertaking that will transport freshwater from the lower Trinity River to Lake Houston.

The overall footprint of the project area occupies acreage obtained by the CWA, meaning that the undertaking falls under the regulatory oversight of the Antiquities Code of Texas (Texas Natural Resource Code, Title 9, Chapter 191, and Title 13, Chapter 26, of the Texas Administrative Code). Additionally, since the project has been permitted by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act and there is a USACE Galveston District, permit (#SWG-2009-00188), it has also been coordinated under Section 106 of the National Historic Preservation Act (NHPA).

This work represents the penultimate task in a series of permitted MAC projects within the LBITP area that began with archeological survey in 2007 (TAC#5082), followed by testing (2012) and data recovery (2014) at site 41LB42 (TAC#6390) (Ferguson et al 2012; Driver and Moore 2014; Gilmer et al. in prep). MAC test excavations at 41LB42 identified the site as eligible for listing on the National Register of Historic Places (NRHP, Driver and Moore 2014). Subsequent data recovery excavations were carried out to offset the loss of information at this site that would result from the undertaking (Gilmer et al. in prep). During the course of MAC excavations, one primary burial and two deposits identified as cremations were identified (Driver and Moore, 2014; Gilmer et al. in prep). These discoveries resulted in subsequent evaluation of the site for additional NHPA eligibility under Criterion A in the area of Ethnic Heritage-Native American, which refers to its status as a Traditional Cultural Property (TCP), defined and discussed in detail in National Register Bulletin 38 (Parker and King 1990). All subsequent and ongoing construction activities that disturb the subsurface within the LBITP area (i.e. Capers Ridge), identified as a TCP on the NRHP since 2015, have been monitored by MAC archeologists (TAC #7567, Costa and Orsini, in prep).

During the initial coordination of 41LB42 following its determination of NRHP eligibility, a Memorandum of Agreement (MOA) was enacted between U.S. Army Corps of Engineers (USACE), CWA, the Texas State Historic Preservation Officer, the Alabama Coushatta of Texas, the Coushatta Tribe of Louisiana, and the Tonkawa Tribe of Oklahoma. In addition to the MOA, CWA also developed mitigation plans with each tribe which described approaches CWA would implement during the design and construction phases of the project to minimize, eliminate and compensate for impacts to cultural resources at the site. These mitigations plans were approved by each Tribe as well as the USACE. These plans included systematic archeological monitoring and data recovery of mechanically stripped sediments within the pipeline alignment that passes through 41LB42. This task was designed to mitigate the impacts to 41LB42 from the LBITP and to complement the data already gathered from the site during MAC data recovery excavations. Significantly, this project was largely concerned with the identification and

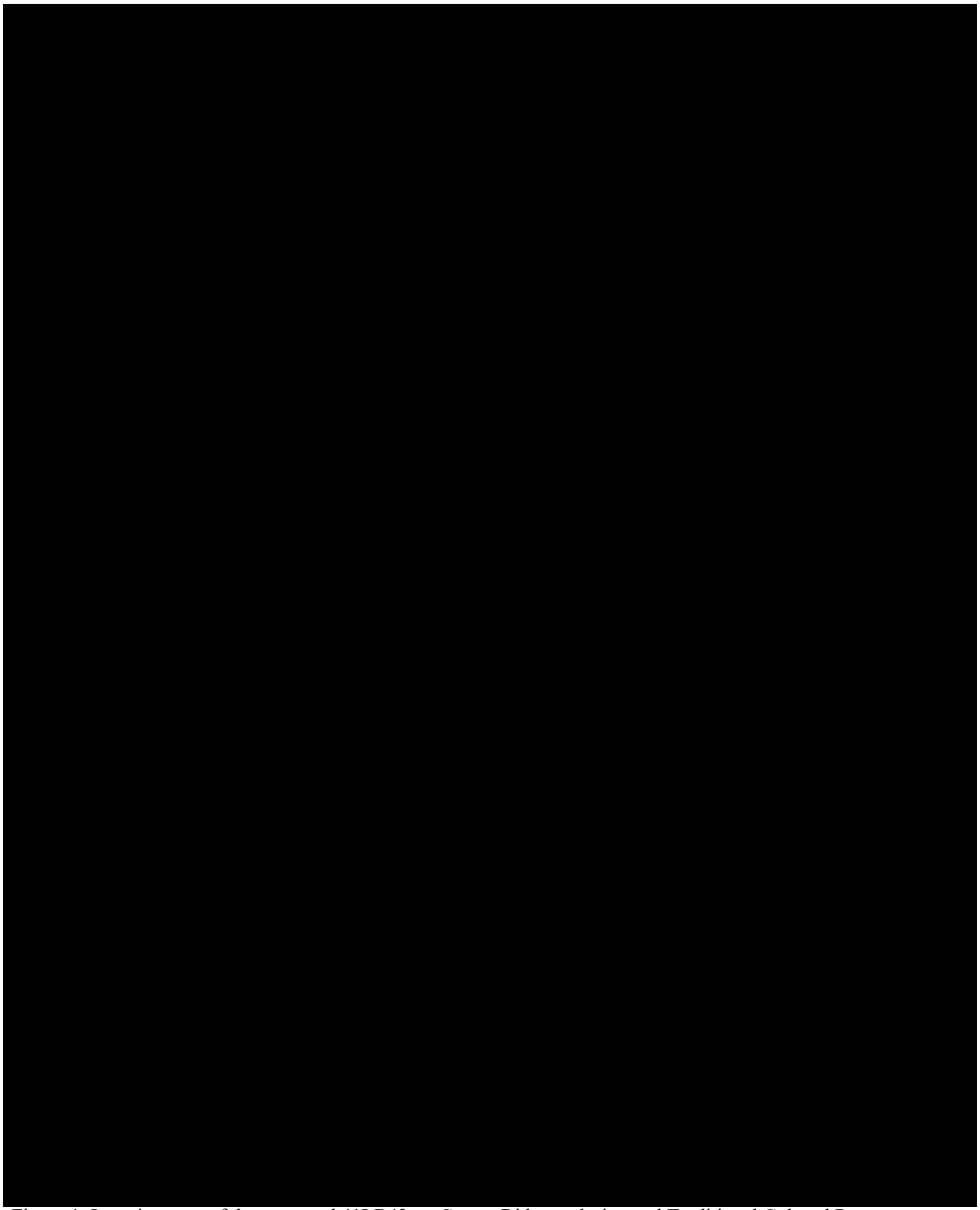

Figure 1. Location map of the proposed 41LB42 on Capers Ridge, a designated Traditional Cultural Property. Monitoring occurred on the section of 41LB42 north of the current Capers Ridge Access Road (shown in black).

documentation of any additional human remains that could have been encountered during the scraping.

Previous MAC survey, testing and data recovery identified high density, high integrity finds situated on the summits of three small knolls found within 41LB42 (Ferguson et al 2012; Driver and Moore 2014; Gilmer et al. in prep). This data allowed the CWA to reposition the LBITP pipeline alignment further north (but within the site boundaries of 41lLB42) to largely avoid these archeological deposits. The results of this project suggest that the revised pipeline alignment was largely successful in avoiding and preserving high value archeosediments at 41LB42.

MAC staff conducted archeological monitoring of mechanical scraping as part of the LBITP construction at Capers Ridge for a total of four weeks. This work was conducted under Texas Antiquities Permit No. 7905. Dr. August Costa served as principal investigator for this project. Project archeologist Stephanie Orsini supervised field work. Michael Hogan and Jim Lindsay were field technicians for this project. This report was written, edited and formatted by August G. Costa and Stephanie Orsini with contributions from Eleanor Stoddart and Michael Hogan. All materials collected and records generated have been prepared by MAC for permanent curation at Sam Houston Memorial Museum, Huntsville.

Definition of Site Area

41LB42 lies near the center of Capers Ridge (Figure 2). The ground surface of 41LB42 dips steeply to the north and south away from the east to west trending ridgeline. Bounded on its north and south edges by steep slopes, the site conforms to the general topography of the ridgeline, resulting in a long, narrow site measuring approximately 525 m by 75-125 m and covering a total of approximately 7.4 acres. There was a well-maintained gravel road running along the apex of the ridge which roughly bisects the site along its east-west axis. This road was replaced by the asphalt surfaced Capers Ridge Access Road in 2016 (Costa et al. in press). The site was previously heavily wooded with oak, elm, magnolia, yaupon, and pine. All areas adjoining the access road and pipeline right of way have now been cleared or vegetation in advance of pipeline installation. MAC staff have monitored all construction and clearing operations on the ridge to date (Costa et al. in press).

The Area of Potential Effects (APE) for the current project includes a portion of site 41LB42 north of the newly installed Capers Ridge Access Road in which the adjusted LBITP pipeline will ultimately be installed. The APE for this project consisted of the pipeline ROW and adjacent areas which might be disturbed by activities related to mechanical scraping. The pipeline ROW/APE within 41LB42 occupied a total of 3.2 acres (12,977 m^3) and 514 linear meters (1686 ft.) by 24.4 meters (80 ft.). Depth of impact within the APE (topsoil thickness) ranged from 25 to 250 cm.

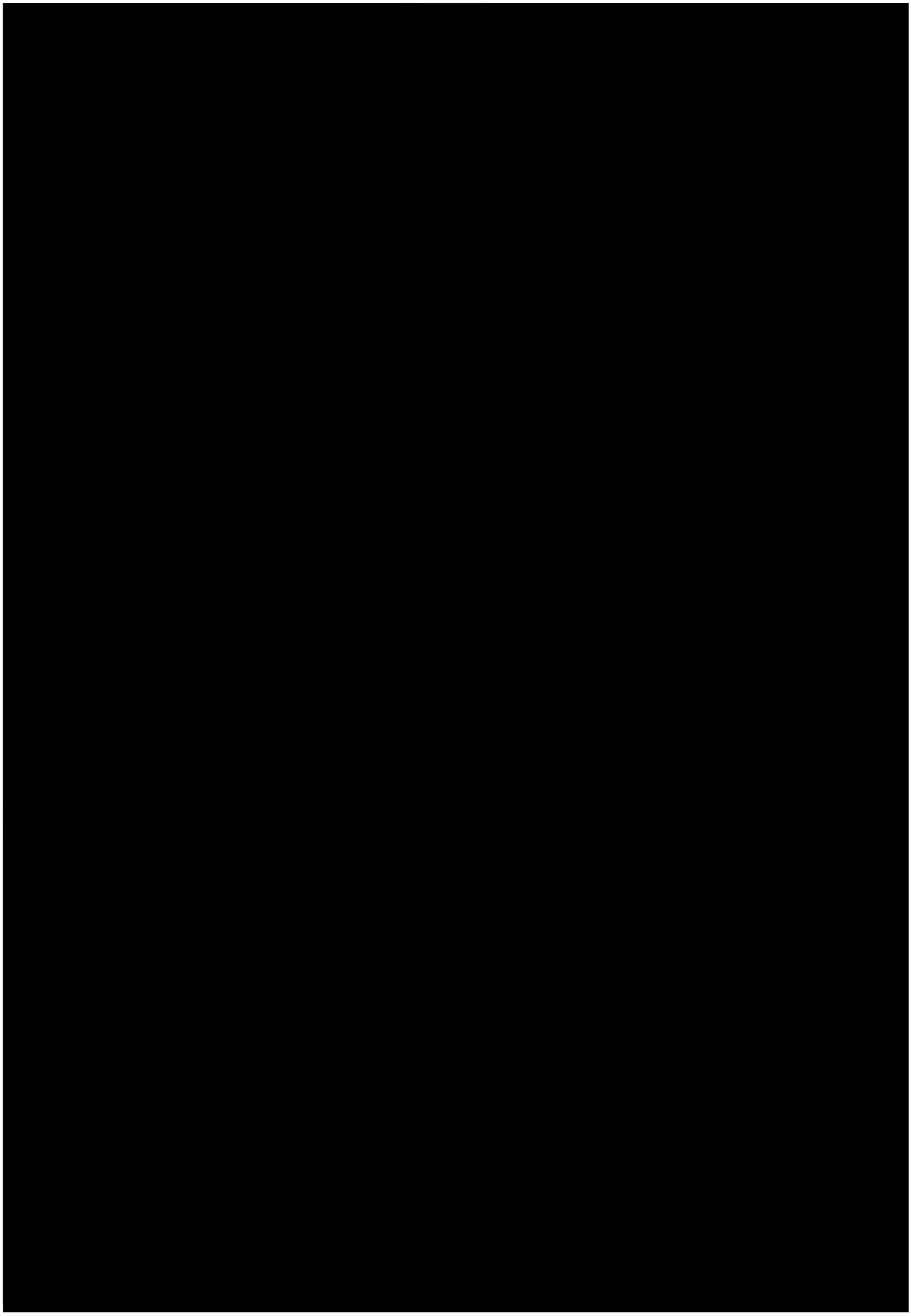

Figure 2. Maps of Capers Ridge (below) and 41LB42 (above) on FEMA 2011 1 meter LIDAR elevation model.

ENVIRONMENTAL SETTING

Liberty County is located within the West Gulf Coastal Plain physiographic province (Hunt 1974). In the Texas region of the West Gulf Coastal Plain, the surface topography is characterized by relatively flat topography that dips slightly towards the Gulf of Mexico.

Geologic Setting

The site is located on Capers Ridge (see Figure 2). The narrow, hourglass shape (in plan view) of the ridge was formed by ancient channels of the Trinity River cutting broad arcuate meander scars into the Pleistocene-aged Beaumont Formation. The Beaumont Formation is a surface outcrop that extends from just east of the Mississippi River in Louisiana, to Kingsville, Texas (Bureau of Economic Geology 1982). The formation consists of fluvial-deltaic deposits laid down by coastal rivers between 400,000 and 70,000 years ago (Durbin et al. 1997). Extensive fluvial incision and erosion of the Beaumont occurred during the periods of lower sea levels associated with the Wisconsinan glaciation (85,000 to 11,000 years ago). During the Holocene, when sea levels raised once more, the resulting river valleys filled with alluvial soils, creating broad, level floodplains.

Garvin (2005) mapped the valley floor on the north side of Capers Ridge as Lower Deweyville Terrace Veneer and the northeastern end as High Deweyville Terrace. The floodplain on the south side of the ridge is mapped as Post-Deweyville Alluvium. The Deweyville terraces are a series of terraces along the Gulf Coast that occur above the modern floodplain but below the Beaumont Formation surface (Bernard 1950). Typically, three Deweyville terraces – high, middle, and low – are recognized in the geological literature. The age of the Deweyville terraces is debated in the literature; although the consensus is the terraces are Middle to Late Wisconsinan in age (Abbott 2001:16).

Soils

The Soil Survey Staff (2014a) mapped the soils at the crest of the ridge as Belrose fine loamy sand and the sloping margins of the ridge as the Woodville fine sandy loam (Figure 3 and Table 1). The Belrose series, which are classified as paleudults, are moderately well drained, moderately permeable soils that formed in loamy alluvium of Quaternary age. These soils are found on nearly level to very gentle slopes (0 to 3 percent) on terrace risers of river valleys. The typical profile is A-E1-E2-Bt/E1-BtE2- Bt/E3- Bt/E4- Bt/E5. The Belrose series was previously included with the Bienville series; however, the Soil Survey Staff changed this as a result of an examination of the type location and existing pedon descriptions (Soil Survey Staff 2014b). The Woodville series are poorly drained, very slowly permeable upland soils that formed in thick beds of unconsolidated clayey coastal plain sediments of Miocene Age. These nearly level to strongly sloping soils (1 to 12 percent) are classified as paleudalfs. The typical profile is A-E-Bt1-Bt2-Bt3-BCg (Soil Survey Staff 2014c).

Paleudults and Paleudalfs belong in the alfisol soil order. Frederick and Gregory (2014:178) provide the following description of alfisols:

> "[Alfisols] have two parts with significantly different texture: a sandy upper part (or epipedon) within which the A and E horizons are formed, and a clayey subsoil

or argillic (Bt) horizon. These types of soils are often referred to as texture contrast soils, a name that draws attention to the disparate textures of the upper and lower parts of the profile. The origins and formation of such soils are the subject of debate in the soil science and geologic communities and the debate centers on whether the sandy part of the soil is the source for the clayey material that comprises the subsoil or is the sandy epipedon a separate deposit that is not related to the formation of the subsoil. Studies concerning this issue demonstrate that there is merit to both schools of thought. As will be seen in later discussions, the debate is directly relevant to the texture contrast soils at this site."

Figure 3. Soil map of the area surrounding site 41LB42 (Soil Survey Staff 2016a).

Climate

The project area falls within the Subtropical Humid region, which is noted for its warm summers (Larkin and Bomar 1983). The modern climate of this area is complex, and is influenced by systems originating from the Pacific, Gulf of Mexico, and southward positioning

of the northerly Jet Stream. The confluence of these systems, however, is moderated by generally warm, moist air from the Gulf of Mexico, which results in mild winters and relatively cool summer nights (Wheeler 1976:2, 66). The mean annual temperature between 2000 and 2016 for Cleveland, Texas, was 19.3º C (66.7º F), with a mean annual precipitation of 144 centimeters (56.69 inches) (NOAA 2015). In Liberty County, the summers are hot and humid, while the winters are warm and only occasionally interrupted by cold air from the north (Griffith 1996:2). Summer temperatures average 82°F (28°C), while winter temperatures average 52°F (11°C). Freezing temperatures and snow are infrequent (NOAA 2015).

Table 1. Legend for the soil map presented in Figure 3.

Map Unit Symbol	**Map Unit Name**
BelB	Belrose loamy fine sand, 0 to 3 percent slopes
BunD	Buna very fine sandy loam, 3 to 8 percent slopes
CowA	Cowmarsh mucky clay, 0 to 1 percent slopes, frequently flooded
DyC	Dylan clay, 3 to 6 percent slopes
HatA	Hatliff-Pluck-Kian complex, 0 to 1 percent slopes, frequently flooded
KamA	Kaman clay, occasionally flooded
KanA	Kaman clay, frequently flooded
SpuB	Spurger fine sandy loam, 0 to 2 percent slopes
TelB	Texla silt loam, 0 to 2 percent slopes
W	Water

Hydrology

The LBITP traverses the upland areas between the Trinity River on its east end and Lake Houston downstream of Luce Bayou (within the San Jacinto River watershed) on its west end. 41LB42 lies 2.3 km (1.4 mi.) to the west of the Trinity River. In addition, Tanner Bayou and Gillen Bayou run roughly parallel to Capers Ridge (see Figure 1). Tanner Bayou lies 1.4 km (0.87 mi.) to the north and Gillen Bayou lies 0.8 km (0.5 mi.) to the south of 41LB42.

Flora and Fauna

Liberty County lies within the Austroriparian biotic province (Blair 1950:98-101). Not determined by a marked physiographic break, the western boundary of this province is loosely identified by the distribution of pine and hardwood forests on the eastern Gulf coastal plain. The county is situated within the pine-oak subdivision of the Austroriparian province (Tharp 1939). Blair (1950) lists the dominant floral species of the pine-oak forest subdivision as loblolly pine (*Pinus taeda*), yellow pine (*Pinus echinata*), red oak (*Quercus rubra*), post oak (*Quercus stellata*), and blackjack oak (*Quercus marilandica*). Hardwood forests are found on lowlands within the Austroriparian and are characterized by such trees as sweetgum (*Liquidambar styraciflua*), magnolia (*Magnolia grandiflora*), tupelo (*Nyssa sylvatica*), water oak (*Quercus nigra*), and other species of oaks, elms, and ashes, as well as the highly diagnostic Spanish moss (*Tillandisia usneiodes*) and palmetto (*Sabal glabra*).

Blair (1950) and Gadus and Howard (1990) identify the following mammals as common within the Austroriparian province: white-tailed deer (*Odocoileus virginianus*), muskrat (*Ondatra zibethicus*), raccoon (*Procyon lotor*), coyote (*Canis latrans*), opossum (*Didelphis virginiana*), eastern mole (*Scalopus aquaticus*), eastern pipistrelle bat (*Pipistrellus subflavus*), eastern red bat (*Lasiurus borealis*), fox squirrel (*Sciurus niger*), eastern gray squirrel (*Sciurus carolinensis*), southern flying squirrel (*Glaucomys volans*), pocket gopher (*Geomys breviceps*), slender harvest mouse (*Reithrodonomys fulvescens*), white-footed mouse (*Peromyscus leucopus*), marsh rice rat (*Oryzomys palustris*), cotton rat (*Sigmodon hispidus*), packrat (*Neotoma floridana*), eastern cottontail *(Sylvilagus floridanus*), and swamp rabbit (*Sylvilagus aquaticus*). Bison (*Bison bison*) may have been present on nearby grasslands at various times in the past (Gadus and Howard 1990:15). Common turtles include eastern box turtle (*Terrapene carolina*), as well as snapping turtle (*Chelydra serpentinia*), mud turtle (*Kinosteron spp.*), river cooter (*Chrysemys concinna*) and diamondback terrapin (*Malaclemys terrapin*). Common lizards include green anole lizard (*Anolis carolinensis*), eastern fence lizard (*Sceloporus undulates*), skink (*Leiolopisma laterale*), broad-headed skink (*Eumeces laticeps*), six-lined racerunner (*Cnemidophorus sexlineatus*), and eastern glass lizard (*Ophiosaurus ventralis*). Birds, snakes and amphibians are also present in considerable numbers and diversity.

CULTURAL BACKGROUND

Southeast Texas Prehistory

The project area is located within the Southeast Texas archeological region (Patterson 1995; Story et al. 1990). Various syntheses of the archeology of Southeast Texas and the upper Texas Coast are currently available for interpreting the chronology, culture history, and lifeways of prehistoric and historic Native Americans (Aten 1983, 1984; Patterson 1985, 1995, 1996; Ensor 1990, 1991a, 1995, 1998; Shafer 1988; Shafer et al. 1975; Story 1981; Story et al. 1990).

Several researchers have compiled chronological frameworks to describe the cultural histories of the area (Aten 1983; Ensor 1991; Patterson 1995; Ricklis 2004; Shafer et al. 1975; Story et al. 1990). Most of these divide human occupation into four broad stages: Paleoindian, Archaic (Lithic), Late Prehistoric (Ceramic), and Historic. The stages are based on a proposed sequence of economic strategies as they are revealed through the archeological and/or historical record. These proposed shifts in dominant lifeways consider cultural, economic, and technological factors to provide a heuristic model useful for attempting to understand ancient and early historic populations. While the dates assigned to the period interfaces are based on "absolute" dating methods, they of course represent a generalized time range for the implied cultural evolution. All ages listed in the following discussion are presented as uncalibrated radiocarbon years before present (B.P.) with approximately equivalent calibrated (calendar) years before present presented afterwards in parentheses (cal B.P.).

Aten (1983:141-142) has divided the archeology of the upper Texas Coast into three periods: (1) Paleoindian (12,000 B.P. to 9,000 B.P., ca. 13,800-10,200 cal B.P.), (2) Archaic (9,000 B.P. to 3,000 B.P., ca. 10,200-3,200 cal B.P.), and (3) Late Prehistoric-Woodland (3,000 B.P. to 250 B.P., ca. 3,200-230 cal B.P.). These broad periods very generally correspond with periods of major environmental change, i.e., (1) the Late Glacial, (2) post-Pleistocene adaptations with concomitant economic reorientation and population increase, and (3) cultural adaptation to essentially modern environmental conditions (Aten 1983:141-142). However,

environmental studies, particularly those involving the Holocene (starting about 11,500 calendar years ago) have shown that climates and environments over this period often changed very abruptly, in terms of both temperature and precipitation fluctuations (Anderson et al. 2007; Mayewski et al. 2004). Such changes often had major implications for local and regional populations, and potentially have significant implications for the study of sites such as 41LB42, where environmental changes affected not only regional occupation sequences but also geologic deposits containing material records of those sequences.

Other researchers working in Southeast Texas have put forth a number of prehistoric sequences or artifact chronologies based on the available archeological data. The sequence proposed by Story et al. (1990) parallels those put forth by other researchers (Ensor 1990, 1998; Ricklis 2004; Shafer 1988). Projectile point sequences outlined and proposed by Patterson (1985a, 1991, 1995, 1996) diverge somewhat from the above chronologies in that a wider range of types from Central Texas are proposed as being an integral part of the Southeast Texas sequence. In addition, Patterson's beginning and ending dates, as well as period of duration and/or overlap for particular dart point/arrow point forms often deviate from estimates by the above researchers. This review will review the sequences proposed by Story et al. (1990) Ensor (1990, 1998) and Ricklis (2004) for the upper Texas Coast. A simplified alternative model for the later Holocene prehistory of Southeast Texas is also presented.

For the last 80 years, the Clovis prehistoric technological complex, defined by the use of a unique stone, bone, and ivory tool kit, has been considered the first culture to emerge in North America (Collins 2002; Haynes 2002). Evidence of archeological horizons stratigraphically underlying Clovis components are now well documented at many sites in the Americas (Adovasio et al. 1978; Adovasio et al. 1990; Collins 2014; Dillehay et al. 1997; Lowery et al. 2010; Goebel et al. 2008; Wagner and McAvoy 2004; Waters et al. 2011), including the Gault and Debra L. Freidkin sites in Central Texas (Collins and Bradley 2008; Waters et al. 2011). The archeological community has generally viewed Clovis as a highly mobile, specialized hunter-gatherer lifeway that spread across much of the Americas in less than one thousand years after humans first migrated from Beringia through the ice-free corridor between the Laurentide and Cordilleran Ice Sheets (Haynes 1964; Kelly and Todd 1988).

This conventional wisdom, however, does not agree with archeological material lately brought to light (Collins 2002, 2007; Dillehay 1997). Traditional models emphasize the heavy reliance that these groups placed on the hunting of the large mammals of the Pleistocene. Plant foods and small game undoubtedly supplemented this diet, and may have played a more prominent role than previously thought in Paleoindian diets (Black and McGraw 1985; Patterson 1995). The estimated time range for Clovis occupation in Texas has been pushed back based on data from the Aubrey site near Denton (Ferring 2001) and the Wilson-Leonard site in Central Texas (Collins 1998). A time range from 11,500 to 10,900 B.P. (ca. 13, 300-12,700 cal B.P.) is now estimated for initial Clovis occupation of North America by many Paleoindian researchers. Based on adjusted radiocarbon dates, Waters and Stafford (2007) have presented an adjusted date range that significantly restricts the Clovis time range to 11,050 to 10,800 B.P. (just before 13,000-12,800 cal B.P.), although this date range would reclassify well-documented Clovis sites such as the Aubrey Clovis site as pre-Clovis.

Traditionally, it has been thought that Clovis and Folsom points are followed in time by unfluted lanceolates such as Plainview, Golondrina, and Angostura. Notched and unnotched Dalton and San Patrice points occur in Southeast Texas and neighboring areas, and follow this early lanceolate tradition. However, work at the Wilson-Leonard site near Austin in Central Texas has produced evidence that a very early, stemmed form, called Wilson, follows the Clovis/Folsom occupations. An undefined component intervenes between the Wilson and Clovis occupations at Wilson-Leonard from 11,000-10,000 B.P. (ca. 11,500-12,800 cal B.P.) that most closely resembles Plainview or Folsom (Collins 1998). The Wilson period occupation (10,000-9500 B.P. or about 11,500-10,400 cal B.P.) is in turn followed by such lanceolates as St. Mary's Hall and Golondrina/Barber/Angostura, which date from about 9500 B.P. to 8800 B.P., or about 10,400-9,900 cal B.P. (Collins 1998:281). Plainview points are rare at Wilson-Leonard and may predate the St. Mary Hall's occupation as noted above.

In general, due to a paucity of older well-stratified sites, the Paleoindian stage remains poorly defined in Southeast Texas. Most Paleoindian evidence in Southeast Texas is represented by isolated surface finds of Clovis points or come from other poorly resolved contexts. Paleoindian points are occasionally found later prehistoric archeosediments commingled with younger materials in the region (Ricklis 2004). The McFaddin Beach site (41JF50) represents one of the largest known concentrations of Clovis points in Texas (and the nation), yet the primary context of these artifacts remains a mystery as the site is submerged somewhere offshore in the Gulf of Mexico (Hester et al. 1992). Other known Clovis sites such as Timber-Fawn (41HR1165) are small isolated occurrences that provide very little data (Crook, 2016).

Most Paleoindian occurrences in Southeast Texas can be attributed to the later Paleoindian period. These are primarily indicated by the occurrence of San Patrice/Pelican points and less frequently by Plainview and Angostura finds. Folsom points are scarcely known from Southeast Texas. Prevalent Late Paleoindian San Patrice and Pelican points (coeval and related to the Dalton Cluster of the Eastern Woodlands) (Ensor 1986) are thought to be related to Webb et al.'s (1971) types A and B which have also been termed Keithville, varieties A and B (Story et al. 1990; Webb et al. 1981). Expanding stem point-forms sometimes dubbed "Early Stemmed" appear to follow San Patrice in the Transitional Late Paleoindian to Early Archaic from at least 9,450 B.P. up to about 7,950 B.P. (ca. 10,400-8,800 cal B.P.). The relationship of stemmed Wilson points to corner notched and side-notched forms further east such as those reported at the Crawford site in Polk County (Ensor and Carlson 1988), at 41FB19 (Patterson et al. 1987) and elsewhere (Patterson 1996; Story et al. 1990) is unclear. Minimally, the two forms represent distinct hafting technologies that likely represent other, significant social and economic adaptations between these two periods. Goodyear (1982) suggests that the early corner/side notched forms, along with San Patrice points, most likely represent a widespread regional notched haft technology that is somehow associated with Early Holocene climatic events, an interesting proposition that should be evaluated through additional research.

These types in general are followed during the Early and Middle Archaic period by such expanded haft cluster types as Trinity, Yarbrough, and Carrollton in addition to Evant, Wells, Marcos, Hoxnie, Darl and Calf Creek Horizon types include Bell and Andice points. These point types are believed to date from circa 7,950 B.P. to 3,900 B.P. (ca. 8,800-4,400 cal B.P.) (Ensor 1990, 1998; Story et al. 1990) but they are very poorly dated. One significant reason for this lack

of temporal precision has to do with the generally poorly stratified nature of Southeast Texas deposits. Thin clay and sandy mantles commonly overlie earlier Pleistocene basal deposits; careful review of these upper strata indicates that they commonly lack significant time depth. The implication is that later, Holocene sediments may have been deposited onto and then eroded from landforms over and over, resulting in a general absence of well-stratified deposits. Additionally, bioturbation, for instance from rodent or insect activity, is a major factor for site disturbance. This combined with the generally acidic nature of these soils, which results in very poor organic preservation, means that older, intact, and potentially datable deposits are scarce in the region. Most sites with earlier remains tend to show these components as seemingly mixed deposits.

Still, these expanded haft cluster forms along with straight to slightly contracting stemmed Central Texas types Bulverde and Wells/Morrill points (Ensor 1998; Ensor and Carlson 1988; Patterson 1996) are also thought to fill a long temporal gap in the Southeast Texas Archaic sequence from about 7,950 B.P. to 3,900 B.P. (ca. 8,800-4,400 cal B.P.). Other Central Texas types such as Williams, Lange, Pedernales, and Travis also occur (Ensor, 1990, 1998; Howard et al. 1991; Patterson 1995, 1996). Around about 3,900 B.P. (ca. 4400 cal B.P.), the late Middle Archaic to early Late Archaic Palmillas type is introduced along with occasional Ensor and Ellis points and followed by the more ubiquitous Kent and Gary points during the Late Archaic/Early Ceramic periods (Ensor 1990, 1998; Story et al. 1990). Excavations at the Eagle's Ridge shell midden (41CH252), when coupled with data from Aten et al.'s (1976) Harris County Boy's School (41HR80) excavations, suggest that Kent points may be confined to the regional Late Archaic period from 2,800 B.P. (ca. 3,000 cal B.P.) to the beginning of the Early Ceramic (Clear Lake) period along the upper Texas Coast around 2,400-2,200 B.P. (ca. 2,500-2,210 cal B.P.) (Ensor 1998). Ensor (1998) suggests that Kent points occur as a regional lithic tradition focused on the exploitation of local quartzites and silicified wood gravels. This marks a distinct technological shift from earlier groups at that site who used a larger proportion of high quality cherts for biface manufacture from Paleoindian through Middle Archaic times. A similar pattern has been observed throughout Eastern Texas with the use of non-local exotic cherts prevalent during the Middle Archaic (Ensor and Carlson 1988; Fields 1995; Gadus et al. 1992; Pertulla and Bruseth 1994).

While no one culture adhered strictly to the use of a single raw material, there was apparently a shift from long distance regional chert procurement at the end of the Middle Archaic period to localized procurement during the Late Archaic and Early Ceramic periods at Eagle's Ridge and by inference much of the upper Texas Coast (Ensor 1998). Further to the north and east at the Alabonson Road (41HR273) site (Mueller-Wille et al. 1991), the percentage of silicified wood and quartzite versus chert used to make Kent points was the highest of all projectiles (about a third) even though chert was still the predominate material used in biface manufacture. This trend for an increase in chert use from east to west in Harris County has been noted by several researchers (Ensor 2003; Moore 1995; Patterson 1996) and appears to be a direct function of availability and ease of procurement.

Gary points appear to have been introduced at Eagle's Ridge and other upper Texas coastal margin sites around the end of the Late Archaic period (2,400-2,200 B.P., ca. 2,500-2,210 cal B.P.). Gary points are generally more finely flaked than Kent points and are closely related

technologically. Some might argue that the separation between the two is arbitrary. While Kent and Gary points share a close technological history (Weber 1991, Ensor 1991, Patterson 1996), and are closely associated with initial formation of the Mossy Grove tradition (Moore 1995), data from these Texas coastal margin sites demonstrate clearly that stratigraphic/chronometric separation may be feasible at some sites (also see Story et al. 1990:222 for a similar opinion). Further, the data from Eagle's Ridge clearly indicates that Kent points have a rather restricted temporal duration at this site since expanded haft cluster forms predominate at the virtual exclusion of Kent points in the lower portion of the midden. While some local variation may exist in the temporal distribution of these types in Southeast Texas, especially between inland and coastal sites, the preponderance of evidence to date suggests the above general sequence likely occurred over much of the area (Story et al. 1990). The question of Gary point or dart point extension into the Late Prehistoric and co-occurrence with arrow points is unresolved. Gary dart point types often occur even in the final stages of the Southeast Texas prehistoric sequence suggesting perhaps that atlatl propelled projectile systems may have persevered long after the adoption of archery.

Story et al. (1990) have noted a very generalized sequence for inland post-Archaic or Late Prehistoric sites. She refers to this as the Mossy Grove Tradition, which later formed the core of Moore's (1995) dissertation. Story et al. (1990) break with Aten (1983) and Shafer (1975) who referred to post-Archaic remains in Texas as Woodland. Southeast Texas has a unique culture history which does not fit with Woodland as commonly conceptualized elsewhere as evidence for plant domesticates are absent. Ensor and Carlson (1988) highlight the similarities between Goose Creek pottery and Gulf Formational sandy paste and sand tempered ceramics of Louisiana and the greater Southeast in terms of decorative modes and paste composition (Walthall and Jenkins 1976; Weinstein 1986). In fact, a developmental sequence from the Gulf Formational types Tchefuncte and Mandeville (Walthall and Jenkins 1976; Weinstein and Rivet 1978) to Goose Creek Plain *var. Anahuac* and *Goose Creek Plain* var. unspecified has been postulated by Ensor (1995, 1996, 1998) based on work at the Eagle's Ridge shell midden on the upper Texas Coast.

Archeological research at inland Mossy Grove sites has led to a two-fold division into an Early Ceramic period and a Late Ceramic Period (Ensor 1987, Ensor and Carlson 1991; Fields et al. 1983; Howard et al. 1991; Story et al. 1990; Winchell and Wootan-Ellis 1991). The Early Ceramic period lasts from about 1850 B.P. to 1150 B.P. (ca. 1700-1000 cal B.P.) and is characterized by sandy paste Goose Creek Plain pottery and Gary points while the succeeding Late Ceramic period, which lasts from about 1150 B.P. to 250 B.P. (ca. 1000-230 cal B.P.), is characterized by both sandy paste Goose Creek ware and grog tempered Baytown ware, as well as a variety of arrow point forms such as Scallorn, Alba, and Perdiz. Other aspects of post-Archaic period lithic technology are less well understood in Southeast Texas; however there appears to be an overall decrease in flake size from the Early Ceramic period to the Late Ceramic period (Ensor 1987; Ensor and Carlson 1988; Patterson 1985, 1995, 1996).

A Late Prehistoric period is often recognized in Southeast Texas following the general established chronological framework for Texas archeology. This differentiates Late Ceramic period assemblages in which evidence for the use of bow and arrows is apparent. Ricklis (2004), drawing heavily on the coastal record in the upper Texas coast, recognized an Initial Late

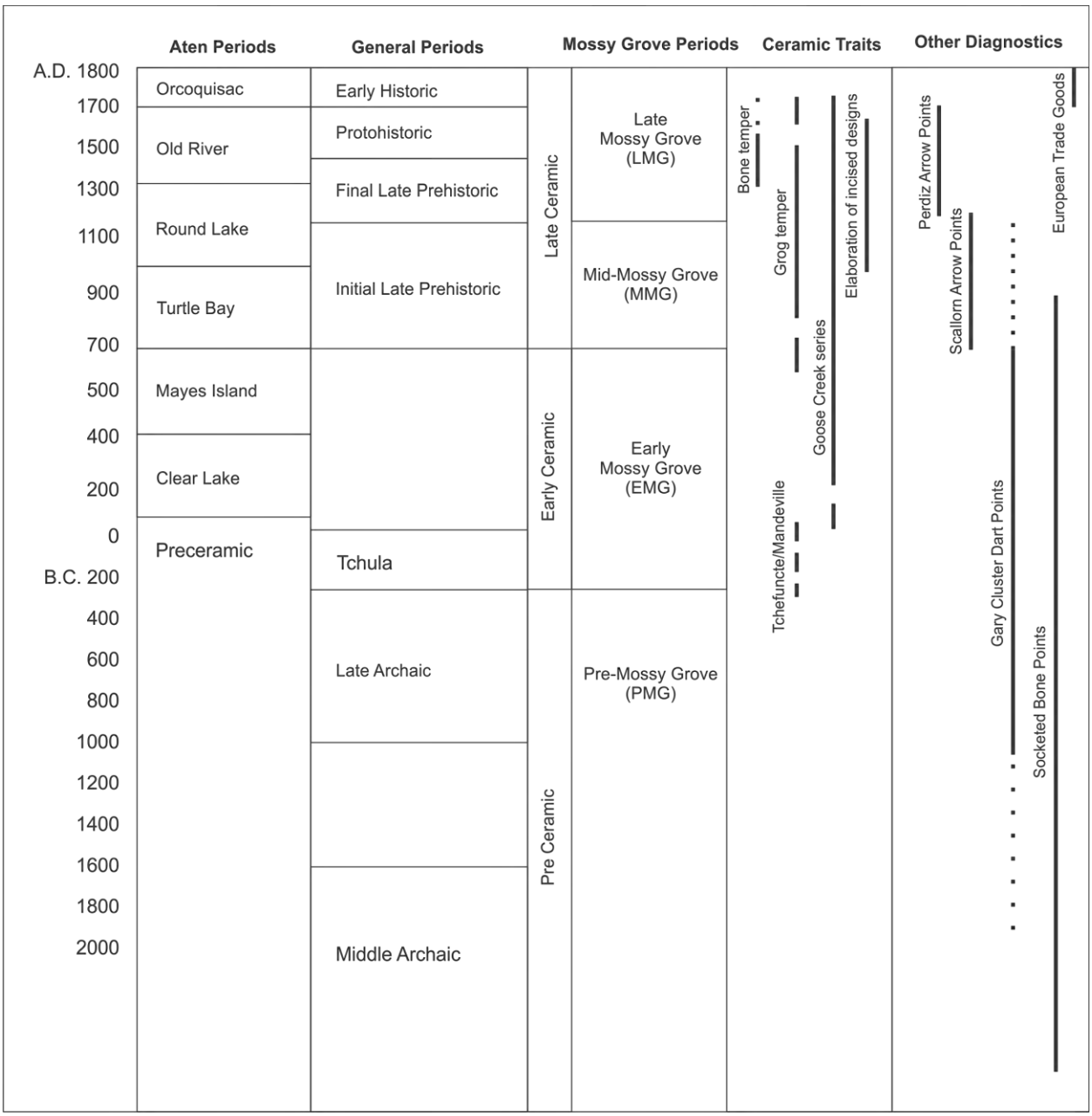

Figure 4. Revised culture history of Southeast Texas.

Prehistoric (Austin Phase) characterized by Scallorn, Alba and Catahoula arrow points, followed by a Final Late Prehistoric (Toyah Phase) characterized by the presence of bison, Perdiz arrow points, blade technology, beveled knives and drills/perforators made on flakes with expanded bases.

The Late Prehistoric chronology is useful to an extent, but like the Woodland appellation, it masks some important regional distinctions. Pottery is much more abundant in the Late Prehistoric of Southeast Texas than in the central parts of the state. This implies significant differences in the lifeways and mobility of Mossy Grove vs other Late Prehistoric Texans. In sum, the later Holocene prehistoric record of Southeast Texas is unique relative to patterned trajectories of neighboring regions. As such, it is best to model local culture history in its own

unique way. The last 2000 years or so of Southeast Texas prehistory is most clearly understood according to three Mossy Grove Phases corresponding to ceramic and lithic technological and social developments. An Early Mossy Grove (EMG) phase (synonymous with Early Ceramic/Tchula) begins with the appearance of ceramics following diffusion from the Lower Mississippi Valley. This lasts until the introduction of the bow and arrow (likely also from the Mississippi) which marks the Mid-Mossy Grove (MMG) phase (synonymous with Initial Late Prehistoric or Austin Phase). This is followed by a Late Mossy Grove (LMG) phase (synonymous with Final Late Prehistoric or Toyah) phase in which Perdiz arrow point bearing bison hunter cultures are common up to the earliest arrival of Europeans (Figure 4).

Archeological site distribution across the inland coastal prairie of Southeast Texas indicates that sandy, well drained-elevated soils along creeks and bayous were favored locales that were repeatedly occupied (Ensor 1987; Ensor et al. 1983; Fields et al. 1986; Freeman and Hale 1978; Moore 1995, 1996; Patterson 1985). The upland valley margins or scarps where older geologic deposits crop out above the floodplain were commonly utilized by Indigenous peoples (Ensor et al. 1983; Fields et al. 1986; Hall 1981; Moore 1995). The occurrence of sites far removed from a dependable water source on the upland prairie is rare (Ensor et al. 1983; Fields et al. 1986; Moore 1995, 1996). However, sites in the Greens Bayou drainage of eastern Harris County have shown a tendency to be located at greater distances from large streams than further west in Harris County (Ensor et al. 1990; Sanchez 2003). This suggests that a relatively stable environment has been in place across Southeast Texas for the past 4,000 years as noted above. The redundancy in site patterning noted by researchers along inland drainages is likely tied to intensive exploitation of the narrow band of riparian woodland that borders each stream (Ensor 1987). This patterning is may also be linked to elevated preservation potential of sites located within these floodplain environments.

Data from the Alabonson Road site (41HR273), as well as other inland sites, suggest that minimally a dichotomous breakdown of sites into longer-term residential base camps and shorter-term extractive sites is evident (Ensor and Carlson 1991; McReynolds et al. 1988a; Moore 1995). Moore (1995) further indicates that evidence of hunter-gatherer logistical activities (Binford 1980) within the riparian zone may indicate a more complex pattern of resource extraction and scheduling of day to day activities than would be expected in a pure forager model and that a three-tier system of residential base camps, residential bases, and locations or temporary extractive locales may best fit the observed data (Moore 1995:189-190). Establishing criteria that enable the archeologist to empirically separate and/or test the validity of these hypothetical site types should be a major goal of on-going research.

The upper Texas coast mortuary sub-region is represented by several Pre-Mossy Grove to Late Mossy Grove (i.e. Late Archaic to Late Prehistoric) sites. These include the Ernest Witte site (41AU36) and associated sites within the lower Brazos River Valley (Hall 1981), Dimond Knoll 41HR796), the Bowser site (41FB3), the Albert George site and others on Big Creek (41FB13), the Piekert site (41WH14), Shy Pond (41BO13/15), Shell Point (41BO2), Jamaica Beach (41GV5), Mitchell Ridge (41GV66), the Harris County Boys School (41HR80/85/86), the Spanish Moss Site (41GV10/53), the Galena sites (41HR62), the Kobs and Doering sites in Addicks Reservoir (Wheat 1953), Alabonson Road (41HR273), Blackhill Mound (41JF24) and the Gaulding site (41JF27). These sites range from massive cemeteries to isolated burials of one to a few individuals. The mortuary program reflected in burial style and grave goods found in

Southeast Texas is relatively constant from Pre-Mossy Grove to Post-Mossy Grove historic times. Burials consist primarily of extended and flexed inhumations with infrequent bundle and cremation burials. No regular pattern of burial orientation has been noted. Burials in Southeast Texas are occasionally found with accompanying grave goods which often include items such as: ochre, bifacial tools and points, groundstone objects such as boat stones, geometrically incised bone objects, shell bead necklaces and pendants, as well as glass beads in the protohistoric and historic periods near the end of the Mossy Grove Tradition.

While there is evidence of long-term stability in environmental conditions since the onset of the Late Holocene, there also exists paleoenvironmental and archeological data that suggest short-term environmental fluctuations. For example, the occurrence of bison kill sites across Southeast Texas (McReynolds et al. 1988b), often in association with Perdiz arrow points, the presence of prairie soils in now heavily wooded areas (Ensor et al. 1990), and pollen data indicating climatic fluctuation (Beck et al. 2001), all suggest such change. Both Patterson (1985a) and Ensor (1987) have posited that populations became more mobile during the Late Mossy Grover (Late Ceramic) period at inland sites, possibly related to a drier climate and the expansion of prairies and prairie species.

Regarding the coastal situation, Aten (1983) has subdivided the coastal Mossy Grove sites into five prehistoric periods (Clear Lake, Mayes Island, Turtle Bay, Round Lake, and Old River) and three protohistoric sub-periods (Old River (protohistoric), Early Historic Orcoquisac, and Late Historic) that span approximately 2,000 years along the upper Texas coast. These are primarily defined by a multi-site (coastal shell middens) seriation of different varieties of Mossy Grove pottery. The earliest of these is the Clear Lake period from 1850 B.P. to 1525 B.P. (ca. 1700-1450 cal B.P.) based on radiocarbon dating of early pottery assemblages. Tchefuncte, Goose Creek, and O'Neal ceramics predominate along with a minority of incised sherds. Gary dart points are often associated with Clear Lake period middens as are socketed bone projectile points (Story et al. 1990). Data from the Eagle's Ridge shell midden (Ensor 1998) suggests that Aten's (1983) subdivision the Clear Lake period into an early and late period based on varying amounts Goose Creek *var. Anahuac* and Mandeville pottery is correct. However, some need for refinement is in order based on data from Eagle's Ridge. At this site, Mandeville Plain/Stamped and Tchefuncte Plain/Incised/Stamped pottery dominate the early portion of the Clear Lake period from 2,400 or 2,200 B.P. to 2,000 B.P. (ca. ~2,350-1950 cal B.P.) or slightly later. Goose Creek Plain *var. Anahuac* dominates the latter portion of this period from 2,000 B.P. to 1600 B.P. (ca. 1950-1500 cal B.P.) or slightly later (Ensor 1998). Goose Creek Plain var. Unspecified predominates in post-Clear Lake contexts at Eagle's Ridge with a very small percentage of decorated ware along with a few arrow points.

Aten (1983) has noted that in the subsequent Mayes Island period from 1525 B.P. to 1300 B.P. (ca. 1450-1200 cal B.P.) that the ceramic assemblage consists almost entirely of Goose Creek Plain var. Unspecified with minor amounts of Goose Creek Incised. It has been surmised that stone dart points may have disappeared but that socketed bone points continue into this period (Story et al. 1990). The next period, Turtle Bay, runs from 1300 B.P. to 1050 B.P. (ca. 1200-950 cal B.P.). It is characterized by an increase in Goose Creek Red-Filmed and an elaboration of incised design motifs on Goose Creek Incised pottery (Aten 1983; Ensor 1995). It has been postulated that the bow and arrow first came into use during this period along the upper

Texas coast and that socketed bone points fell into disuse.

Baytown-related grog-tempered ceramics (Phillips 1970) first appear around 950 B.P. (850 cal B.P.) and mark the beginning of the Round Lake period (Aten 1983). Sandy paste Goose Creek ceramics decline during this period. The Phoenix Lake variety of Goose Creek, which is characterized by a dense grog paste, is thought to predominate by the end of this period at about 600 B.P. (ca. 500 cal B.P.). The appearance of Caddoan pottery in Southeast Texas around 950-650 B.P. (850-550 cal B.P.) has been used to suggest the presence of extended trade networks or migration during this time (Aten 1983). Perdiz arrow points are common and microlithic drills or perforators become more visible in the archeological record.

The final prehistoric period has been termed the Old River period by Aten (1983). It lasts from about 600 B.P. until 250 B.P. (ca. 590-230 cal B.P.) and is characterized by an increase in Goose Creek sandy paste pottery and the decline of Baytown grog tempered ceramics (Aten 1983). Bone tempered pottery is introduced and Perdiz arrow point become more pervasive during this period (Aten 1983; Ensor 1995; Story et al. 1990). The Old River (prehistoric) period is followed by the Old River (protohistoric) period, the Early Historic Orcoquisac period and the Late Historic period (Aten 1983).

The subject of Mossy Grove coastal settlement patterning has been discussed by several researchers (Aten 1983; Ensor 1987, 1998; Gadus and Howard 1990; Moore 1995; Patterson 1995, 1996; Story et al. 1990). Most would agree that beginning with the Late Archaic period or certainly by 2000 years ago that two distinct settlement systems were in place; a coastal and an inland pattern (Aten 1983; Ensor 1998; Ensor and Carlson 1991; Patterson 1995, 1996; Moore 1995; Story et al. 1990). The establishment of modern environmental conditions by 4,000 years ago over Southeast Texas seems to coincide with the establishment of an inland/coastal settlement dichotomy. Articulating different site types between coastal and inland settings and defining their range and variation has been somewhat problematic. Gadus and Howard (1990), based on work at Peggy Lake, suggest that longer term residential camps and shorter-term extractive camps (littoral harvesting stations) were present on the coast. This mirrors somewhat the longer-term Type I sites and shorter-term Type 2 sites defined for inland site types (McReynolds et al. 1988a). Story et al. (1990) describes a minimum of three site types in coastal settings (1) bay margin or barrier island camps, (2) shorter term sites used in transit between major sites (hunting/foraging camps), and (3) inland riverine camps that served as places to exploit fresh water stream, woodland, and upland prairie species (Story et al. 1990:268).

Patterson (1995, 1996) has postulated that a 15-mile wide strip along the coast was exploited by local populations and formed the basis of a littoral settlement pattern. Prior to the Late Archaic period, there is evidence that population densities were lower and that the need for social mechanisms to deter group movement between inland and coastal areas were diminished (Aten 1983). Evidence from Eagle's Ridge suggests that such movement did occur on a regular basis during the Early to Middle Holocene and that population densities were lower (Ensor 1998). The question of degree of interaction between coastal and inland groups, the position of group territories or boundaries, and how specific site types may relate to one another are unclear. Site patterning in Southeast Texas could also represent seasonal differences in settlement style by dynamic groupings of related populations (as opposed to separate inland and coastal

populations).

Southeast Texas History

In the 1500's, numerous French and Spanish expeditions occurred within the Trinity River area to establish a presence in the frontier. Cabeza de Vaca was marooned near Galveston in 1527 and wrote a detailed account of his travels. By the 1680's explorers such as Sieur de La Salle, began to travel up rivers from the Gulf Coast including the Trinity River, to establish settlements, including those at Fort St. Louis, and Matagorda Bay in 1685.

Over time the Trinity valley became an important contested region between the French and Spanish, with the former controlling Louisiana to the east and the latter well entrenched to the west. The Spanish's first interest in Southeast Texas began in 1519, when Francisco de Garay, the Governor of Jamaica, was mapping the Gulf Coast by ship from Florida to Tampico. The Spanish became aware of French activity in the region and began to increase their presence in the Trinity Basin, establishing missions including San Francisco de los Tejas in northeastern Houston County in 1690 (Moore 1982). Spanish attempts to evangelize the Caddoans and plains tribes largely failed and the missions along the Trinity River and the surrounding area were abandoned by the mid 1690's (Fehrenbach 2000; Moore 1982).

The Trinity River Basin was largely isolated before the 1700's. Although Indigenous including the Atakapa, Akokisa, Bidai, Karankawa, and Tonkawa occupied parts of Southeast Texas, it wasn't until the early 18th century that European settlements became firmly established (Aten 1983; Patterson 1995). Competition between the Spanish and the French resumed in 1715 after France established Natchitoches in western Louisiana, encroaching on Spanish territory. Spanish forces captured a French trading post established near the Trinity Delta (Chambers County) in 1754. Two years later the Spanish returned to this location and built Presidio San Agustin de Ahumada and Mission Nuestra Senora de la Luz del Orcoquisac. This Spanish settlement complex has been named "El Orcoquisac" after the Akokisa (Atakapan-speaking) groups who lived in this area.

After a few years, the situation at El Orcoquisac began to unravel. Leadership in the presidio was sorely lacking and the Spanish lacked the ability to provide local native peoples with economic value. By 1764 many Spanish soldiers had deserted the presidio. A military insurrection resulted in partial burning of the settlement. A hurricane in 1766 destroyed the mission and severely damaged the presidio. The presidio was later rebuilt in an adjacent location. By 1771 Spanish leadership ordered the abandonment of the El Orcoquisac complex due to its ineffectiveness and lack of strategic importance.

Europeans were largely absent in Southeast Texas for a time following the desertion of El Orcoquisac. The ruins at El Orcoquisac were used for several years afterwards as a meeting place by local native peoples. In the 1780s Alabama-Coushatta tribes began migrating westward into Texas from Louisiana and other parts of the Southeast. In 1803, the French sold the Louisiana Territory to United States, and shortly after in 1813, the Sabine River was designated as the western border of United States (Moore 1982). In 1805, the United States and Spain made an agreement that the land between the Arroyo Honda and the Calcasieu and Sabine Rivers would be neutral ground. This resulted in mixed settlement of Spanish, American, French and Indigenous groups.

Mexico gained independence from Spain in 1821, and with a change in government, came a change in settlement patterns in Southeast Texas. The Mexican government, unlike the Spanish, encouraged Americans to settle in the area by offering land grants and empowering people to organize the colonization. Stephen F. Austin was most prominent among such facilitators. Austin played a major part in settling hundreds of white families in East Texas and unifying the newly settled population (Moore 1982). Tensions between the newly arrived Texans and Mexican government grew over the course of several years culminating in the Texas Revolution in 1835. The Texas Declaration of Independence was signed on March 2, 1836 in Washington-on-the-Brazos, designating Texas as a Republic for the next ten years. In the following years, Texas saw a major population increase of Anglo-Americans (Moore 1982). Within that same year, boundaries were established for both Liberty and Harris Counties by the Texas Congress (Moore 1982).

In 1845 Texas became the twenty-eighth state of the United States. Americans from all around the south began pouring into the new frontier lands. The Board of Land Commissioners offered land grants, enabling many small farms, large ranches, and plantations to be established along local waterways such as the Trinity River. Along with the influx of Americans came an influx of slaves. The increased population of African American slaves were almost exclusively settled in the southeastern frontier of Texas, as this area was best suited for planation style farming of cotton and other crops with its lush soils and muddy rivers (Fehrenbach 2000). In 1861 Texas voted join the Confederacy in the Civil War. Although Texas saw little military action in the war; battles in Southeast Texas included the Confederate loss and recapture of Galveston in 1862-1863, and a failed Union attempt to capture Sabine Pass in 1863 (Moore 1982).

By 1870 Texas was once again part of the United States. For the next decade, Texas was in the era of reconstruction, with all authority residing in Washington D.C. During this time, the Texan economy was severely depressed and lacked transportation infrastructure to grow much beyond the local subsistence level. Many plantations continued to operate along the waterways of Southeast Texas with convict laborers leased from the Texas prison system. In 1872 railroads connected the region to more distant locales. This increased commercial farming, with cotton being the primary crop. Cattle farming also increased significantly, nearly doubling by the 1900's (Moore 1982). Industrialization began to flourish in the 1880's, not only with cotton, but also flour milling and lumber. Oilfields were also being discovered by the early 1900's in the Beaumont area and drove Texan industrialization for the foreseeable future. In 1890 the first oil refinery was built in Corsicana, which led to the production of natural gas, hitting its height with the discovery of the panhandle gas field in 1927. Petroleum products became the base of Texas economy (Moore 1982).

Capers Ridge Landowners Record

Research on the landowners of the Caper's Ridge area was carried out at the Sam Houston Regional Library and Research Center in Liberty Texas, the Liberty County Courthouse, and various on-line genealogy and Texas history websites. Resources included historic maps, Assessor's Abstracts, Deed Records, Census Records, and the Liberty County Collector's Tax Receipt Register.

After Mexico gained its independence from Spain in 1821, *empresarios* (land agents or land contractors) were licensed by Mexico to settle American colonists in east Texas, and a system of handing out land grants was expanded. After Moses Austin's death in 1821, his son, Stephen F. Austin took over his father's grant, which included permission to settle 300 families in Texas. Although Joseph Vehlein had received an *empresari*o contract from the Mexican government in 1826 in for the Trinity River area, he was largely unsuccessful at settling the region by himself. Vehlein, along with two other *empresarios*, David G. Burnet, and Lorenzo de Zavala, formed a unified area (3,743,163 acres) in East Texas, lying between the San Jacinto and Sabine Rivers and taking in the entire lower Trinity area (Moore 1982). On October 16, 1830, the three men transferred their contracts to the Galveston Bay and Texas Land Company (Moore 1982). The company was a real estate promotion firm that did not actually own any land, but was set up to sell scrip to settlers so they could move onto the land allotted to the three *empresario*s (Henderson 1926).

Up until the Texas Revolution in 1836, more and more immigrants settled in the Lower Trinity region, building small settlements across the area and often arriving without permission from Mexican authorities. Settlers planted corn and sugar cane, and raised cattle (Partlow 1974). William Whitlock was the first white property owner in the Capers Ridge area, and appears to have arrived in the area about 1823. Whitlock had originally been part of Stephen F. Austin's "Old Three Hundred", the group of early white settlers that established Austin's colony in what would later become the state of Texas.

Records show Whitlock (along with several others) signed a plea sent to the Commander in Chief in the early 1830s, asking for a land commissioner to come and survey the district and issue valid title to the land they occupied, as they had arrived before the general colonization law of August 18, 1824 (Partlow 1974). Whitlock gained title in 1831 to a league of land (totaling 4,428 acres) on the west bank of the Trinity River (Figure 5). He died in 1835, and his estate later sold the "Upper ¼" of the league to brothers Luke and Kindallis Bryan in 1839.

Luke Bryan (1807-1869) had been a soldier in the Army of Texas, and fought in the Battle of San Jacinto. He was listed as a "sugar boiler" (i.e. a helper at a molasses plant) in the 1850 census, later became a census-taker for Liberty County for the 1860 census, was a US Marshall, and a Sheriff for the County of Liberty in 1866. Kindallis "King" Bryan (1818-1866) was also a soldier, fighting in the War for Texas Independence before becoming a farmer and rancher. He also served as Sheriff for the County of Liberty and State Representative in the Texas House of Representatives before the Civil War.

The "Upper ¼" was then sold in 1838 for $100 to Pryor Bryan (1810-1873), another brother of Luke and Kindallis Bryan. Pryor Bryan also fought in the Texas Revolution and the Civil War. Pryor Bryan married Mary Anjelica Merriman Bryan, (1817-1861) and had several sons and daughters, often listed as having the surname "O'Bryan" in census records. In an article published by the Texas State Genealogical Society in 1982, ninth-grade students at Liberty High School researched the people buried in the Bryan-Neyland cemetery. Under the entry for Luke Bryan, it is written "..in early life, Mr. Bryan, owned and managed a plantation along with his brother Pryor. This land (worth $1500) was passed on to Pryor who left it to his youngest

Figure 5. 1862 Liberty County Map showing William Whitlock property and inferred location of Capers Ridge and 41LB42 (The Portal to Texas History and Texas General Land Office, texashistory.unt.edu/ark:/67531/metapth88780/: accessed June 2, 2017).

daughter, Jessie Laura daughter, Jessie Laura Bryan Williams" (Texas State Genealogical Society 1982).

Jessie Laura O' Bryan (1847-1927), married Cpt. Watson Dugat Williams (1838-1881), who fought in the Confederate Army and later became a successful Liberty businessman and publisher of the "*Star State*" newspaper, as well as the mayor of the town of Liberty from 1875 to 1876. He is also recorded as being a slave owner. Jessie Laura Williams and Ophelia A. Bryan (widow of John Kindallis O'Bryan, Jessie's brother) sold the property (now listed as 100 acres in the NE corner of the original tract) for $100 to Jesse Wells in 1883.

Jesse (also spelled Jessie and Jessee) Wells was the son of Theophilus (or Theophalus) and Cynthia Wells, originally from Virginia, though Jesse and some of his siblings were born in Liberty, Texas. Fifteen of the 100 acres were tilled for corn and other crops, while other parts of the property were used for keeping livestock including horse, cattle, pigs and chickens. Jesse married Amanda Jett Wells, who gave birth to 11 children, only six of whom lived to adulthood. Jesse was apparently shot and killed by Martin Harrell in 1896 (Cleveland Advocate, 1926). Amanda then managed the 100 acres herself for many years, appearing on the 1900 Census as a farmer and single mother. One of her daughters, Ada Louise Wells Sloan (1875-1960), is listed as living two properties down from Amanda Wells in the same census.

Amanda remarried sometime between 1904 and 1905 to Reuben Manson Harmon (or Harman) (1851-1929). In 1913, she sold the 100 acres to her son, Ben Wells (1889-1918). However, Ben died in 1918 of pneumonia, and apparently Amanda Wells Harmon then re-asserted ownership of the property. It appears that Mrs. Harmon sold half of her interest in the 100 acres to her daughter Ada Louise Wells Sloan for $250 in 1942, but by 1944 Mrs. Harmon is listed as owning the entire 100 acre tract again. Various land leases of the tract to oil companies appear in the records in the 1930s and 1940s.

In 1947 or 1948 the land (now listed as being 160 acres, or a ¼ section), passed to David. L. Winzer, husband of Sarah Jane Wells Winzer (1877-1964), who was one of Amanda's daughters. Mrs. Harmon appears in the tax records from 1949-1951 as paying the taxes on the property, even though she passed away in 1948. In total, Mrs. Harmon retained control of the property nearly continuously from 1896 to 1947, a period of 51 years. In the early 1950s, David Winzer reappears in the records, and appears to begin to sell 10 acre parcels of the property to various landowners, including Arthur L. Coleman and Mrs. H.O. Bettick.

No maps are available to derive any information about where structures were located on the property. A USACE map from 1921 shows nothing built in the area of the ridge, and neither does an undated map showing the Ben Wells tract within the larger William Whitlock tract. Judging from land ownership records, this map was produced at some point between 1913 and 1918. However, farm structures associated with livestock and farming, along with a house, would have been present from the 1870's to at least 1905 (Moore 1982). The property was utilized throughout the twentieth century as hunting and fishing property. In advance of the Luce Bayou Interbasin Transfer Project, the Coastal Water Authority acquired Capers Ridge and the surrounding lands from Lee Casey within the past decade or so. No evidence of structures appear on aerial photographs available through Google Earth (1984-2017).

FIELD METHODOLOGY

Archeological monitoring was conducted during all mechanical scraping activities within the presently defined APE at site 41LB42 from February 28 to March 24, 2017. Fieldwork was directed by Stephanie Orsini, with a crew of two technicians, Jim Lindsay and Michael Hogan, and one tribal monitor from Alabama-Coushatta tribe of Texas, Nathan Williams. The objectives of the project were to scrape the APE within the site boundary to subsoil and to identify and document any cultural material, especially human remains.

Scraping was done with a track hoe (provided by CWA and operated by Mr. Cody Gothard) fitted with a straight-bladed cleanout bucket (approximately 3 ft., 0.9 m wide). Excavation within the APE proceeded by carefully stripping thin cuts (approximately 5-10 cm) across the entirety of the pipeline ROW. Scraping activities were structured within the APE so that archeosediments were stripped and displaced (i.e. piled up) systematically and area coverage was comprehensive. This work involved vigilant monitoring of track hoe scraping as it occurred, manual raking of the disturbed sediments to enhance visibility, and recording of in situ archeological features as they were identified. Fieldwork was staffed with sufficient MAC personnel (n=3-4) to allow simultaneous monitoring and hand excavation/recordation of features. Special attention was given to monitoring the high potential, northeastern portion of the APE (cemetery zone) within 41LB42 in which the densest, deepest cultural deposits and human remains were previously identified. The cemetery zone was given a buffer of about 185 meters (east to west) by 90 meters (north to south). This area encompasses most of the data recovery block previously excavated by MAC in 2014 (see Figure 2).

Using a hand-held Trimble Geo7X GPS unit, the centerline of the pipeline right-of-way (ROW) was demarcated using stakes based on shapefiles supplied by the CWA. The north and south boundaries of the ROW were generated manually by measuring 40 feet both to the north and south of the centerline (a total width of 80 feet). The northern half of the ROW was scraped first from west to east, stopping at the edge of the cemetery zone. The southern half was then scraped in the same fashion, followed by the excavation of the part of the ROW that cuts across the cemetery zone in the final weeks of the project. The order in which certain areas were scraped was organized around the weather, as it was not ideal to excavate in the cemetery zone when heavy rain was forecasted. All sediments removed from the ROW were piled on the northern side of the trench to prevent soils from washing back into the trench from rain. Archeologists also walked over the soil piles daily to check for any cultural remains that may have been missed in the initial scraping.

When a feature was identified, the track hoe ceased work in the immediate area until the deposit was exposed by hand excavation and fully documented. In instances where feature boundaries were diffuse, an arbitrary unit was centered on the cultural material. Smaller areas within units were excavated until subsoil was reached or they became sterile in order to delineate the extent of the features. All soils with in features were screened using ¼ inch screens. Temporary datums were established for all units. Datums were placed at the ground level of one corner of the unit. Site 41LB42 is located on a ridge, and therefore the ground level of one corner of a unit, was not the same as the ground level at the other corners, hence the use of centimeters below datum (CMBD) opposed to centimeters below surface (CMBS) in this report.

Figure 6. Mechanical excavations of pipeline ROW within 41LB42. Above facing east, MAC data recovery excavations were located near the vehicles in background. Below facing north.

The locations of all features observed during these activities were recorded with a hand-held Trimble Geo7X GPS unit and drawn and or photographed. Plan and profile maps of all applicable features were generated and maintained. Stephanie Orsini, a professional

osteoarcheologist was present at all times during this work for the purpose of human vs. non-human bone identification. Log books were maintained by MAC archeologists recording all monitoring elements, and the results thereof. All field forms and paperwork for this project were completed digitally using custom forms on an iPad running the PDF Expert application. All line drawings were made on the iPad in the field using the Graphic application.

In order to minimize sub-surface impact within the cemetery zone of 41LB42 all tree stumps in the immediate area were left in place. Tree stumps and roots outside the cemetery zone of 41LB42 were pulled by a track hoe and inspected by MAC archeologists. Following MAC recommendations, the CWA hired a stump removal company to grind down stumps within the 41LB42 cemetery zone (Figure 7). MAC project archeologists Randy Ferguson monitored this work on April 5th, 2017. Approximately 25 stumps were ground down at 41LB42. No cultural remains were observed during or following this operation.

Following mechanical scraping at 41LB42, slope stabilization measures of the cemetery zone became necessary as heavy rains and lack of vegetation led to erosion. Final stabilization will take place after pipeline installation. However, the CWA has undertaken temporary measures to ensure the archeosediments within the 41LB42 cemetery zone are preserved. The area was compacted with a steel drum roller and seeded to promote vegetation growth.

Given the abundance of material culture that has already been recovered from 41LB42, the artifact collection policy for this project was to only recover and curate high value samples such as diagnostic artifacts and bone. Isolated cultural material was recorded on site and returned to the matrix from which it came. Archeosediments were only screened as part of the work associated with documentation of features. All materials collected and records generated have been prepared by MAC for permanent curation at Sam Houston Memorial Museum, Huntsville.

Figure 7. Tree stump grinding was carried out to preserve high value deposits identified during MAC data collection at 41LB42.

RESULTS OF FIELD INVESTIGATIONS

Mechanical excavations in the LBITP pipeline alignment within site 41LB42 yielded relatively few finds. Approximately 47 artifacts were recovered during this project (Appendix A). Most finds came from four features (Features 25-28) and consist primarily of Goose Creek Plain sherds (n=24) and lithic debitage (n=16). A single sherd with coarse sandy paste was identified as Alexander Series (O'Neal Plain *var. Conway*) pottery. The lithic material recovered in this work, did not include new diagnostic or otherwise informative specimens. Three deteriorated animal bone specimens were documented including a possible burnt ungulate cheek tooth (deer?). In all the material culture observed during this project yielded no significant additional information about site 41LB42.

Geoarcheological Observations

Mechanical excavations in the revised pipeline alignment within 41LB42 revealed relatively thin surficial soils overlying Beaumont Formation clay deposits. The contact between the loamy soils and clay sub-soil undulated across the alignment. Very thin soils (<30 cm thick) were observed along the westernmost edge of the alignment. Soils near the center of the alignment were somewhat thicker (~50 cm), while those observed furthest east tended to be thickest (50-250 cm). A thickness gradient was also observed across the north-south axis of the alignment excavation. Soils exposed in the north wall of the excavation near the toe slope of Capers Ridge, tended to be much thicker than those observed on the south wall cut in the mid slope area (Figure 8). Three north-south oriented gully-like features were encountered across the alignment. These were best expressed in the north wall and ranged from relatively narrow and shallow geomorphic features, to broad and deep. These deposits appear to represent relatively recent geomorphic processes as they are largely devoid of prehistoric material culture. Moreover, the coffee cache (Feature 25) was found associated with one of these sediment bodies. Overall, most sediments encountered during these investigations appear to have represented reworked or eroded deposits with little material culture and little archeological value.

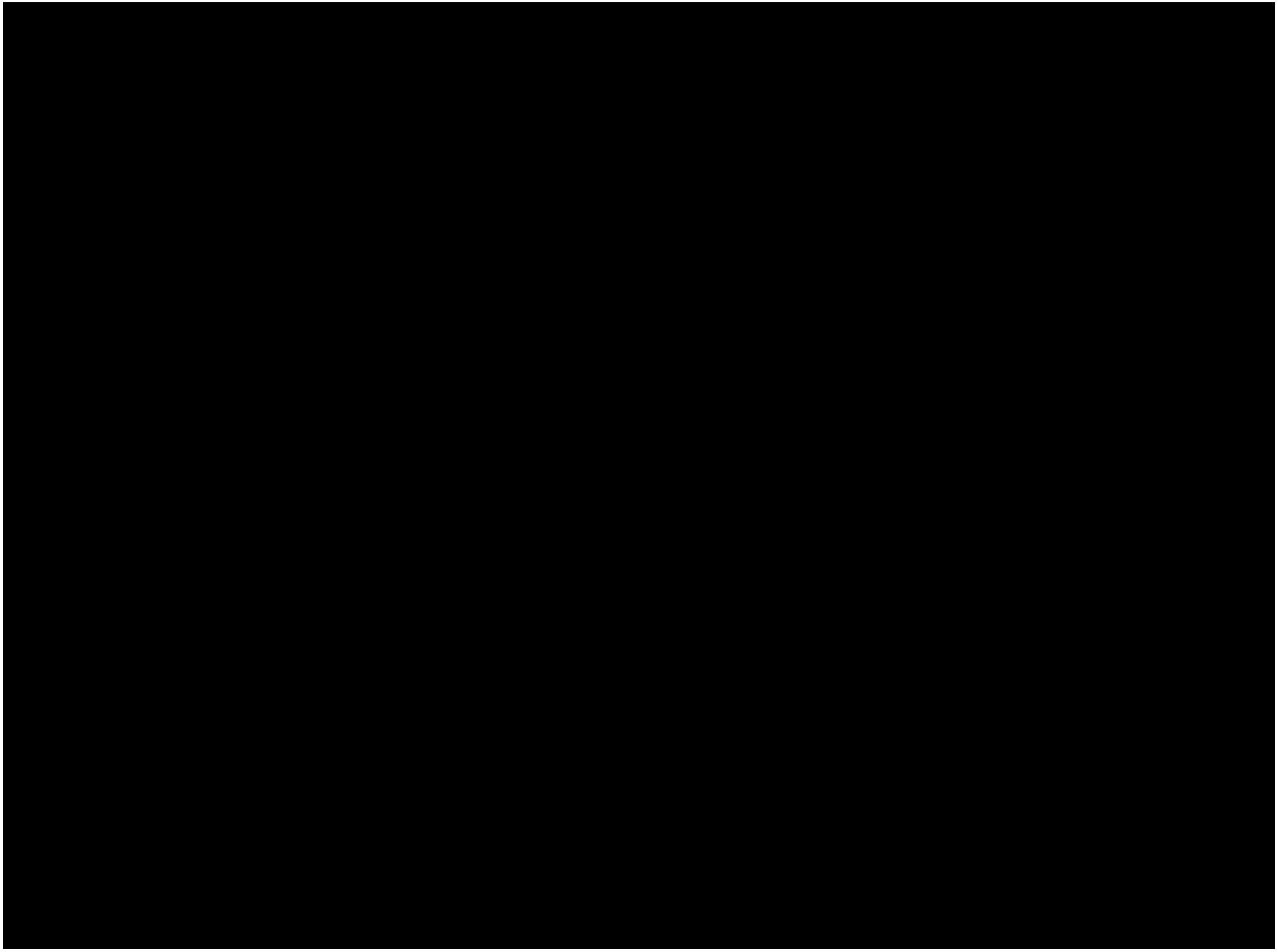

Figure 8. Stratigraphic logs of excavation cut (northern face) showing variation in unit thickness across pipeline.

Figure 9. 41LB42 site map showing location of features (F25-F28) identified during current work.

FEATURE SUMMARY

Mechanical excavations at 41LB42 resulted in the identification of four additional features (Features 25-28). Seven features (Features 1-7) were recorded at 41LB42 during the testing phase and seventeen features (Features 8 through 24) were identified during the data recovery excavations (Driver and Moore 2014; Gilmer et al. in press). These features were categorized by form and perceived function as hearths, miscellaneous artifact concentrations, "pot drops", mussel concentrations, and human burials. A total of six hearths, one pot drop, two pottery concentrations, one miscellaneous artifact concentration, one hearth with an associated artifact concentration, one mussel shell concentration, and two burials were identified during the data recovery. Three of the features (Features 8, 12, and 20) initially identified by MAC were determined not to be natural rather than cultural features.

The features identified during mechanical excavations at 41LB42 include one mid-20th century coffee cache, two clusters of prehistoric artifacts (one associated with an apparent hearth) and one natural feature identified as a root burn. The new features were distributed throughout the alignment area where mechanical excavations occurred (Figure 9). These finds add little additional information on the site compared to those recorded previously during MAC testing and data recovery at 41LB42. The features observed during this investigation are detailed

further below. Excavation features related to previous MAC investigations (i.e., trench cuts) were also encountered and were documented during this project (Figure 10).

Figure 10. Previous MAC testing trenches encountered during work outlined in white. Above MAC testing trench 106, facing east. Below: MAC trench 103 facing north.

Feature 25

Feature 25 is an apparent cache of ground coffee which appears to have been buried within 41LB42. It consisted of a 55-gallon steel drum, filled with glass jars containing ground Duncan Coffee (Figure 11). A minimum of thirty jars were identified. Seventeen jars were complete and 13 broken bottle necks were observed. The jars appear to have been sealed when they were deposited (although approximately half appear to have been broken prior to discovery). The jars contained Duncan Coffee and small cellophane labels which identified the brand. The coffee from the broken jars produced a strong rotten odor while the coffee in the unopened jars smelled stale.

The coffee jars were clear glass mason jars with screw lids and a tin two-piece lid. The lids had a rubber grommet which created a vacuum seal. The jars were 17cm tall and from 10cm at the narrowest point to 11.5cm wide at the widest extent. The lids were 7.5cm in diameter. It was difficult to identify a maker's mark on the bottom of the jars but it appeared to be Ball with a style that was manufactured between 1933 and 1962 (Brantley 1975; Lockhart et al. 2013; Toulouse 2001). The ticket labels had an offer for a free jar of the Duncan Coffee Company's "Admiration" coffee, one of the two popular coffees (the other being "Bright and Early"), with 6 copies of the tickets.

The Duncan Coffee Company was founded in Bellville, TX in 1918 and is still in operation (Duncan Coffee Company 2017). There was an advertisement for a missing persons radio show that listed six different stations on the tickets found within the coffee jars. The radio stations were founded from 1922 and December of 1949. The date of the radio stations and the maker's mark leaves us with a probable date of manufacture between 1950 and 1962 (Shannon 2016; Texas State Historical Association 2017; Valiant 2004).

The explanation for Feature 25 is unclear. The barrel appears to have been purposely buried on its side with the coffee jars stacked on top of one another. The coffee may have been cached this way to keep it fresh, like a root cellar, or to keep it away from animals. Feature 25 may be associated with mid to late 20th century hunting paraphernalia (e.g., old hunting blinds) found scattered in and around Capers Ridge.

Figure 11.. Feature 26: an oil drum filled with jars containing coffee.

Feature 26

Feature 26 initially presented as an apparent thermal feature containing calcined bone (Figure 12). Due to the previous discovery of cremated human remains at the site (Gilmer et al in press), the MAC crew proceeded with caution. Charcoal was observed throughout the feature. Once more thoroughly exposed, the bone was identified as a heavily worn adult artiodactyl molar (possibly deer). Feature 26 included a sparse amount of apparent burned clay, which was determined to be non-cultural. Iron/Manganese concretions were also observed at the bottom of the feature. An animal burrow, filled with pale brown sand, was noted in the center of the feature near the faunal remains. Ultimately Feature 26 was judged to be a non-cultural, natural, burned taproot and animal burrow. No artifacts were recovered from Feature 26

Figure 12. Feature 26: an apparent root burn in plan view. No artifacts were associated with this feature.

Feature 27

Feature 27 was located at the edge of the top of the knoll, where it begins to slope downward from the south-southwest to the north-northeast at a 12-degree angle (Figure 13). The feature is directly (<2 m) west of backhoe trench 101, excavated during MAC testing at 41LB42 (Driver and Moore 2014). Feature 27 is also situated less than seven meters north of excavation unit 16 (MAC data recovery) and the adjoining unit 7 (MAC testing). This location falls near the northern shoulder of the paleo-gully microbasin identified by Frederick and Gregory (2014) and may be associated with one of the identified paleosols/stable occupation surfaces 1 or 2 (Figure 12).

Feature 27 is an apparent artifact cluster, much like those identified in adjacent excavation units 7 and 16 (Features 4, 5, 11 and 13). The feature was first identified when an isolated debitage specimen was identified in the back dirt near active scraping. Hand excavations in the presumed source area, subsequently exposed Goose Creek Series pottery sherds. A unit 3 m wide by 1.7 m long was excavated to delineate the edges of this clustering. The length (1.7 m) was

limited by the edge of the project pipeline ROW. A diffuse concentration of artifacts was observed in this area at depths between 30 and 50 cm below the ground surface. A total of 32 artifacts were associated with Feature 27, including 26 sherds, 5 lithic flakes/flake shatter and one faunal specimen. The latter bone specimen could not be identified, but was recovered less than 10 cm from the surface and does not appear to be cultural.

Figure 13. Feature 27 facing south depicting pedestaled artifacts in situ.

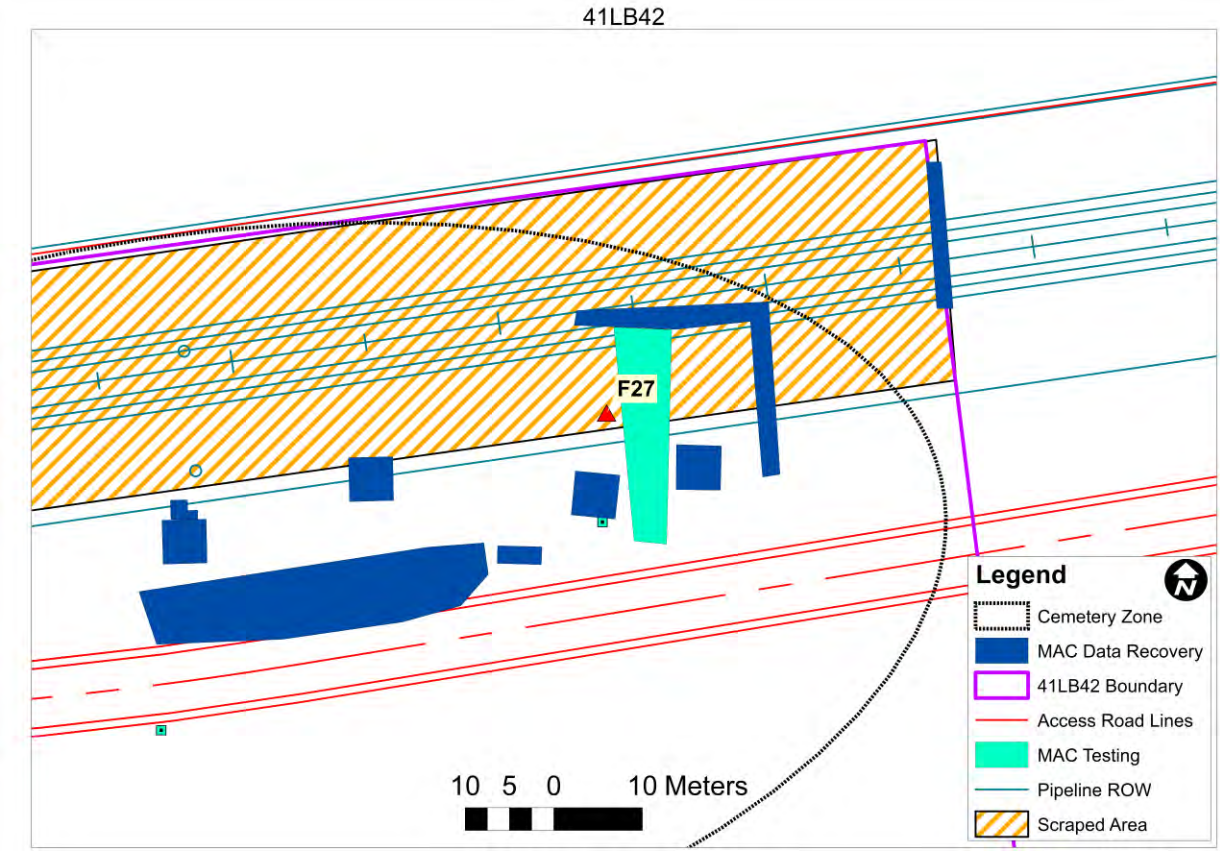

Figure 14. Location of Feature 27 relative to high density find area from previous MAC investigations at 41LB42.

Feature 28

Feature 28 is located in the southern part of the LBITP ROW near the midpoint of 41LB42 (Figure 15). The feature is approximately 50 meters west of the area excavated as part of MAC data recovery efforts. Feature 28 is a scatter of artifacts associated with a possible hearth. This feature was identified first as a distinct color change in the southern wall of the ROW scraping. Subsequent efforts to expose this organic rich concentration resulted in the discovery of two Goose Creek Series sherds and several lithic flakes. These were recovered from an area 2.5 m wide by 90 cm long (Figure X). Numerous root casts and burrows were observed in the immediate area and this feature appears to be associated with a buried, but bioturbated paleosol.

Unit F28 is 2.5 meters in length (E-W) and 90 cm in width (N-S). Excavations began by clearing the entire unit down to the mottled layer. Hand excavations proceeded through an organic layer in a small test area 75 cm (E-W) by 90 cm (N-S) on the east side of the unit and then into the sub soil in an even smaller area in the 45 cm segment to ensure the underlying clay was sterile. Excavations then moved to the western side of the unit to investigate the organic layer because it was slightly darker in color. The apparent hearth was fully excavated to ensure there were no human remains, and then the unit was cleaned and photographed.

Figure 15. Plan view of Feature 28.

A total of 9 artifacts, including isolates and screened artifacts, were associated with Feature 28, including 2 ceramics, 7 lithics, and one charcoal carbon sample. Two 2-liter soil sample were also collected, one from the general area of the feature and one from the fire pit.

CONCLUSIONS AND RECOMMENDATIONS

Relatively few cultural materials were encountered during the current MAC investigations at 41LB42. The artifacts observed consist of non-diagnostics types (e.g., Goose Creek Plain body sherds) which are consistent with those encountered during previous MAC investigations at Capers Ridge. These results demonstrate that the revised LBITP pipeline alignment within 41LB42 was a sound and effective solution to significantly reducing project impact to the high value portions of the site (i.e., the southeastern ridge centerline or cemetery zone). Frederick and Gregory's (2014) preliminary report on the geoarcheology of 41LB42 presents critical information which informed the relocation of the LBITP pipeline north of its original proposed alignment. This action precluded disturbance to the cemetery zone and much of high integrity portions of the site that would have been impacted by the initial alignment. Only the southwestern portion of the alignment within 41LB42 near the cemetery zone (i.e., Feature 27, see Figure 12) appears to have disturbed cultural features similar to those identified in earlier excavations. Previous MAC investigations and geotechnical borings by CWA predicted that two-thirds or more of the site area within the revised LBITP alignment would consist of a shallow remnant zone (often less than 50 cm thick) of loamy deposits overlying ancient, sterile natural clay. These expectations were largely supported by our observations. Much of the excavated right of way consisted of shallow soils and deeper soils on the toe slope of Capers Ridge which appear to represent recent (i.e., mid-20th century) gullying along a north-south axis.

None of the sediments displaced by mechanical excavations within the revised pipeline alignment at 41LB42 appear to have held significant archeological remains. The small number of artifacts observed is likely related to methodological concerns (i.e., limited use of screens), yet the equally low frequency of cultural features suggests that the overall observed pattern of low density materials is accurate. Even if a significant quantity of cultural material were displaced

during the current excavations, most evidence suggests that the deposits themselves have limited archeological integrity and resolution.

The east centerline of Capers Ridge at 41LB42 preserves largely intact archeosediments and a Native American cemetery. Impacts to this area have been minimized by relocating the LBITP pipeline alignment and limiting sub-surface disturbance in this area. MAC and the CWA worked together to grind rather than pull tree stumps within the cemetery zone to minimize disturbance to these deposits as much as possible. Following the mechanical excavations and backfilling, some erosion control measures were required to stabilize a portion of the cemetery area immediately adjacent to the pipeline alignment. Continued vigilance will be required to extend efforts to minimize erosion and further disturbance of human remains at 41LB42. MAC recommends that any subsequent work in this area be monitored by an archeologist to ensure that these high value archeosediments are preserved and unmolested. No further work aside from monitoring is recommended outside the cemetery zone (as defined here) at 41LB42.

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APPENDIX A

Table 2. All artifacts observed during mechanical excavations at 41LB42.

Ascension No.	Artifact No.	Context	Artifact Class	Type	CMBD	Count
1		Backdirt	Lithic	Debitage	-	2
2		Backdirt	Lithic	Debitage	-	1
3		Backdirt	Lithic	Debitage	-	1
4		Backdirt	Lithic	Debitage	-	1
5	Isolate 1	Surface	Lithic	Retouched Flake	-	1
6	Isolate 5	Surface	Lithic	Debitage	40-80	1
7	F26.1	Feature 26	Carbon Sample		-	1
8	F26.2a	Feature 26	Animal Bone	Tooth	-	1
9	F26.2b	Feature 26	Animal Bone	Bone powder	-	1
10	Isolate 2	Feature 27	Ceramic	Goose Creek Plain	-	1
11	Isolate 3	Feature 27	Ceramic	Goose Creek Plain	40-42	1
12	Isolate 4	Feature 27	Ceramic	Goose Creek Plain	28-30	1
13		Feature 27	Ceramic	O'Neal Plain *var. Conway*	28-35	1
14	F27.1	Feature 27	Lithic	Debitage	28-35	1
15	F27.2	Feature 27	Ceramic	Goose Creek Plain	28-35	1
16	F27.3	Feature 27	Ceramic	Goose Creek Plain	28-35	1
17	F27.4 & 5	Feature 27	Ceramic	Goose Creek Plain	28-35	1
18	F27.6	Feature 27	Lithic	Debitage	28-35	1
19	F27.7	Feature 27	Ceramic	Goose Creek Plain	36	1
20	F27.8	Feature 27	Ceramic	Unidentified	40-45	1

Ascension No.	Artifact No.	Context	Artifact Class	Type	CMBD	Count
21	F27.9	Feature 27	Ceramic	Goose Creek Plain	40-45	1
22	F27.10	Feature 27	Ceramic	Goose Creek Plain	40-45	1
23	F27.11	Feature 27	Ceramic	Goose Creek Plain	40-45	1
24	F27.12	Feature 27	Ceramic	Goose Creek Plain	40-45	1
25	F27.13	Feature 27	Ceramic	Goose Creek Plain	58	1
26	F27.14	Feature 27	Ceramic	Goose Creek Plain	46	1
27	F27.15	Feature 27	Ceramic	Goose Creek Plain	52	1
28	F27.16	Feature 27	Ceramic	Goose Creek Plain	44	1
29	F27.17	Feature 27	Ceramic	Goose Creek Plain	51	1
30	F27.18	Feature 27	Ceramic	Goose Creek Plain	5	1
31	F27.19	Feature 27	Ceramic	Goose Creek Plain	63	1
32	F27.20	Feature 27	Ceramic	Goose Creek Plain	63	1
33	F27.21	Feature 27	Ceramic	Goose Creek Plain	30	1
34	F27.22	Feature 27	Ceramic	Goose Creek Plain	22	1
35	F27.23	Feature 27	Ceramic	Goose Creek Plain	22	1
36	F27.24	Feature 27	Animal Bone	O'Neal Plain *var. Conway*	+10	1
37	F27.25	Feature 27	Carbon Sample	Charcoal	44	1
38		Feature 27	Lithic	Debitage	-	1
39		Feature 27	Lithic	Manuport	-	1

Ascension No.	Artifact No.	Context	Artifact Class	Type	CMBD	Count
40	F28.1	Feature 28	Lithic	Debitage	57	1
41	F28.2	Feature 28	Lithic	Debitage	73	1
42	F28.3	Feature 28	Lithic	Debitage	52	1
43	F28.4	Feature 28	Ceramic	Goose Creek Plain	65	1
44	F28.5	Feature 28	Ceramic	Goose Creek Plain	63	1
45	F28.6	Feature 28	Lithic	Debitage	53	1
46		Feature 28	Lithic	Debitage	-	3
47		Feature 28	Carbon Sample		43	1