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**The Archaeology and Ethnohistory of the Hasinai Caddo:  
Material Culture and the Course of European Contact**

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**The Archaeology and Ethnohistory of the Hasinai Caddo:  
Material Culture and the Course of European Contact**

**by**

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**Dissertation**

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## **Dedication**

To Erin, the Howze family, and the Marceaux family.

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# **The Archaeology and Ethnohistory of the Hasinai Caddo: Material Culture and the Course of European Contact**

Paul Shawn Joseph Marceaux, Ph.D.

The University of Texas at Austin, 2011

Supervisor: Maria F. Wade

This dissertation compiles information related to Caddo archaeology and history and examines in detail the collections from various Historic Caddo sites and Spanish missions. The study uses materials from these sites, along with the archival records from early European expeditions and colonization efforts, to try to identify archaeological correlates of the groups that constituted the Hasinai Caddo. The objective is to determine if specific attributes of ceramic style and technology reflect the position and geographical extent of the principal tribes of the Hasinai Caddo as indicated by the historical records.

To accomplish this I examined numerous collections from clusters of historic period sites in the Neches and Angelina River valleys of east Texas, including sites occupied by the Hasinai Caddo and two of the three Spanish missions discovered in east Texas. The study analyzes, organizes, and characterizes distinct ceramic assemblages and other artifacts in the collections.

Another goal of this research is to better define the periods of use and chronological relationships of Historic Caddo sites. Ceramic frequency seriations of established types, supported by other evidence, demonstrate chronological orderings reflected in the collections.

The cultural landscape of the Hasinai Caddo, broadly characterized, consisted of sedentary groups living in dispersed farmsteads as thriving agriculturalists, organized in a complex hierarchy of social and spiritual leaders. Sustained contact with Spanish missionaries brought trade materials and technology in tandem with social objectives and policies, many aimed at replacing Caddo cultural identity under the guise of religious conversion, relocation, and trade.

While the number of Caddo groups identified in the ethnohistoric record decreased as time passed, it is clear from the archives that groups of the Hasinai endured and maintained distinct affiliations during the contact period. The ceramic analyses support the historic record on this point and demonstrate how assemblages are part of well-established and persistent ceramic traditions. At the same time, the study documents distinct archaeological signatures that may represent socio-cultural, political, and/or economic differences in the Hasinai Caddo. Evidence also demonstrates how the Hasinai Caddo were both willing participants in, and at the same time rejected, the Spanish mission system.

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# **SECTION 1 HASINAI CADDO HISTORY AND ARCHAEOLOGY**

## **Chapter One: An Introduction to the Caddo of East Texas**

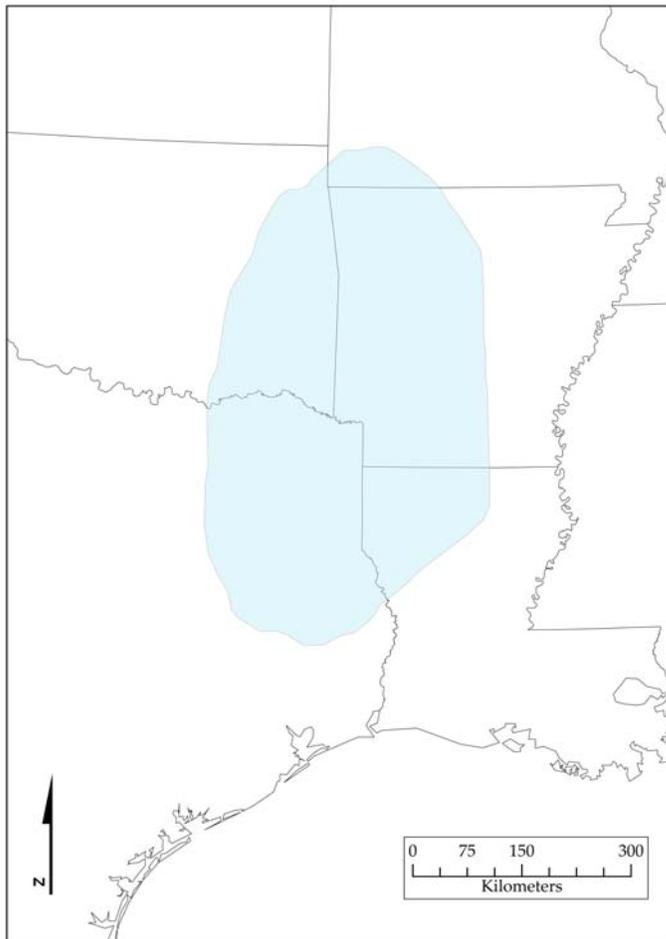
Native American groups known as the Hasinai Caddo and their ancestors lived in areas between the Neches and Angelina River valleys of east Texas for thousands of years before their first European contact around A.D. 1542. The focus of the following study is the initial period of contact between the Caddo and European explorers, and the resulting sustained interaction between these Native American groups and settlers, including in Spanish missionizing activities.

My dissertation examines the archaeological and archival evidence in an attempt to identify the archaeological correlates of specific Hasinai Caddo groups. I use information obtained from detailed analyses of distinctive ceramic assemblages and from other artifacts recovered from known Historic Caddo sites and Spanish missions in the study area, as well as archival records from early European expeditions and colonization efforts, to determine if we can recognize the different groups that constituted the Hasinai Caddo. The primary objective is to determine if specific attributes of ceramic style and technology reflect the position and geographical extent of the principal tribes of the Hasinai Caddo as indicated by the historical records.

### **CADDO AND CADDOAN**

At the time of contact the Caddo were the most populous and powerful Native American group in the region, occupying parts of east Texas, northwestern Louisiana, eastern Oklahoma, western Arkansas, and southern Missouri (Figure 1.1). The meaning of Caddo, or Caddoan, can vary depending on the context and specific use (see Perttula 1992:6-9, 1993:90-94; Story 1978). The

term Caddo may derive from a Native word that means ‘chief,’ either directly from *caddi*, or possibly from a French abbreviation of Kadohadacho meaning ‘real chief.’ Still, it was not until 1874 when “the remnants of the various Caddo groups, along with the Delaware and probably other Indians” on the Wichita Agency in Indian Territory formally agreed to unite (Story 1978:51). From this point on, Caddo became the most common name for these groups.



**Figure 1.1. The Caddo Area**

Today anthropologists and archaeologists most often use the term Caddo to describe some 25 related tribal groups in Texas and Louisiana, organized during the colonial period into three alliances or confederacies: the Hasinai, Kadohadacho, and Natchitoché. Caddoan can also refer to a Native American linguistic family that at one time extended into the Great Plains (Chafe 1973; Taylor 1963, 1963a), and includes the Caddo, the Wichita, Arikara, and Pawnee tribes. Linguists believe that the two main branches of this Caddoan language, the northern and southern, separated thousands of years ago (see Lesser and Weltfish 1932; Story 1978:47-49, 1990:320-321 for detailed discussions of Caddo linguistic studies). All of the groups under consideration here are part of the southern Caddoan branch. Finally, Caddo can refer also to specific prehistoric and historic archaeological assemblages or the geographic region containing those archaeological assemblages.

The development of a distinct Caddo cultural and archaeological tradition extends back to ca. A.D. 800. Its characteristics include the adoption and intensification of maize agriculture, a hierarchical social and political organization, a set of religious institutions and iconographic complexes, and the construction of monumental architecture (Perttula 1993). Scholars no longer explain the emergence of the Caddo culture by migrations, diffusion, or as materializing at a particular site that begot all Caddo peoples. Rather we think it to be a culmination of local processes and traditions forming into definitive complexes across the Southern Caddoan area by A.D. 1000 (see Story 1990:320-347). By this time, several important features can be associated with the appearance and development of Caddo culture:

(a) [T]he development of more complex social and political systems of authority, ritual, and ceremony; (b) the rise, elaboration, and maintenance of social ranking and status within the Caddoan communities and larger social and political spheres; and (c) the intensification of maize agriculture and a reliance on tropical cultigens over time in local economic systems (Perttula 1992:13).

Caddo culture did not develop without outside influences, for example, there is sufficient ethnographic and archaeological material evidence for contact with groups in the southwestern United States and the southern plains (Creel 1991; Hudson 1997; Journey and Young 1995; Vehik and Baugh 1994). There are also links to the lower Mississippi valley and Arkansas River Mississippian cultures (Early 1993; House 1997; Kidder 1993).

### **The Caddo at the Time of Contact**

During the period of sustained European contact and colonization (ca. A.D. 1685-1800), the Caddo primarily lived in dispersed permanent settlements that the Spanish referred to as *rancherías*. The *rancherías* incorporated from a few to many dispersed dwellings and could stretch over significant distances. In 1691, the expedition of Domingo Terán de los Ríos mapped the upper Nasoni village on the Red River (Figure 1.2) that shows the individual compounds with circular structures shaped like large beehives with thatched roofs and likely wattle-and-daub lower walls. The map also shows elevated granaries, outdoor arbors and cultivated plots (Hatcher 1932). Wedel (1978) identified this Nasoni village, which likely extended for 7-9 km along a landform in the area of Bowie County, Texas. The post-1690 occupation of this settlement includes the Hatchel, Mitchell, and Tilson archaeological sites.



**Figure 1.2. The Terán Map (Texas Beyond History 2011)**

Caddo farmsteads were self-supportive but often connected to the more familiar mound complexes, which later in the Historic period fell into disuse (Perttula 1992, Smith 1995). The Terán map illustrates a temple mound with an associated structure still in use, and the location of the *caddi's* house. The Franciscan missionary Damián Massanet described the *caddi's* house as:

[B]uilt of stakes thatched over with grass, it is about twenty varas high [1 vara=0.84 meters], is round, and has no windows, daylight entering through the door only... In the middle of the house is the fire, which is never extinguished by day or by night... Ranged around one half of the house, inside, are ten beds, which consist of a rug made of reeds, laid on four forked sticks. Over the rug they spread buffalo skins, on which they sleep... In the other half of the house, where there are no beds, there are some shelves about two varas high, and on them are ranged large round baskets made of reeds... a row of very large earthen pots... and six wooden mortars for pounding the corn (translated by Casis 1899:303-304). [brackets my own]

From the beginning of the prehistoric Caddo tradition, the Caddo constructed larger sites with monumental architecture, namely earthen mounds built for various purposes. This included platforms for elite residences, ceremonial functions, and for the burial of important members of Caddo society. However, it appears that the Caddo did not build or use these civic-ceremonial centers after approximately A.D. 1700 (Perttula 1993:93).

Mortuary practices vary considerably for Caddo groups from the prehistoric to the historic periods. The archaeological evidence includes various kinds of symbolic and material remains suggesting diverse “cultural practices, beliefs, and world-views about what males and female adults and children needed in life and death and that there were cultural boundaries between Caddoan groups not regularly crossed by networks of personal and groups contacts” (Perttula and Nelson 1998:396). The *rancherías* had family burial plots, or in some cases community cemeteries (see Perttula and Nelson 1998), but groups occupying mound centers frequently buried elite residents in burial mounds accompanied by exotic prestige goods. These burial mounds appear to have fallen out of favor post-1650 (Perttula 2002), if not earlier. Most of the Historic period Caddo cemeteries in the Neches and Angelina river basins are small, utilized for brief periods, and have limited internal social differentiation.

The Caddo practiced a subsistence economy centered on the basic activities of farming, hunting, collecting food, and fishing (Wyckoff and Baugh 1980:229-232). They were successful horticulturalists, planting and cultivating fields of corn, the primary crop in historic times, as well as beans and squash. Native cultigens included amaranth, chenopods, maygrass, and sunflowers (Perttula 1990). Horticulture and the production of maize was a major

component of the subsistence economy, and accounts document the Caddo planted two crops of maize in historic times. The Caddo groups were by no means reliant only on corn, however, and they made use of a diversified food production system (Perttula 1992:14-15). For example, the Caddo also fashioned bows, arrows, and other weapons in order to hunt buffalo, deer, and other game for food and skins. The Franciscan chronicler Casañas noted (Hatcher 1927:211) that the Caddo men “have only one occupation, hunting.”

Crucial to my research, the Caddo produced finely made and distinctive ceramic goods. The Caddo constructed ceramics in a wide variety of shapes and forms, some with elegant and intricate decorations occurring primarily on the rims and the body of vessels. The decorations and designs, along with certain technological attributes, are the primary basis for establishing and defining ceramic types. Found in different contexts, including domestic and mortuary, ceramics are the most frequently recovered material remains from Caddo sites.

Coarse ware vessels, typically jars, used in everyday functions such as cooking, serving and storing food dominate domestic archaeological assemblages. These utilitarian vessels are both plain and decorated, and some of the largest could reach several feet in height and in orifice diameter. The well-made fine wares generally have thinner walls, finely crushed inclusions, and most have a special surface treatment. The elaborately decorated fine wares include mostly bowls, carinated bowls and bottles, but there are other vessel forms as well. The Caddo used fine wares in domestic contexts, but they typically dominate the mortuary assemblages.

Finally, ceramics have played a large part in building regionally specific chronologies of Caddo sites. While chronology-building is an important part of my research, I also attempt to determine if and how Caddo ceramics can be used

as social identifiers; that is, how “certain shared and distinctive stylistic motifs and decorative patterns marked closely related communities and constituent groups” (Perttula 2004:389).

### **THE HASINAI CADDO: ALLIANCES AND SOCIAL ORGANIZATION**

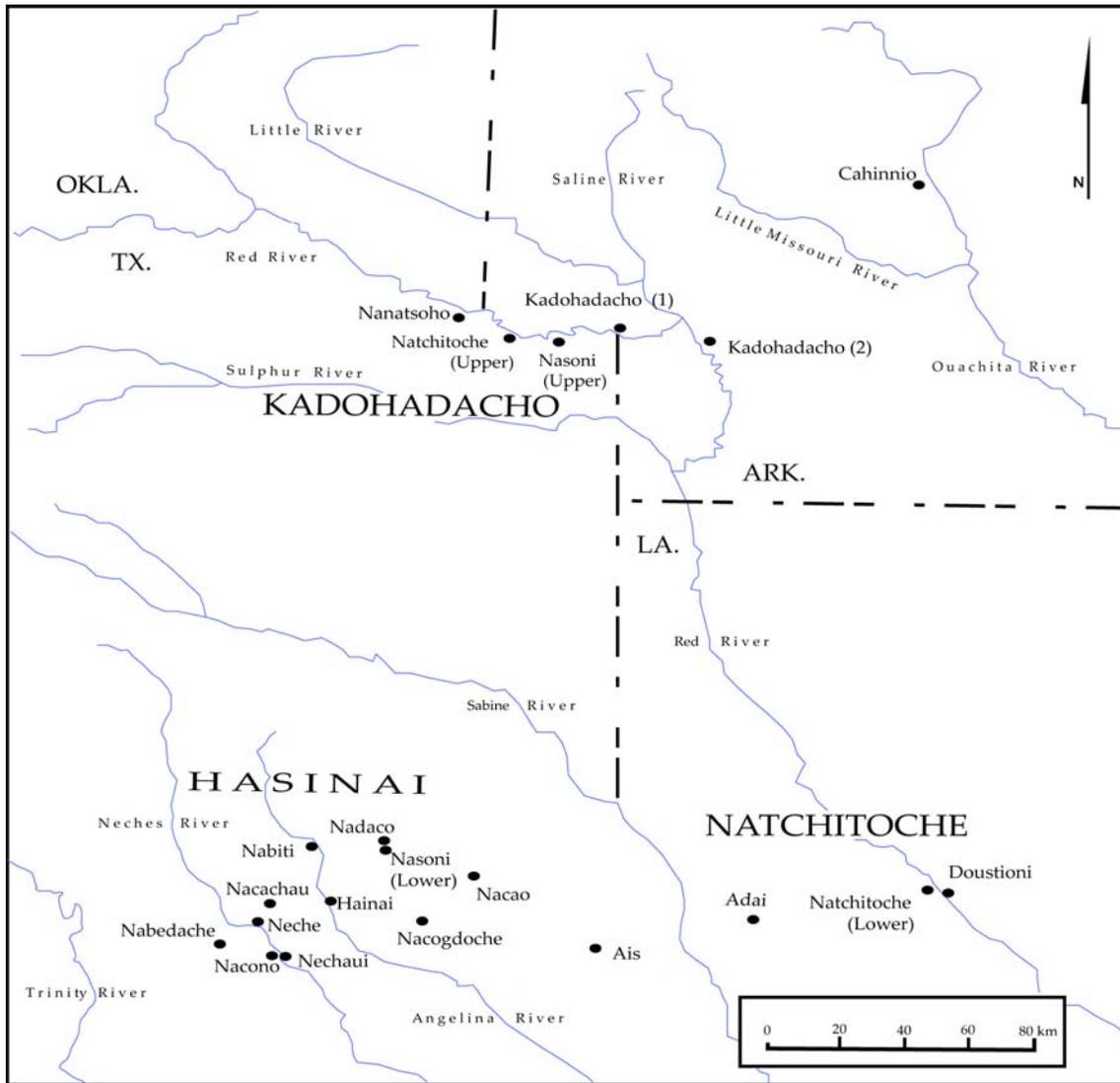
The first intermittent European contact in the 1540s produced a modest amount of ethnohistorical information related to the organization of the Caddo peoples, but much of our understanding of the contact experience comes from a variety of written accounts from the time of sustained contact, more than 140 years later. Historic accounts established that the Caddo were organized into three loosely allied groups (Figure 1.3), likely kin-related. As Perttula noted (1992:16), “the Hasinai groups lived in the Neches and Angelina River Valleys in east Texas, the Kadohadacho groups on the Red River in the Great Bend area, and the Natchitoches groups on the Red River in the vicinity of the French post of Natchitoches.”

The focus of the following study is the Hasinai groups, who according to Fr. Casañas in 1691 consisted of nine principal tribes: the Cachae, Nabadacho, Nabiti, Nacachau, Nacono, Nasayaha, Nazadachotzi, Necha, and Nechavi. Casañas, having lived in the area around the Upper Neches and Angelina rivers for 15 months, also stated that the nine tribes lived within a district approximately 35 leagues<sup>1</sup> (147 km) long (Bolton 1987:30). The exact names and numbers of the Hasinai groups change according to the period and chronicler (see Chapter 3). Together, the Hasinai groups had a population of approximately 2,400-2,800 people in the 1690s (Table 1.1; see also Jelks 2002; Marceaux and

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<sup>1</sup> The Spanish league is equal to 4.2 kilometers. A kilometer is equal to 0.62 miles.

Perttula 2010; Swanton 1942). A variety of sources discusses these allied groups in detail (Bolton 1908, 1987; Carter 1995; Griffith 1954; Newkumet and Meredith 1988; Swanton 1942; Wyckoff and Baugh 1980).



**Figure 1.3. The Southern Caddo Alliances (after Swanton 1942)**

The other two southern Caddo alliances, the Kadohadacho and the Natchitoché, were each distinct and independently governed. Both Fr. Casañas (Hatcher 1927:286) and Fr. Hidalgo (Hatcher 1927:54 [Hidalgo in brackets]) noted

that a province 53-55 leagues (222.6-231 km) north of the Hasinai consisted of the Caudadacho [Cadodacho], Quizi [Nasoni], Natzoo [Nadzoo], and Nasitox [Nacitos]. Henri de Tonti confirmed that in 1690 the Kadohadacho included the [upper] Natchitoché and the Nasoiu [Nasoni]. Finally, the Natchitoché alliance was formed sometime after 1700 and consisted of at least three tribes, including the Yatasi, Doustioni, and the [lower] Natchitoché (Perttula 1992; Smith 1998).

**Table 1.1. Caddo Populations Recorded in the Historic Period**

Year	Source	Group	Warriors	Population <sup>2</sup>
1699	Pierre Talon	Hasinai	600-700	[2400-2800]
1700	Bienville	Kadohadacho	500-600	[2000-2400]
1700	Bienville in Beaurain	Natchitoché	450	[1800]
1700	Bienville's Memoir	Natchitoché	400	[1600]
1716	Ramon	Hasinai		4000-5000
1718	Bienville	Kadohadacho	200	[800]
1718	Bienville	Natchitoché [combined]	80	[320]
1719	La Harpe	Kadohadacho [combined]		400
1719	La Harpe in Beaurain	Natchitoché [combined]		150
1719	La Harpe Narrative	Natchitoché [combined]		200
1721	Aguayo	Hasinai		1378
1773	De Mezieres	Kadohadacho	160 families	[640]
1773	De Mezieres [Gaignard]	Yatasi	3	[12]
1783	Morfi	Hainai	80	[320]
1783	Morfi	Nabedache	40	[160]
1783	Morfi	Nacogdoche	300	[1200]
1798	Davenport	Hainai	60	[240]
1798	Davenport	Kadohadacho	200	[800]
1798	Davenport	Nabedache	80	[320]
1798	Davenport	Nacogdoche [& Ais]	50	[200]
1798	Davenport	Nadaco	100	[400]
1798	Davenport	Yatasee & Adai	40	[160]
1805	Sibley	Kadohadacho	100	[400]
1805	Sibley	Natchitoché	12	[48]

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<sup>2</sup> Brackets assume 1 warrior to 3 family members or a total of 4 members to a family

Table 1.1 (continued)

1805	Sibley	Yatasee	8	[32]
1818-20	Cincinnati Gazette	Kadohadacho	120	500-600
1820	Miller	Caddo between Sabine and Red Rivers between LA & AR	300	[1200]
1820	Padilla	Kadohadacho		2000
1825	Schoolcraft	Kadohadacho		450
1825	Gray	Natchitoches	10 men, 15 women	25 [no children counted]
1825	Schoolcraft	Natchitoches		61
1825	Gray	Yattassees	12 men, 24 women	36 [no children counted]
1828	Berlandier	Caddo or Caddoquis	300 families	[1200]
1829	Porter	Kadohadacho		450
1834	Almonte	Kadohadacho		500
1851	Stem	Kadohadacho [Texas]		161
c. 1851	Upshaw	Kadohadacho [Chickasaw Territory]		167

The exact nature of these alliances, sometimes referred to as confederacies, likely changed through time. However, it is clear from the archival record that the groups maintained distinct affiliations during the contact period (see Gregory 1973:277; Perttula 1992:182, 217-221; Story 1978:51 for detailed discussion of the groups and the changing character of their sociopolitical organization; Wyckoff and Baugh 1980:231 for the appropriateness of the term confederacy). The formation of the Hasinai Caddo alliance occurred before the sustained presence of Europeans in east Texas, but we are unsure of exactly when or why it formed. We do know that sustained contact led to destabilization and depopulation, and that by the mid-18<sup>th</sup> century Caddo society relied on individual kin groups more than on the confederacies (Gregory 1973). Perttula (1992:220) suggests that the “confederacies are best considered short-lived products of intragroup fragmentation and intergroup agglomeration in a few select and traditional locales.”

## Political and Spiritual Leaders of the Hasinai Caddo

Early descriptions from Franciscan missionaries such as Francisco Casañas de Jesus Maria, Francisco Hidalgo, and Damián Massanet provide considerable detail on the basic structure and social organization of the Hasinai Caddo, including descriptions of the religious and governing elites. The head of the social order was the grand *xinesí*, the supreme political and religious authority. Below the *xinesí* were a set of hereditary and appointed officials who governed and mediated important matters. *Caddi* (plural, *caddices*) were like provincial governors and inherited the position through descent from a direct bloodline (Hatcher 1927:216). The *caddi* ruled the area occupied by his tribe no matter how large or small. Three to eight *canahas* supported the *caddi*, depending on the size of the province. These *canahas* had their own subordinates known as the *chaya*, followed in rank by the *tanmas* or “officers who promptly execute orders” (Hatcher 1927:216). Casañas also made note of a council of elders, recorded as the *viejos*, which the *caddi* consulted on every major decision. The *xinesí* and *caddices* constituted the leadership and authority of Hasinai groups, but this authority: “[W]as not politically powerful or very structured. Membership, for example, changed over time and some of the constituent groups (i.e., the Neche and Hainai, and the Nacogdoche and Nasoni) appear to have formed subsets, particularly for the performance of ceremonies” (Story 1990:322).

The belief system of the Hasinai Caddo, as related by Casañas, included a single Supreme Being called *Ayo-Caddi-Aymay*. The *xinesí* communicated with this Supreme Being through intermediaries known as the *caninisi*. The *xinesí* described the *caninisi* as two children who had died in a fire and lived near the house of the *xinesí* and were from the “other side of heaven” (Hatcher 1927:290). Through the *caninisi*, the *xinesí* offered prophecies concerning the upcoming

harvest, success in warfare, and other appeals to the *Ayo-Caddi-Aymay* on behalf of the Hasinai Caddo. The *xinesí* invited all of the important members in Hasinai society to the large house where they kept the sacred fire burning day and night. In this house, they used ceremony and ritual, including singing, small reed boxes associated with the children, and rattles, to communicate with the children.

### **Contact, Disease and Disruption**

Historic accounts recorded epidemic diseases among the Caddo in 1691, 1718-1719, 1731, 1759, 1777-1778, and in 1801-1802, and document the rapid demographic changes that played a role in the shifting structure and organization of the Hasinai alliance. For example, between January and March of 1691 an epidemic killed between 300-400 Hasinai. Perhaps as many as 3,000 people died from the other Caddo groups, and in the following summer, around 200 more Caddo were killed (Hatcher 1927:294-295; Smith 1998:175). At least another 100 Hasinai died years later, in an epidemic during the winter of 1717-1718 (Hatcher 1927). Still, the Hasinai were resilient and though reduced to around 1,500 members by 1721 only one of the original nine groups of the alliance (Nabitis) had vanished from the historic record.

The spread of disease among the Hasinai Caddo continued through the mid-18<sup>th</sup> century. An epidemic struck the Hasinai Caddo groups' authority figures particularly hard in 1777, killing nearly a third of the Hasinai, including Bigotes and a Nabadache chief (Bolton 1914; Carter 1995; Kinnaird 1949; Smith 1998:176). Bigotes, the Hainai *caddi* and leader of the Hasinai Caddo alliance, was an important political figure (Carter 1995:179) who had helped to bring about peace in a period characterized by Native hostilities and epidemics. According to Smith (1998:176), there were only around 1,000 Hasinai Caddo by the 1770s,

reducing the number of tribes in the Hasinai alliance to four: the Nabedache, Hainai, Nacogdoche, and Nadaco.

Hainai *caddices* died so often during the next 30 years that many times various *canahas* temporarily assumed power, and real political power came to rest with the *caddices* of the other three tribes. A decade later, a “cruel fever” took the lives of two-thirds of all the Caddo groups, along with many Europeans (Derrick and Wilson 2001:94; Ewers 1973; Jackson 2004; Schoolcraft 1851-1857; Smith 1991). Dramatic changes spurred on by epidemic disease and the encroachment by, and subsequent warfare with, other Native American groups continued into the nineteenth century. By the early 1840s, Europeans had forced all of the Caddo groups to leave their traditional homelands in Arkansas, Louisiana, and east Texas, and the United States government removed them all to Indian Territory in Oklahoma by 1859.

### **The Caddo Nation of Oklahoma**

The focus of my dissertation is on the Caddo past, but it is essential to remember that the Caddo Nation, in addition to a proud heritage, has a present and a future. The headquarters of the federally recognized Caddo Nation of Oklahoma is in Binger, Oklahoma, but members live throughout the United States. The Caddo Nation has a membership that includes more than 5,000 direct descendants of those Caddo allotted land in the beginning of the twentieth century, and they are currently governed by “a Council of four officers elected by the membership at large (Chairperson, Vice-Chair, Secretary, Treasurer) and four District Representatives elected by their constituencies” (Carter 2010).

To this day, the Caddo Nation traces its roots to those original groups and alliances such as the Hasinai Caddo. The three alliances were likely kin-based,

yet each had their own identity and governed itself independently. These differences reflect in part the social, ecological, and linguistic variations observed between the alliances in the Historic period. Still, all were historically connected and similar in language, customs, and material culture. In this dissertation, I follow Perttula (1992) and use Caddo, or southern Caddo, to refer to all of the groups and alliances. I will use Hasinai Caddo, or Hasinai, when referring to the alliance of groups living in the Neches and Angelina River valleys.

### **RESEARCH QUESTION AND THE ROLE OF CADDO CERAMICS**

Previous attempts at identifying the location of the principal groups of the Hasinai Caddo relied primarily on historical documents, and identification through material culture is largely untested. The accurate identification of these Caddo groups in the post-contact period may be more difficult because of the frequent movement of settlements and changing group composition. However, if the identification of these groups in the archaeological record is possible it will greatly improve our ability to address larger anthropological questions. For example, we know the colonial period brought great disruption, in part from the introduction of European infectious epidemic diseases that resulted in massive population decline. Moreover, Caddo responses often included abandoning villages and coalescing with other groups as a means of survival. Identifying specific Hasinai Caddo groups in the archaeological record would contribute to the documentation and scope of these processes. It also may address when and how coalescent communities formed, and what strategies Caddo families, groups, and communities used to maintain their cultural identity.

The primary objective of this dissertation is to determine how specific attributes of ceramic style and technology correlate with sites in the presumed

locations of the different Hasinai Caddo tribes as indicated by the historical records. In other words, do the distinctive ceramic assemblages reflect the position and geographical extent, as recognized by the early French and Spanish colonizers, of the principal tribes of the Hasinai Caddo?

The lines of evidence used to answer this question are the archaeological material culture from the study area and the historic archives. My research relies primarily on four sets of data: 1) the analysis of ceramic assemblages from previously unreported private collections, including those from Mission San José de los Nasonis (41RK200); 2) existing vessel and sherd ceramic collections stored at regional curation facilities such as Texas Archeological Research Laboratory (TARL) at the University of Texas at Austin and at Stephen F. Austin State University (SFASU) in Nacogdoches; 3) regional site, artifact, contextual, and spatial data gathered from previous archaeological reports and compiled in a database; and 4) early French and Spanish historical documents associated with this area.

The majority of my time has been spent studying public and private archaeological collections of materials, primarily ceramics. With the help of professionals and interested avocationalists I have analyzed, and in some cases re-analyzed, collections totaling over 100,000 ceramic vessel sherds (or pottery fragments) and more than 100 complete vessels (Appendix 1) from archaeological sites in east Texas. In the process, and as a necessary exercise in data management, I have created and developed a database to manage the large amounts of information collected during these studies. In addition to attributes of ceramic style and technology, the database contains site and location data from sites in the Neches and Angelina River drainages. I use these archaeological sites, and their collections, to investigate the spatial and material relationships

between collections and the potential locations of tribes of the Hasinai Caddo. These archaeological investigations, along with a complete review of the archival record, should provide the best opportunity in recent years to identify the principal groups of the Hasinai Caddo of east Texas.

## **ORGANIZATION OF THE DISSERTATION**

I divided the dissertation into three sections and ten chapters. Chapter 2 covers the environmental background of the areas in east Texas occupied by the Hasinai Caddo. The remainder of Section 1 focuses on the history and archaeology of the Hasinai. Chapter 3 outlines the historical record from approximately A.D. 1528 to 1859, and Chapter 4 reviews the history of prior archaeological research in the area, including the most recent projects, and reviews many of the ceramic studies done in the area.

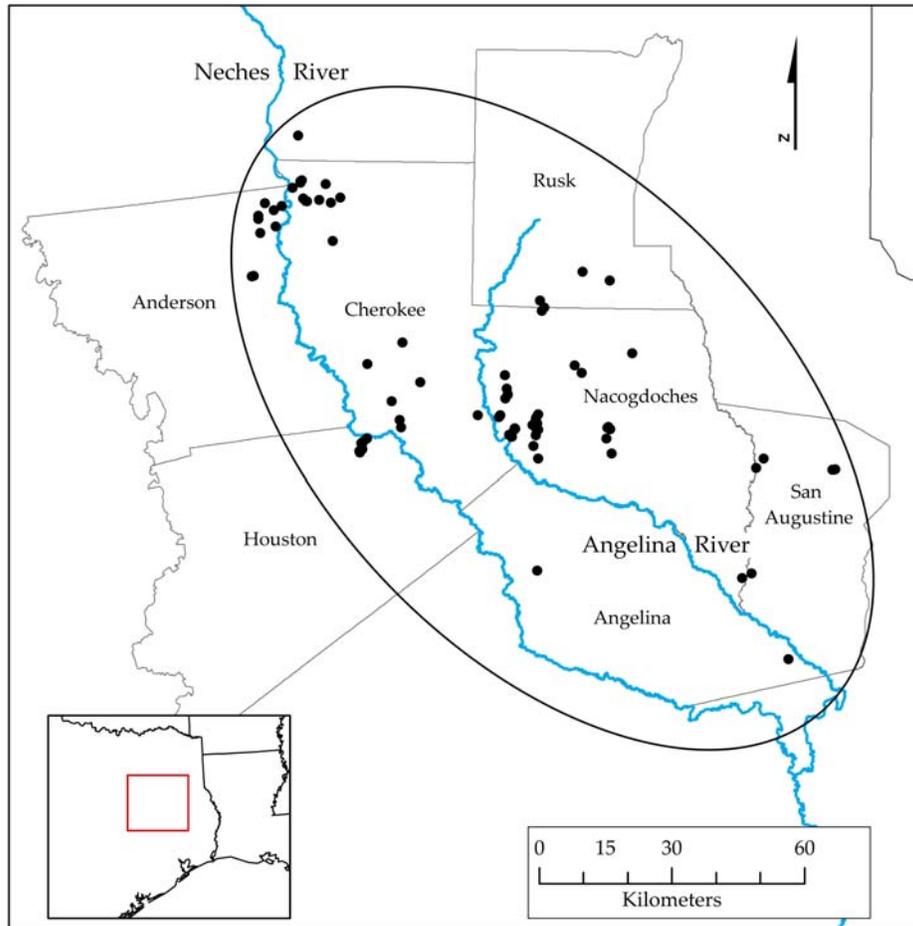
Section 2 details the methodology and analysis of Caddo ceramics used in this research, including vessel sherds and whole vessels. Chapter 5 focuses on the methods employed, explains how I selected the corpus of sites and collections, and discusses the important characteristics and attributes recorded during the study. Chapter 6 discusses the 28 archaeological sites included in the detailed ceramic sherd analysis. The chapter contextualizes these substantial assemblages (i.e. previous excavations, scope of materials) and focuses on the ceramic vessel sherd data from each site. Chapter 7 presents more than 60 additional sites and collections relevant to this study. Most of these assemblages were not included because of insufficient samples of decorated vessel sherds. However, several of the assemblages have substantial whole vessel collections that were critical to previous research.

In Section 3, I work to integrate of all the accumulated evidence, archaeological and archival. Much of the section covers the ceramic analyses and presents summary data from the 28 archaeological sites with substantial sherd collections. Chapter 8 presents and discusses ceramic types and other materials from archaeological sites. It uses the materials and results of ceramic frequency seriations to construct a likely chronology for when these Historic Caddo sites were occupied. Chapter 9 compares results from the ceramic analyses to 10 clusters of sites, some of which we know to be in the locations of the Hasinai Caddo. The final chapter is a brief conclusion of the study. It presents observations based on historical archival references as well as previous archaeological research, summarizes noteworthy results, and reviews the evidence for archaeological signatures that have the potential to differentiate between clusters of archaeological sites.

## **Chapter Two: The Study Area and Environmental Setting**

The following chapter reviews the environmental setting of the areas occupied by the Hasinai Caddo. Understanding the scope and availability of natural resources is an important part of any detailed study of the archaeological record. This is principally the case because environmental characteristics influence the different types and timing of human activities. This does not mean that they are deterministic. In fact, when considering the role of environment we should keep in mind that “human behavior is not always efficient, or even adaptive, and the perceived social and ideological needs can be as important as biological ones” (Story 1990a:5). In addition, “many natural factors and processes including the chemistry of the soil, amount of biologic and other pedogenic activity in the soil, and the rate and kind of deposition greatly affect the preservation and discreteness of the archaeological record” (Story 1990a:5).

In order to include all of the sites in the detailed ceramic analysis, the study area as defined here covers a large region (close to 10,000 square kilometers) within the central and northern part of the Neches River basin. The area covers parts of seven counties in east Texas, including Anderson, Angelina, Cherokee, Houston, Nacogdoches, Rusk, and San Augustine (Figure 2.1). Due to the large size of the study area, the quantitative data presented here is a composite of reports and surveys from the centrally located Cherokee and Nacogdoches counties. The review characterizes aspects of the natural environment including the physiography, hydrology, climate, geology and soils, and plants and animals.



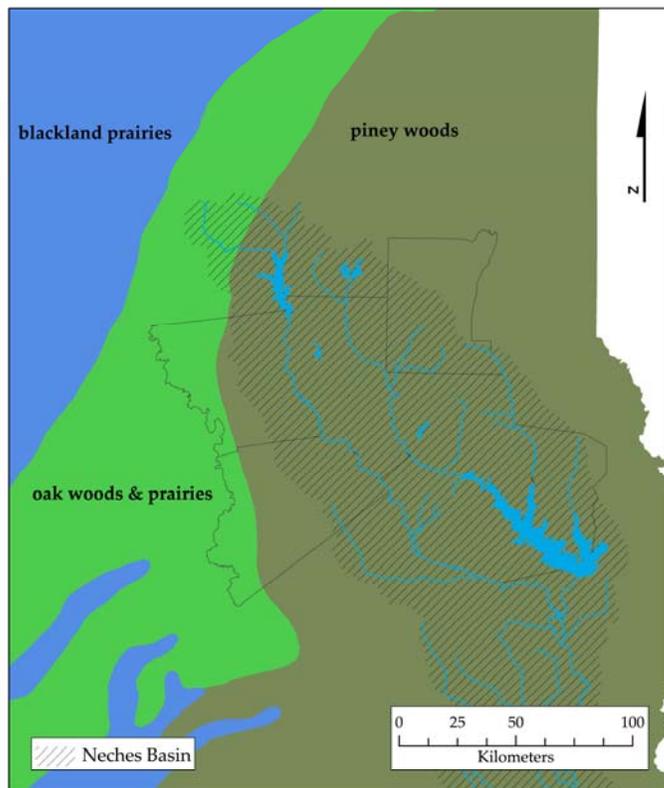
**Figure 2.1. The Study Area**

### PHYSIOGRAPHY

As a physiographic province, the study area falls within the West Gulf Coastal Plain (Fenneman 1938:100-102). The majority of this broad area is composed of three physiographic zones (Figure 2.2), which are from west to east the Blackland Prairie, the Post Oak Savannah, and the Pineywoods (Diamond et al. 1987; Schmidly 2002). The first two are northeast-southwest trending belts, the Post Oak Savannah “a natural transition zone or ecotone between the more xeric Blackland Prairie... and the more mesic Pineywoods” (Perttula and Nelson

2006:5). The study area under consideration is entirely within the Pineywoods, but the Hasinai Caddo undoubtedly utilized all of these zones.

The Pineywoods is a relatively homogenous zone with rolling hills well dissected by a dendritic drainage system, and it is part of the larger southeastern US mixed pine-hardwood forest (Gould 1962:8). There is some variation, however, between the small level natural prairies and the more hilly areas. Based on the distinctive differences in physiography, flora, fauna, and soils, Creel and others (Creel 1982a:14-17; Keller 1974; Sullivan and Dixon 1971) have noted that three principal microenvironments presently exist in the study area: riparian, bottomlands, and uplands. These microenvironments probably existed in the area during the period of Hasinai Caddo settlement as well (Ibid.).



**Figure 2.2. The Natural Setting and the Neches River Basin**

The riparian microenvironment includes rivers and streams, and the immediately adjacent narrow strips of land. The bottomlands are the areas in-between the riparian and upland microenvironments, including the lower terraces and the floodplain. Most of the Historic Caddo sites in the study area occur in lowland microenvironments at, or just above, the floodplain on natural levees and elevated alluvial terraces, alluvial fans, and point bar deposits. They are usually near current or old stream channels, oxbow lakes, and backwater swamps. Finally, the uplands encompass the rolling, hilly regions including the scattered small natural prairies (Story 1990a:13).

## HYDROLOGY

The major rivers, the Neches and Angelina, run roughly parallel in north-south courses, and typically meander through wide valleys with floodplains. Because of the moderately high rainfall and extensive aquifers, perennial rivers and streams are common in the West Gulf Coastal Plain (WGCP). The numerous tributary streams and creeks, both perennial and intermittent, flow from the uplands. In modern times, all of the large rivers in the study area are reliable year-round sources of surface water, but smaller streams are more variable (Story 1990a:8). Still, many of the streams and creeks often have sustained water flow because groundwater discharge, springs, and aquifers feed them.

As noted in Thurmond's analysis of the Cypress Basin hydrology (1981:29-36), the most dependable sources of water are those receiving groundwater discharge and/or delayed runoff and the least reliable are those fed solely by direct runoff. The only other prehistoric sources of surface water are springs and lakes, Caddo Lake would have been the only natural lake in Texas

and it is just outside of the study area to the northeast. Numerous springs flow continuously in the sandy areas of the study area, but the majority are small.

## **CLIMATE**

Warm temperatures with abundant precipitation are characteristic of the south temperate humid section of the United States. The summers are generally long and warm, with winters that are short and mild. For example, in Nacogdoches County the average temperature in winter is 48°F, with an average daily minimum of 36°F. The summer average temperature is 81°F, with an average daily maximum of 93°F (Dolezel 1980). Annual precipitation in modern times averages 120-125 cm, although generally the distribution throughout the year is not even. Around 63.5 cm of rainfall, approximately half of the total annual precipitation, occurs in April through September, correlating well with the growing season for most crops.

The long growing season extends from late March to early November, with 222 to 255 days between the last freeze of spring and the first freeze of the fall (Creel 1982a; Perttula and Nelson 2006). This makes it possible to plant two crops, a Caddo agricultural practice verified by the historical record (Hatcher 1927:156). Nevertheless, droughts are not uncommon in the summer. When the rains do come in the summer, they are often torrential and can cause flooding of cultivated bottomlands. Dendrochronological analyses of tree rings suggest there were numerous wet and dry spells over the last 1000 years (Stahle and Cleaveland 1994, 1995).

## **GEOLOGY AND SOILS**

In geologic terms, the WGCP is a relatively young area made up of belt-like strips that approximately parallel the modern Gulf of Mexico coastline. In

other words, the WGCP formed over hundreds of millions of years as the area shifted between land and sea. Geologic formations in the Pineywoods are primarily of Eocene age, and from oldest to youngest they consist of the Queen City Sand, the Weches Formation, and the Sparta Sand (Bureau of Economic Geology 1968). There is also floodplain and terrace deposits of unconsolidated silt, sand, and gravel from the Quaternary Period.

The Queen City Sand primarily consists of continental fluvial deposits, as opposed to the Weches Formation that is composed of deposits laid down in a shallow marine environment. The typically unconsolidated Sparta Sand is composed mostly of continental sediments, and its contact with the underlying Weches Formation is frequently an outlet for the groundwater accumulated by drainage of the highly permeable unconsolidated sediments. These formations are the source material for nearly every soil in the area (Creel 1982a:13; Sellards et al. 1932:636).

The soils found in the study area are primarily the result of the abovementioned geologic formations. They are the result of several interacting factors, including the climate, parent rock, physiography, and time. The soils also greatly influence the vegetation, and to a lesser extent the fauna.

The sandstones that characterize the Paleocene, Eocene, Oligocene, Miocene, and Pliocene groups and associated formations have led to the development of sandy and sandy loam sediments across the region—including in uplands, alluvial landforms, and floodplains—in the Post Oak Savannah and Pineywoods. These sandy soils are generally acidic in nature, and bone and shell tend not to be well-preserved on archeological sites in these regions (Perttula and Nelson 2006:7).

The more abundant upland soils developed in situ under forest vegetation on the older landforms and their associated sediments and bedrock (Story 1990). Most of the dominantly sandy upland soils have a thick sandy subsurface layer and loamy or sandy subsoil. These well-to-excessively drained soils have a moderately slow to rapid permeability. The dominantly loamy upland soils have a loamy surface layer and clayey subsoil. These mainly well-drained soils have a moderately slow-to-slow permeability (Dolezel 1980).

Stream-terrace and bottomland soils form when rivers and streams overflow their banks, depositing alluvium (typically sandy or clay loams). These soils are a product of sediments eroded during the Quaternary Period from the uplands and deposited in the floodplains of streams (Creel 1982a). Bottomland soils are clay or fine sandy loams, generally well drained and fertile. The soils' fertility applies especially to alluvial fans of fine sandy loams formed by the streams and creeks flowing from the uplands. Historic Caddo groups in the area frequently occupied these economically productive bottomlands and alluvial fans or the areas very near them (Story 1990). This is because the sandy loam was well suited for the construction of dwellings and for agriculture. The majority of sites included in the following analysis are located in these microenvironments.

Another vital resource for the prehistoric and early Historic Caddo was the naturally occurring lithic raw materials that occur in these geologic formations. Primary sources of chert or chert-like material, the most commonly used material for projectile points (arrow and spear points), in the WGCP are either infrequent or of poor quality (see Banks 1990). In his study of lithic raw material sources in the Neches-Angelina river basin, Girard noted (1995:66-69) that small cobbles of petrified wood, fine-grained quartzite and various cherts occur on stream terraces as redeposited gravels.

Local cherts tend to be red, gray, tan, and brown in color and non-local cherts frequently found on sites in the Neches River basin “are apparently from Central Texas Edwards Plateau sources, and these are lustrous gray, blue-gray, and brown in color, and will have (if present) a light brown or white cortex” (Perttula and Nelson 2006:7). The Caddo likely obtained much of the chert they used through trade, or long-distance forays to Central Texas source areas. Another non-local source of chert, particularly novaculite, was the Ouachita Mountains in Arkansas and Oklahoma.

Metamorphic rocks useful for making artifacts such as celts, boatstones, and ornaments are essentially absent in east Texas. The Caddo obtained these materials from Ouachita Mountain sources or Red River gravels, well to the north of the study area. The most abundant workable stone in much of the WGCP is petrified wood. It is often of poor quality, however, and barely suitable for the production of chipped or polished stone artifacts (Girard 1995). Another abundant stone is the distinctive coarse-grained quartzite that occurs as stream-worn pebbles and cobbles. Girard (1995:67) describes the material as having a sugary coarse-grained texture and being light gray to yellowish-brown in color. This material can vary from fine-grained, and reasonably good for chipping, to coarse-grained and difficult to knap. Perttula and Nelson (2006) refer to this as Glover quartzite, and note it is not especially common in the study area and was infrequently used as finished tools.

Hematitic and ferruginous sandstone, used as milling stones, abraders, and other ground stone implements, as well as iron oxides for pigments, are reasonably workable and abundant (Story 1990). The hematitic sandstone frequently occurs as inclusions in the paste of Historic period Hasinai Caddo

ceramics. The presence is likely both intentional, used as a tempering agent, as well as incidental.

## FLORA AND FAUNA

As the name indicates, pine trees are a major component of the vegetation in most parts of the Pineywoods of east Texas, but the area is rich in biodiversity. Forested vegetation in the region is home to a large number of tree species in both the bottomlands and uplands. Many of these trees species and shrubs produce annually great amounts of mast (the botanical name for the nuts, seeds, buds, or fruits eaten by wildlife and humans) as well. The fauna supported by these mast-producing plants include a large variety of birds, reptiles, and mammals. The bottomlands also support a range of aquatic species including fish, shellfish, and amphibians. A recent report on the Historic Caddo farmstead at the Henry M. site (41NA60) in Nacogdoches County (Perttula et al. 2010) makes this diverse and abundant biota particularly clear. Although soils in the region are not typically conducive to preserving organic materials such as animal bone and plant remains, the Henry M. site is an exception. Excavations at the site recovered, and subsequent analysis identified, more than 2,300 botanical and 8,400 faunal specimens.

Upland soils in the Pineywoods support the broadleaf deciduous forests in the more mesic habitats, and shortleaf and loblolly pines are common on the fine sandy loam soils with adequate moisture (Perttula and Nelson 2006:6). Besides those mentioned, this mixed pine-hardwood forest contains trees such as blackjack oak, bluejack oak, chinquapin oak, red oak, southern red oak, post oak, white oak, American beech, Allegheny chinquapin, eastern hophornbeam, hickory, sweetgum, and winged elm (Diggs et al. 2006). Pines tend to be more

common in the uplands than in the bottomlands, and some parts of the former probably had pure stands of pine, including on upland landforms west of the Neches River (Erickson and Corbin 1996:15). Native plants used by Caddo groups as subsistence resources from the upland microenvironment include the various oaks, hickories, berries, fruits, and herbs.

Most of the Historic Caddo sites included in the study occur in lowland microenvironments. These bottomlands along major river and creek drainages contain a diverse hardwood (oak and maple) and swamp (cypress, tupelo, and sweetgum) forest. Along smaller creeks and their tributaries, there is a less diverse bottomland hardwood community. "On landforms with deep and well-drained loamy fine sand, such as more mesic lower valley slopes, toe slopes, and elevated alluvial landforms, the vegetation overstory in the mid 19<sup>th</sup> century times across the region had red oak and post oak trees, along with other hardwoods that tolerate periodic flooding" (Perttula and Nelson 2006:6).

Available plant foods in the lowlands commonly include species such as black walnut, white oak, southern red oak, willow oak, shagbark hickory, Texas sugarberry, eastern hophornbeam, and American hornbeam (Creel 1982a:17). Again, the oak and hickory species produce large amount of consumable hardwood nuts that would have been available to Caddo peoples. They would also have access to persimmon, sassafras, and a wide variety of edible herbs. Vegetation in the riparian microenvironment is similar to that in the bottomland; in addition, there may be overcup oak and water hickory (Creel 1982a).

Predominantly upland and woodland species of fauna include game birds, such as the turkey. Although rarely found in modern settings, the turkey was especially important to the Caddo. This microenvironment also supports the

cottontail rabbit and the white-tailed deer. Other small mammals and reptiles, such as gophers, squirrels, snakes, and lizards, are numerous (Creel 1982a).

Inhabiting the bottomlands are many of the same animals that occur in the uplands. There are also numerous types of birds, reptiles, and mammals in this microenvironment. At least one snake, five species of turtles and the remains of an alligator were present at the Henry M. site (Schniebs 2010). Large numbers of rodents such as rats and squirrels occur in the bottomlands, as do medium-sized mammals like the cottontail rabbit, raccoon, bobcat, and fox. In addition to most of these, bones from opossums, skunk, dog, and mountain lion are present in midden deposits at the Henry M. site.

The only large mammal in the area at present is the white-tailed deer, the most numerous faunal remains (31.3%) in the assemblage from the Henry M. site (Schniebs 2010:95). The Caddo at the Henry M. site, however, also hunted bears. The animals in riparian microenvironments include various species of fish such as catfish, freshwater drum, and gar. Waterfowl, reptiles, and small mammals, such as the beaver and raccoon, are also present.

## **Chapter Three: The Historical Record and the Course of Contact**

This chapter examines the historical record that exists for the study area from the late 1520s through the removal of the Caddo from the state of Texas. It is beyond the scope of this work to cover in detail over 300 years of history in east Texas, but I will present basic information, generally in chronological order. Whenever possible, I include the dates of events, the locations where they took place, and the persons who were involved. As suggested by Story (1978:52), I use specific names of Hasinai tribes such as the Hainai or the Neche, rather than the more generalized Caddo.

I also set up the central themes and topics that are most important to the following study, including: 1) the physical locations of Caddo groups and sites, 2) the impetus for, and process of, establishing missions in east Texas, 3) the introduction and exchange of goods and materials, and 4) the development of Caddo and European social and economic relationships. The period of greatest concern is between 1650 and 1773, which includes the events that led up to the establishment and abandonment of missions in the study area and represents the period of sustained contact with Europeans.

From the time of first contact, the Caddo occupied a major place in the archival records produced by Europeans traveling through east Texas. With few exceptions, researchers, including myself, have relied on 20<sup>th</sup> century translations, some of which contain discrepancies. When these discrepancies are important I relied on the original documents. I have studied Spanish for several years, in addition to working and traveling in Spanish-speaking countries, and

have significant experience in the language. Nevertheless, the enormous amount of material and my own restricted abilities limits the scope of the work herein.

I have reviewed primary documents, and with the help of Mariah Wade, re-translated several important accounts relevant to the current study, including Casañas (1691) and various items from Margry (1876-1886). While a necessary and fruitful exercise, in this study I primarily use and reference the translated versions of manuscript letters, diaries, reports and daily logs, as well as other documents. It is important to note that researchers completed most of the translations long ago, and that they contain biases due to particular historical perspectives, specific agendas and objectives. This is no different from my own translations, but it is important to keep in mind.

Another frequently encountered issue in the archival records is how different chroniclers recorded the names of Native groups. In some cases, it is possible to make logical inferences based on the spelling, or on other evidence such as locations, chronology, and on context. In other cases, it may be impossible to know whether chroniclers are recording different but related groups, or completely unrelated groups. Unless it is a well-documented group or reference, I include the original spellings of the Hasinai Caddo groups. When possible, I use the original names recorded by Fray Casañas, and sometimes use brackets to distinguish between different spellings.

There are also scores of secondary sources, well-researched and detailed ethnohistorical and historical studies documenting the experience of Caddo and colonial groups in east Texas (Barr 2007; Bolton 1915, 1987; Chipman 1992; Dorsey 1905, 1905a; Foster 1995; Mooney 1896; Smith 1995, 1998; Swanton 1942; Weddle 1991). I found *Spanish Texas, 1519-1821* by Donald Chipman to be especially helpful, and in several cases draw heavily from his research. I am

aware of the more recent revised edition (Chipman and Joseph 2010), but wrote this chapter before its release.

#### **ON THE EDGE OF HISTORY: CADDO AND EUROPEAN CONTACT, 1520-1650**

We may never know the exact moment when the first European laid eyes on what would become Texas. But we do know that by the early sixteenth century the Spanish were sailing the Gulf Coast (Table 3.1), and in the rush to explore and settle parts of the 'New World,' members of Álvarez de Pineda's expedition mapped the entire extent of the Texas coast in 1519 (Weddle 1985). There is no reliable evidence that anyone from the expedition came ashore, but the vast expanse of land from Florida to Veracruz reinforced Spain's desire for wealth and fortune. Hernán Cortés had formally claimed the coast around Veracruz into the interior of Mexico for the crown of Spain only months before. Cortés' subsequent conquest of the Aztec and the city of Tenochtitlan confirmed those, as yet unrealized, dreams of massive amounts of silver and gold.

Spain soon shipped enormous amounts of these precious metals and other plunder back to Europe, financing more expeditions and titles. Spain turned to the mines in northern Mexico not long after and major efforts into South America kept the coffers full. These early experiences shaped the *conquistadores*, and they developed pointed strategies for dealing with the Natives, frequently resulting in violence. At the same time, and in most cases, conquest and colonization were not easy tasks for the European intruders. For example, the 1528 Pánfilo de Narváez expedition landed on the coast of Florida with 400 men, and those who survived showed up in Spanish Mexico several years later as the "four ragged castaways" (Chipman 1992:29).

**Table 3.1. Spanish expeditions in the 16<sup>th</sup>-18<sup>th</sup> centuries**

<b>Expedition</b>	<b>Date</b>
Álvarez de Pineda explores Texas coast	1519
Álvar Núñez Cabeza de Vaca	1528-1534
Hernando de Soto-Luís de Moscoso Alvarado	1542
Hernando Martín and Diego del Castillo	1650
Juan Domínguez de Mendoza, with Fray Nicolás López and Juan Sabeata	1683-1684
Alonso de León and Fray Damián Massanet	1689
Alonso de León and Fray Damián Massanet	1690
Domingo Terán de los Ríos and Damián Massanet, meet Juan Sabeata	1691-1692
Gregorio de Salinas Varona	1693
Fray Isidro Félix de Espinosa, Fray Antonio de San Buenaventura y Olivares and Pedro de Aguirre	1709
Domingo Ramón with Fray Isidro Félix de Espinosa, Fray Antonio Margil de Jesús, and Louis Juchereau de St. Denis	1716
Martín de Alarcón	1718
Marqués de San Miguel de Aguayo, with Fray Isidro Félix de Espinosa	1721-1722
Pedro de Rivera y Villalón	1727
Marqués de Rubí and Nicolás de Lafora	1767
Fray Gaspar José de Solís	1768
Athanase Christophe de Mézières	1772, 1778

### **Cabeza de Vaca and *La Relación***

One of those castaways, second-in-command of the expedition, was Álvar Núñez Cabeza de Vaca. His now well-known *La Relación* (1542) details the disastrous experiences and conditions faced by the explorers. In a matter of months, the expedition turned into a complete failure and Pánfilo de Narváez declared every man for himself (Chipman 1992:28). Cabeza de Vaca and much of the expeditionary force left Florida determined to return to Spanish Mexico. They constructed barges and headed west along the Gulf Coast, only to shipwreck near Galveston Island in 1528. *La Relación*, an early and unique record for European-Native contact in Texas, documents the experiences that followed. Cabeza de Vaca and his companions spent several years in Texas, traveling and

trading with Native groups for various goods. Native Americans took Cabeza de Vaca hostage, and he was a 'slave' for 18 months before finally escaping and returning to Spanish Mexico.

*La Relación* documents eight years of experiences through many parts of the southeastern United States, Texas, and northern Mexico. Chipman (1992:30) notes that in some ways Cabeza de Vaca was the first ethnologist in Texas. He recorded the names of many Native groups, some with approximate locations, and detailed cultural information for several groups in south Texas. He included information on flora and fauna, as well as features of the physical environment, waterways and mountains, in some cases with distance and direction.

From firsthand accounts and other sources, most scholars agree that Cabeza de Vaca's route through Texas sent him to the south and west. The historical documentation does not establish him contacting, or entering the lands of, the Caddo. The fact that although the Spanish were desperately looking for corn, they never acquire it at this time supports this scenario. The journey of Cabeza de Vaca may not have included a trip to east Texas, but diseases carried by the Narváez party may have been transmitted to the Native American groups living elsewhere along the Texas Coast and then further inland to Caddo groups (Dobyns 1983; Henige 1986; Perttula 1992).

### **The Hernando de Soto and Luís de Moscoso Alvarado Expedition**

In May 1539 Hernando de Soto landed with 600 men on the Florida peninsula, beginning a journey across the southern United States, and finally into the land of the Caddo of east Texas. De Soto, an experienced *conquistadore* who accompanied Francisco Pizarro in the conquest of the Incas, was not nearly as triumphant on this trip. Although it was the first European expedition to

document the Mississippi River, De Soto died from fever and they buried him near the river before the expedition reached east Texas.

After De Soto's death in May 1542, Luís de Moscoso Alvarado took over command and went about the task of returning the surviving members of the expedition to Spanish Mexico. Of the four primary chroniclers on the Moscoso expedition, only Luis Hernández Biedma, the Gentleman of Elvas, and Garcilaso de la Vega documented the experiences in the study area (all published in Clayton et al. 1993). The final part of the fourth account by Rodrigo Ranjel, De Soto's private secretary, has not been found.

I focus on the firsthand accounts of the king's factor Biedma and the anonymous Portuguese Gentleman of Elvas; the less reliable Garcilaso de la Vega interviewed members of the expedition years later. Although brief, the chronicles of the Moscoso expedition offer insight into the geographic boundaries (Hudson 1997; Perttula 1992) and social organization (Perttula 2002) of Caddo polities in the 1540s. Archaeological evidence for the expedition is minimal and primarily suggestive (Perttula 1992:27), but the accounts, experiences, and routes of the De Soto expedition have received great attention (Hudson 1997; Kenmotsu et al. 1993; Perttula 1992; Strickland 1942; Swanton 1985; Young and Hoffman 1993).

In the summer of 1542 the expedition led by Moscoso entered the Caddo province of Naguatex on the Red River (Clayton et al. 1993; Kenmotsu et al. 1993) marking the first historical documentation of face-to-face contact between Caddo groups and Europeans. I presume that by this time the expedition rarely, if ever, encountered Native groups that were unaware of the Spanish. A strange group of men had been tromping across the southeastern United States for three years at this point, traveling from town to town, and speaking a strange language, with intriguing and deadly new technologies. This may have been why the Tula,

possibly a Caddo group, attacked the Spanish in the northern Ouachita Mountains. Other Caddo groups banded together soon after to attack the Spanish before they reached the Red River. Although these efforts did not succeed and the Spanish continued into several Caddo provinces, including the Amaye, Aquacay, Chaguata, Guasco, Lacane, Nissohone, and Nondacao, the first Spanish trip into east Texas was neither peaceful nor pleasant.

Below I have primarily relied on Perttula's discussion (1989:88-99, 1992:24-27) of the Moscoso entrada for the presumed locations of these, the earliest recorded, southern Caddo groups. The exact location for the crossing of the Red River by Luís de Moscoso's expedition is unknown, but various researchers place it from just above modern Shreveport, Louisiana (Swanton 1985), to north of the Great Bend area near Texarkana, Texas (Hudson 1986). Perttula (1992) determined that Moscoso might have crossed near Lewisville, Texas, virtually splitting the difference between the Hudson and Swanton routes. He noted that "placing the crossing approximately eighty kilometers north of Shreveport puts the Naguatex province squarely in the Great Bend locality of the Red River, one of the foremost sociopolitical centers of Caddoan life ca. 1540" (Perttula 1992:24).

Perttula's examination of the route utilized accounts from the expedition, known locations of aboriginal trails like the Caddo and Hasinai Traces (Wedel 1978), the earliest routes of the *Camino Reales* (Corbin 1991), Caddoan language names (Chafe 1993; Strickland 1942), and archaeological data (Thurmond 1990, 1990a; Schambach 1989). Archaeological evidence from the Late Caddo Belcher Phase, including one of the most important civic-ceremonial mound sites around this time, the Battle Mound site, also supports this conclusion. Recently, Perttula (personal communication, 2010) suggested that the crossing might have actually taken place at the Battle site.

Before entering the province of the Naguatex, the Moscoso expedition passed through the salt-producing areas east and north of the Red River. As mentioned, Caddo groups banded together and attacked the Spanish somewhere between the provinces of the Amaye and Naguatex. The Spanish fought off the attackers and according to the account, they killed many Natives. A captured member of the Caddo informed Moscoso that the leaders of the Amaye, Hacanac [Lacane], and Naguatex had sent them, and that “the Naguatex came as captain and head of all” (Clayton et al. 1993:143).

Moscoso had the captive’s nostrils and right arm cut off and sent him back to the *cacique* of the Naguatex with a message that the Spaniards would arrive the following day. *Cacique* is the Spanish word used repeatedly to describe the leaders of Native American groups; this likely refers to the *caddi* (see Chapter 1). The Spanish arrived in the extensive village of the Naguatex the next day. Villagers told the Spaniards that the *caddi* resided across the river, and later the same day Moscoso found the *caddi* with numerous other Natives on the other side of the river, presumably posted in order to forbid passage. The Spaniards, some of them wounded, noted the river was swollen. Unaware of the nearest ford where they could cross, they decided to make camp.

According to Elvas, a meeting between the *caddi* and Moscoso took place two weeks later at which time the *caddi* gave a lengthy, and generally implausible, *mea culpa*. That the meeting took place is likely, but the overt religious language and tone of the *caddi*’s explanation are not only doubtful, but also practically impossible given the circumstances of language and translation. Less than two weeks after the waters receded, Moscoso crossed the river with his army to find an empty village.

The Naguatex had abandoned their homes and hid or taken most of the food and belongings. Moscoso ordered his men to “burn the towns and capture any Indians” (Clayton et al. 1993:144). The destruction and detainments that followed prompted the *caddi* to send out six of his principal men and several others to act as guides for the expedition further into east Texas. Guides from the Naguatex, and Moscoso and his men, quickly left the province and three days later entered the “miserable” province of the Nissohone.

A couple of days later the expedition pushed on, and the Caddo guides generally led the expedition on a southwestern course. Whether intentional or not, the Spanish believed they were being led astray. As Elvas stated (Clayton et al. 1993:145), “if they [Spanish] had to go toward the west, [the Caddo] guided them to the east, and sometimes they went through dense forest, wandering off the road.” Suspicious, Moscoso had the guides from Naguatex hung and a captured Native woman from the Nissohone village took over as guide. After traveling two more days, they reached another “wretched land, called Lacane” (Clayton et al. 1993:145).

Perttula (1992:26) noted that the narrative of Elvas clearly confirms the existence at this time of an established trail from the Red River southwest into east Texas. Perttula determined this trail to be the Hasinai Trace, known in the nineteenth century as Trammel’s Trace, a well-established trail from southwestern Arkansas into the Neches and Angelina drainages (see also Kenmotsu et al. 1993). If this is the case, then the groups of the Nissohone and Lacane were likely located on tributaries of the Red River, possibly the Sulphur River and Big Cypress Bayou (Kenmotsu et al. 1993; Schambach 1989; Thurmond 1990, 1990a).

After the group moved from the Lacane they reached the province of the Nondacao, but the accounts for the route are vague and unclear. What is clear is that the Spanish quickly moved on in search of the Soactina [Xacatin], believing that they had seen other Spaniards in the area. Five days later, the expedition arrived in the province called Aays [Hais]. Here, again, the Caddo attacked the Spanish before they were able to enter the province, and the Spaniards spent the better part of a day fighting their way into the village.

After hostilities ended, Moscoso and his men continued the journey; two days later their new Native guide, again accused of leading the expedition off course, was tortured, killed, and replaced (Elvas in Clayton et al. 1993:146). The following day members of the expedition entered the province of the Soactina, but did not stay long. Turning southward, Biedma realized that the Christians known to the Soactina might be part of the Moscoso expedition, “since we had made so many turns, in some of these they must have heard of our passing” (Clayton et al. 1993:244).

Accounts generally describe the groups the Spanish encountered after leaving the Naguatex near the Great Bend and south to the Guasco on the Neches, as small in population, living in poor land, and suffering from a lack of maize. With the exception of the Nondacao, “thought to be on the Sabine River” (Perttula 1992:26), this included the Native groups living in the Aays [Hais], Lacane, Nissohone, and Soactina provinces. It is likely that these groups hid their food reserves, because archaeological and bioarchaeological evidence indicates that maize was a staple of their diet by ca. 1100 to 1300 A.D. (Burnett 1990).

### **Moscoso in the Area of the Hasinai Caddo**

A short time later, the Spanish reached the land of the Guasco, thought to be in the Neches and Angelina River valleys (Perttula 1992:26). Moscoso spent little time with the Guasco, but the expedition provisioned itself with corn and took slaves. The expedition then passed through lands occupied by the Naquiscoça and Naçacahoz. There is agreement (Hudson 1997:369-370; Kenmotsu et al. 1993) that the provinces of the Naquiscoça and Naçacahoz were located in the Angelina River basin near the modern town of Nacogdoches, Texas. While in Naçacahoz several Caddo women were taken and according to Elvas “among them was one who said she had seen Christians and that she had been in their hands but had escaped” (Clayton et al. 1993:244). The Spanish took her as a guide, and along with a captain and approximately 15 Spaniards, they went in search of the other Europeans. Only miles from the village, she admitted to lying about what she had seen, and they all returned to Guasco.

Back in Guasco, the Spanish learned of a large river to the west where the Caddo sometimes went to hunt deer. The Spanish again took all the corn they could carry and set out west for 10 days until they reached the Daycao, possibly either the Trinity, Navasota, Brazos, or Colorado rivers (Chipman 1992, Perttula 1992; Hudson 1997; Kenmotsu et al. 1993).

From there Moscoso sent several men on horses west to explore the area across the Daycao River and after several days of riding, they eventually found a group of Natives camping. The Spanish brought two of the Natives back to the river, but not even the Caddo hostages serving as interpreters could understand them. The Spanish sent west reported no major settlements and only wretchedness and poverty. More importantly, they found not even a “half an

*alqueire*<sup>3</sup> of maize” and the approaching winter forced the Spanish to make a decision (Clayton et al. 1993:147).

All momentum for the original objective of the mission disappeared after De Soto’s death. The primary goal of the remaining expedition members was to get back to Spanish Mexico. There were differences as to the best way to accomplish that, over land or by sea, but the consensus was their immediate return. According to discussions recorded in the accounts, their choices were to continue west to southwest over land, or head back to the place where De Soto died, camp for the winter, build boats, and set sail down the Mississippi River from there. The first meant that there was still a chance to find the gold and treasures reported by Cabeza de Vaca. Many, aware of these reports, were of the opinion that as long as they were heading back to Spanish Mexico they ought to return rich. Returning to the Mississippi River meant building makeshift boats and attempting to return by sea, but the plan also had the potential for plenty of available food and a place to endure the oncoming winter.

In the end, the possibility that flooded rivers would trap them, likely leading to their starvation, led to the decision to return to the place of De Soto’s death. The expedition noted that food along the way was scarce as they traveled back through the Caddo provinces on the way to the Mississippi River. As mentioned, the Caddo hid corn and other food and provisions from the Spanish. From what we know of the archaeology of this period there would have been arbors or granaries to store corn in the settlements (Perttula 1992:159-160), and these were obviously empty when the Spanish passed through. The two

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<sup>3</sup> The old *alqueire* was a unit of measurement that varied through time and place, but during the period considered was generally equivalent to about 14 liters of dry weight.

exceptions to this in the area were the provinces of the Guasco and Naguatex. The Spanish took corn from the Guasco on multiple occasions, and when crossing back through the province of the Naguatex they found the houses rebuilt and full of maize (Elvas in Clayton et al. 1993:149).

### **An End to the Earliest Contact Experience**

Unfortunately, just before and around the time the De Soto-Moscoso entrada entered the study area the historical accounts from it decrease in detail and amount. Of the groups that we can now identify as members of the Hasinai alliance, there are few specifics in the accounts. Still, significant evidence exists about the character of these groups and their relationships to others in the area. For example, in terms of geographical locations it is clear that the Guasco were the westernmost of the Caddo groups at that time (Perttula 1992).

Linguistic information supports this; for example, the Caddo guides were unable to communicate with groups taken from the other side of the Daycao River. Research suggests that the Daycao might be the Trinity, Navasota, Brazos, or Colorado rivers (Hudson 1993:149-153; Kenmotsu et al. 1993). While the Caddo may have used lands to the west for hunting, they did not permanently settle in this area, and the Spanish perceived them to be mostly unoccupied.

I would describe the earliest Native-European experiences as fleeting, unpredictable, and dangerous. In a foreign land in search of gold and booty, the Spanish needed Native groups to provide food and supplies, guides, and interpreters. What the Spanish did not have, they took. The first accounts document Caddo resistance, but responses frequently devolved into 'fight or flight'. They were not given much choice, because "if they were friendly to the

Spanish they were frequently enslaved; if they fought back, they were enslaved or killed” (Wade 2008:107).

#### **SPAIN ON THE PERIPHERY AND THE ARRIVAL OF THE FRENCH, 1650-1689**

More than a century passed from the time Moscoso entered the study area to the Hernan Martín and Diego del Castillo expedition of 1650. The expedition made its way to the western edge of the Caddo lands, but did not enter. Unsure of the welcome they would receive in the vast and populous region, Martín and Castillo remained near the Colorado River for six months. There they received a visit from a Tejas [Caddo] captain sent to meet the explorers, but we know little else (Chipman 1992:62; Wade 2003:74). The Pueblo revolts of 1680 in New Mexico prevented Spanish settlement in that area, but in turn made the Juan Domínguez de Mendoza expedition of 1684 to explore Jumano country in central Texas even more appealing.

More than 30 years later the Spanish expedition was again not willing, or perhaps not invited, to enter the lands of the Caddo. Once more ambassadors from the Caddo visited the expedition, but the Spanish spent the majority of the time with Jumano groups by the Concho River in Texas.

This seems to contradict statements made in August and October 1683 by Juan Sabeata, the Jumano leader, when he and a number of Native delegates appeared in El Paso del Norte, now known as Ciudad Juarez. Juan Sabeata, along with a member of the Tejas [Hasinai Caddo], asked the Spanish to resume trade relationships, to send friars to minister to the Native groups and Spanish families to settle in the area, and to help in the war against their enemies, the Apaches (Hackett 1931-1946:137-139; Kelley 1955; Wade 2003:236-240).

Sabeata offered to guide the Spanish to the Tejas where there were good lands and abundant crops, and he suggested that the Tejas would be willing to receive both the Spaniards and the friars. According to Sabeata's own statements, two members of the Tejas [Hasinai] were awaiting word from him on the Spanish intentions. So why did the Spanish not enter the lands of the Tejas at this time? Part of the reason the Mendoza expedition never entered Caddo lands may have been the circumstances surrounding the trip itself and the infighting that developed among the Spaniards (see Wade 2003).

From 1683 to 1692, Juan Sabeata made at least eight journeys across what became the state of Texas from the Spanish settlements near the Rio Grande to the Hasinai Caddo in east Texas. He intermittently appeared and relayed important bits of information, and was indeed an "inveterate gossip and a master at frontier intrigue" (Kelley 1955:981). He not only informed the Spanish of the French presence in Texas, but also accurately reported the destruction of Fort Saint Louis near Matagorda Bay. Sabeata and people like him were vital agents in the material and communication exchange network between the Caddo, the Spanish, the French, and the hunting and gathering Native groups occupying the areas in between. Statements such as his illustrate first-hand the agendas, conditions, and requests of Native groups; they also speak to how fast information traveled across the frontier of northern New Spain.

### **The Frenchman La Salle in Texas**

René-Robert Cavelier, Sieur de la La Salle was the first European to sail down the Illinois River to the Mississippi River and all the way to the Gulf of Mexico in 1682. Upon arriving, he declared the entire Mississippi Basin for Louis XIV, the King of France. After returning to France and receiving permission to

settle the newly established Louisiana, La Salle left in 1684 with four boats and 300 colonists once again in search of the mouth of the Mississippi.

Due to poor navigation, inferior maps, and a pirate attack, La Salle made landfall on the Texas coast with only three boats in January 1685 (Table 3.2). Soon after landing, he lost a second boat when the storeship *Aimable* ran aground in Matagorda Bay. A third, the *Joly*, returned to France. To make matters even worse La Salle's last remaining means of transportation, the frigate *Belle*, was destroyed on a sandbar during a violent storm. The French founded their first settlement, the colony of Fort Saint Louis, on Garcitas Creek near modern-day Victoria, Texas (Bruseh et al. 2004; Chipman 1992; Cox 1905; Foster 1998; Tunnel 1998; Weddle 1987, 1991) under these conditions.

**Table 3.2. French expeditions in the 17<sup>th</sup>-18<sup>th</sup> centuries**

<b>Expedition</b>	<b>Date</b>
La Salle lands on Texas coast	1685
La Salle's first trip to Ceniz [Hasinai]	1686
La Salle's second trip and assassination, and Henri Joutel among Ceniz [Hasinai]	1687
Henri de Tonti	1690
Louis Juchereau de St. Denis	1700
Louis Juchereau de St. Denis	1705
Louis Juchereau de St. Denis	1714
La Harpe and Du Rivage	1719

Life at the newly formed Fort Saint Louis was difficult, but hopefully temporary, and La Salle and a few others quickly made their first trip over land to locate the Mississippi River. Although unsuccessful, La Salle quickly made another attempt and departed from Fort Saint Louis in April 1686. La Salle made it into the lands of the Ceniz [the French name for the Hasinai] during the trip, now known to be just west of the Neches River along San Pedro Creek.

The only first person account of this expedition is from Anastase Douay, a Franciscan Recollect friar known for embellishing [i.e. his account regarding the death of La Salle]. Despite Douay's shortcomings, other accounts corroborate some details of the expedition, such as how the French traded axes for a few horses already owned by the Caddo (Foster 1998:146). The Frenchman Henri de Tonti, founder of the Arkansas Post, further supports this point. While searching for La Salle in 1690, Tonti reported that around 30 horses were available among the Kadohadacho and that they were so abundant among the Hasinai that each house had three or four (Cox 1905, Vol. I:49; Weddle 1991:99). The expedition stayed in the Hasinai villages for two months after La Salle came down with a violent fever, but they eventually returned to Fort St Louis in the fall of 1686.

Again, in the hope of reaching the Mississippi River and then his post on the Illinois River and back to New France, La Salle began another trip to the Hasinai villages. There were 17 people on the trip, including Anastase Douay, which left a small contingent of French survivors at Fort Saint Louis. For La Salle the trip was cut short when on March 19, 1687 members of his own party assassinated him. Henri Joutel, a comrade of La Salle who commanded Fort St Louis in his absence, together with the mutinous group crossed the Neches River, again arriving in the Hasinai villages in late March 1687.

### **Joutel among the Ceniz [Hasinai] in east Texas**

Few, if any, Europeans had entered or spent time in the study area since the 1540s, but Joutel and the remaining Frenchmen stayed for almost three months. Henri Joutel, a trusted and distinguished chronicler, provides in-depth information about the Caddo groups inhabiting east Texas in the late 17<sup>th</sup> century (Joutel 1998:203-231). For example, a member of the Ceniz [Hasinai] on horseback

and dressed in Spanish clothing surprised Joutel as he approached the village. More than three years before the Spanish founded their first missions in the Nabadache village Joutel noted:

We met all the elders who came to greet us ceremoniously, dressed in their finery which consisted of some dressed skins in several colors which they wore across their shoulders... On their heads, they wore a few clusters of feathers fashioned like turbans, also painted different colors. Seven or eight of them had sword blades with clusters of feathers on the hilt. These blades were squared like those of the Spaniards; they also had several large bells...a few of them also had some piece of blue material which they must have obtained from the Spaniards (Joutel 1998:206).

The account describes the entire village, composed of hamlets spread out from one another, as at least one league (4.2 km) in length. On the way to the chief's house, Joutel passed seven or eight of these hamlets, each with 12 to 15 dwellings and surrounded by fields (Foster 1998:206).

It is clear from the accounts that Henri Joutel was unhappy about traveling with members of the party who had killed La Salle, and the Hasinai were direct witnesses to how the French fought and killed each other. During their journey, the French were also decidedly dependent on the Hasinai for food, and some sort of material exchange accompanied almost all interactions. The Hasinai produced food and goods, provided raw materials, and were constantly negotiating for French trade items. Noting the Hasinai affinity for, and yet lack of, knives and hatchets, Joutel declared this as proof that "the Spaniards had not given them much" (Joutel 1998:210). Still, in a frontier *quid pro quo* the hungry French exchanged goods for the most basic needs and services.

The French provided services of their own, including when several men accompanied the Hasinai in warfare. Following the successful raid there was a celebration that lasted for days and included dancing, feasting, and ceremonies. The French who took part in the war party also participated in the “glory of the victory” (Joutel 1998:228). Finally, exchange went beyond material goods such as food, horses, or trade items. The Caddo offered Joutel a wife on several occasions, at least once by a respected elder, demonstrating how the Hasinai used social institutions to promote and broaden kin relationships.

Leaving several compatriots behind, Henri Joutel and several others departed the main village of the Nabedache on 26 May 1687 determined to reach New France. Joutel began the journey just east of the Neches River at a log bridge built earlier by La Salle (Foster 1998:233 fn 2). From there they went east five leagues (21 km) passing through several hamlets, although at times they went a league and a half (6.3 km) without passing any; later they continued four leagues (16.8 km) in the same direction. Always camping near Caddo houses, the party approached a village of the Naodiche, possibly the Nabiti (Bolton 1987:31), on 29 May. Joutel noted (1998:234) that the Naodiche were allies of the Cenis [Hasinai] and that the village of the Assoni [Nasoni] was only three leagues (12.6 km) farther. Douay estimated the distance and direction from the Cenis to the Assoni [Nasoni] at 25 leagues (105 km), east to northeast (Cox 1905:255).

The group arrived in the village of the Assoni [Nasoni] the next day and spent the next couple of weeks much as they had among the Nabedache. Still anxious to move on, it was not until they were able to convince the Nasoni to guide them farther that they left for the land of the Cadodaquis [Kadohadacho] (Joutel 1998:243). There is little information on the tribal organization of the Cenis [Hasinai]; unlike the accounts that followed, there is no list of groups

belonging to the Hasinai Caddo. Joutel does provide an extensive list of the friends and enemies of the Cadodaquis (Foster 1998:246-247), but none of the principal groups of the Hasinai appears.

### **The Spanish Learn of, and Search for, La Salle**

Meanwhile, a tip from French deserters in Santo Domingo alerted the Spanish of La Salle's intentions to settle the Texas coast (Chipman 1992). Thus, Juan Enríquez Barroto and Antonio Romero set out in January 1686, a year after the French made landfall, on the first sea expedition to find the French. Weddle (1973) provides a complete account of the five sea voyages and six land expeditions sent to locate La Salle.

The narrative of Juan Bautista Chapa, *Historia del Nuevo Reino de León*, is another vital source for understanding Native American-Spanish relations in northeastern Mexico and Texas in the mid-to-late 17<sup>th</sup> century (Chapa 1997). Chapa arrived in Nuevo León at the end of 1650 and his narrative began soon after, with the final entry dated 7 September 1690. It includes the only copy of Alonso de León's 1686 expedition diary, providing detailed information on the distance and direction of travel for the first land expedition to find La Salle. It also contains personal accounts of the 1687, 1688, and 1689 expeditions sent to locate the Fort Saint Louis settlement on the Texas coast.

In the summer of 1686, Alonso de León set off on the initial expedition to find La Salle with "fifty soldiers, plus servants, an Indian guide and a chaplain" (Chipman 1992:78). The excursion made it to the Gulf Coast, but never crossed the Rio Grande into modern Texas. The second De León expedition began in February 1687 and made it all the way to Baffin Bay, roughly one hundred miles

short of La Salle's colony, before turning around. This happened to be around the same time that La Salle's own men murdered him.

The second sea voyage (late 1686-1687) located remnants of the frigate *Belle*, the inscription of the *Fleur-de-lys* on the stern providing incontrovertible proof of the French presence (Chipman 1992:79). A third sea expedition set out to find the overdue second expedition and repeated much the same course. The accounts of foreigners prompted both the fourth and fifth sea exploits to find La Salle. English prisoners fabricated a story that prompted another expedition to Mobile Bay (Chipman 1992:81).

Alonso de León heard news of a Frenchman living nearby among the Natives while negotiating prior disputes in Nuevo León. Alonso de León captured the Frenchman gone Native Jean Géry in late May 1688 approximately 80 kilometers (50 miles) north of the Rio Grande (Chapa 1997). His subsequent interrogation led to the fifth sea expedition in August of the same year (Chipman 1992). The final trip once again produced material evidence of French intrusions, this time parts of the *Aimable*.

With tangible proof and corroborating testimony Alonso de León's fourth expedition set out in March 1689, and consisted of "114 men, including Chaplain Damián Massanet of the mission at Caldera, soldiers, mule drivers, and servants" (Chipman 1992:82). At the same time near La Junta, Juan Fernández de Retana received a report from Juan Sabeata announcing the destruction of La Salle's settlement.

Finally, after four years of searching, on 22 April 1689 De León located the French settlement of Fort Saint Louis (Chapa 1997). The settlement was on the receiving end of Native attacks, likely Karankawa speaking groups and allies, which ended in the destruction of the site and death of all but a handful of its

occupants. Chapa (1997:128) described the gruesome scene: “[T]he houses had all been sacked... books were torn to pieces... the company found more than one hundred broken harquebus butts... and three corpses were found scattered in the field.”

Before Alonso de León and his expedition returned to Mexico they went in search of two Frenchmen who had lived at Fort Saint Louis. On the way, De León and his expedition encountered a Tejas [Hasinai] captain on the Guadalupe River, along with the two drifting Frenchmen.

The Spanish had recovered proof of both the *Belle* and the *Aimable*, and finally captured three Frenchmen. Authorities interrogated Captain Gregorio de Salinas Varona and French survivors in Mexico City regarding La Salle’s trip to Texas (Foster 1998:283-289). Spanish efforts allowed Alonso de León to return to Mexico having found the long suspected Fort Saint Louis, and left Spain no choice but to begin settlement and missionary work in east Texas. A sporadic founding and abandonment of European settlements marked the next 100 years (Table 3.3), with both the French and Spanish vying for the support and allegiance of Caddo groups.

**Table 3.3. Founding and Abandonment of European Settlements**

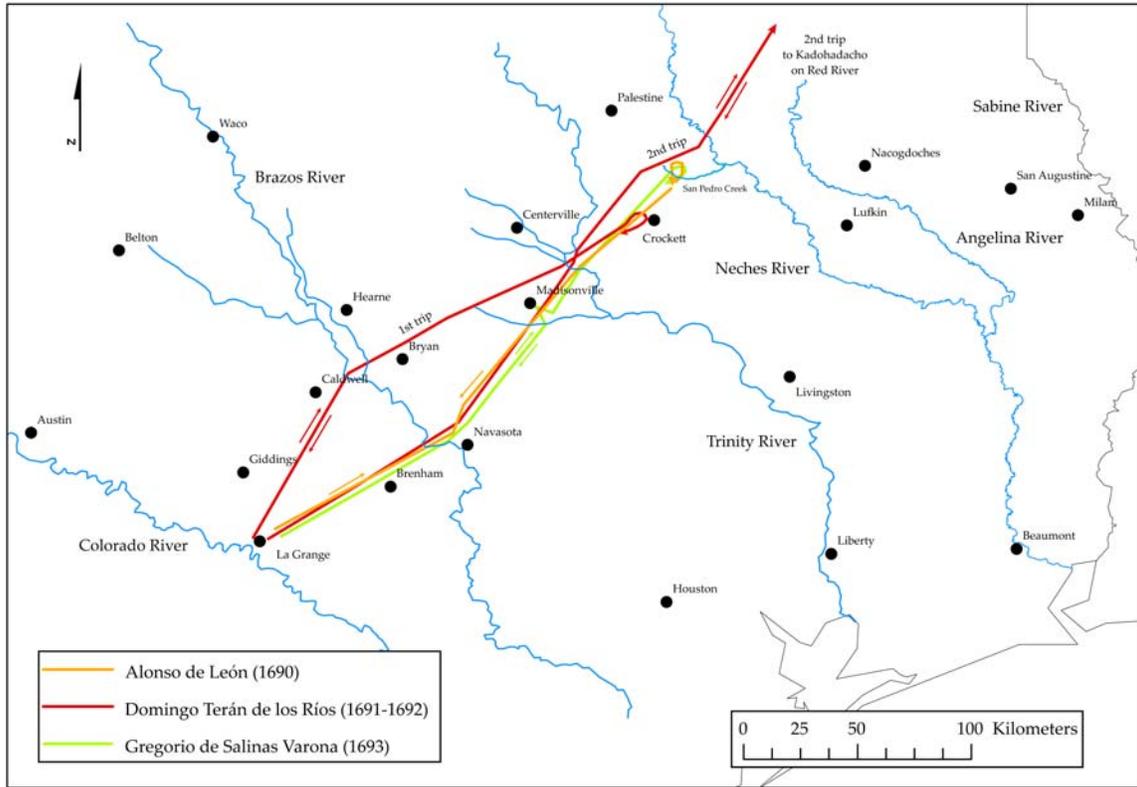
Event	Date
French Fort St. Louis established on Garcitas Creek near Matagorda Bay	1685
Spanish missions San Francisco de los Tejas and El Santísimo de Nombre de Maria established in east Texas	1690
All Spanish missions abandoned	1693
French Fort St. Jean Baptiste aux Natchitos established in northwest Louisiana	1714
Spanish missions Nuestro Padre San Francisco de los Tejas, Nuestra Señora de la Purísima Concepción, San José de los Nasonis, Nuestra Señora Guadalupe de los Nacogdoches, and Spanish Presidio Nuestra Señora de los Dolores de los Tejas (re)established in east Texas	1716
Spanish missions Nuestra Señora Dolores de los Ais, and San Miguel de los Linares de los Adaes established in east Texas and northwest Louisiana	1717

Table 3.3 (continued)

French Fort Saint Louis de los Cadodaquious established on Red River	1719
Spanish missions and presidios withdrawn	1719
Spanish missions Nuestro Padre San Francisco de los Tejas, Nuestra Señora de la Purísima Concepción, San José de los Nasonis, Nuestra Señora Guadalupe de los Nacogdoches, Nuestra Señora Dolores de los Ais, San Miguel de los Linares de los Adaes, and Presidios Nuestra Señora de los Dolores de los Tejas and Nuestra Señora del Pilar de los Adaes (re)established in east Texas and northwest Louisiana	1721
Spanish Presidio Nuestra Señora de los Dolores abandoned	1729
Spanish missions Nuestra Padre San Francisco de los Tejas, Nuestra Señora Purísima	1730
All remaining Spanish missions and Presidio Nuestra Señora del Pilar de los Adaes	1773

### THE FIRST PERIOD OF SPANISH MISSIONS IN EAST TEXAS, 1690-1693

No one was better qualified to lead the expedition “arranged to explore the province of the Tejas” than Captain Alonso de León (Chapa 1997:143). However, orders dictated that control over religious aspects of the expedition belonged to the Franciscan College of Querétaro and Damián Massanet (Chipman 1992:88). The military and religious were frequently at odds when it came to the objectives and, even more importantly, the methods of establishing settlements (Casis 1899:4). It is clear from the accounts that De León thought of himself as an escort, and Fr. Massanet believed himself to be in charge. Although disagreements existed, De León set out for east Texas with over 100 men, and six friars including Massanet, Antonio Perera, Francisco Casañas de Jesús María, Miguel de Fontcuberta, and Antonio Bordoy (Figure 3.1).



**Figure 3.1. Expeditions during the First Period of Spanish Missions**

On the march to east Texas, a group from the expedition stopped at Fort Saint Louis where they set the wooden fort afire, “allegedly by the hands of Massanet” (Chipman 1992:89). Shortly after leaving the failed settlement, the Spanish learned of two Frenchmen said to be living in the area. Both relatively young men, Pierre Talón and Pierre Meunier were survivors of La Salle expedition. La Salle left Talón with the Hasinai on his first trip there in order to learn their language and customs.

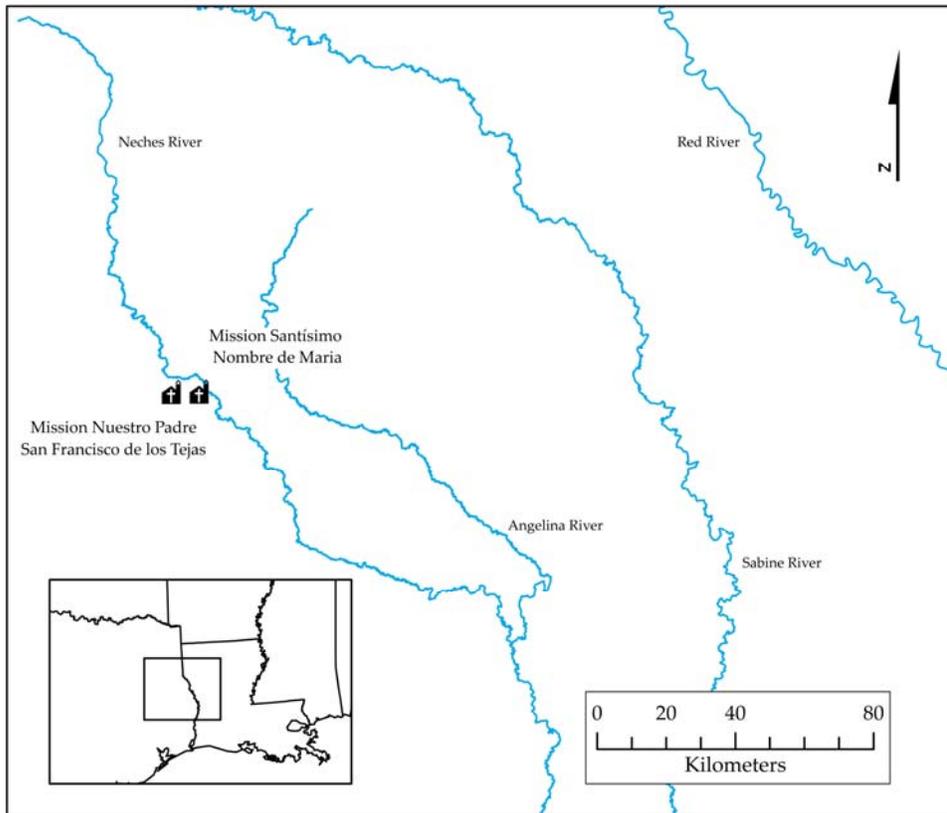
Meunier was among the 17 members on La Salle’s final journey, and potentially a witness to the murder of La Salle. Although most of the group of Frenchmen had gone north in search of the Illinois, Meunier decided to stay with the Hasinai, eventually tattooing his face and body in the manner of the Natives.

Talón and Meunier accompanied the Spanish into the Hasinai villages and served as interpreters for the missionaries, enabling the friars to compile a list of words in the Hasinai language (Weddle 1991:78).

### **The First Mission, San Francisco de los Tejas**

Not long after locating the Frenchmen, the Governor of the Tejas [Hasinai] showed up to meet the expedition with many others. They all crossed the Rio de la Santísima Trinidad [Trinity River] on May 22, 1690, shortly after they arrived at the western beginnings of the land of the Tejas (Foster and Chapa 1997). The Spanish set up camp half a league (2.1 km) from the chief's house in the principal settlement of the Nabedache, the western-most group of the Hasinai. From the Spanish camp, Alonso de León noted it was approximately three leagues (12.6 km) proceeding northeast to the Neches River (Bolton 1987:41). The Spanish also noted numerous fields of corn, beans, pumpkins, and watermelon, and the hospitable Caddo treated them to tamales.

According to Chapa, this first meeting in the principal Nabedache village was full of pomp and pageantry, including a procession of Spanish officers and priests. The soldiers and friars worked for six days to establish the first Spanish mission, San Francisco de los Tejas, in east Texas (Figure 3.2). Historical accounts place the mission in the middle of the Nabedache village along San Pedro Creek and approximately 2 leagues (8.4 km) west from the banks of the Neches River (see Castañeda 1936:58-61; Bolton 1987:41-43; Chipman 1992:113; Clark 1902:23-24; Hackett 1931-1946, Vol. I:344-346; McGraw et al. 1991 for discussions on the locations of missions, including estimated latitude and longitude).



**Figure 3.2. Spanish Missions in the First Period of Settlement in East Texas**

The Caddo insisted that no more than six men, three priests and three soldiers remain at the mission for fear that the Spanish would “appropriate the Indians’ women” (Chapa 1997:151), and the fact that the Spanish complied is something of an exception. De León left east Texas on June 1 and Fr. Massanet followed the next day after receiving assurance that the three priests [Frs. Casañas, Fontcuberta, and Bordoy] left behind to manage the souls of the Tejas would be safe.

While among the Nabedache, the Spanish learned of four white men to the east, most likely the Frenchmen of Tonti’s expedition to find La Salle (Hadley et al. 1997:321). As mentioned, Tonti went in search of the missing Frenchmen in

1690 and made contact with several groups in the study area, including the Hasinai (Cox 1905, Vol. I:44-50).

Three of the Nabedache Caddo, including the *caddi's* nephew Bernardino, returned to Coahuila to visit with the Spanish leaders (Eakin 1997:106). After returning to Spanish Mexico, Alonso de León found himself relegated to maintaining the security of Coahuila. The appointment of Domingo Terán de los Ríos as the first governor of Texas followed on 23 January 1691. Fr. Damián Massanet requested 14 priests and seven laymen soon after for newly authorized Texas missions. In fact, “eight missions were authorized for the Texas province: three among the Tejas, including San Francisco de los Tejas, four among the Kadohadacho, and one for the tribes near the Guadalupe” (Chipman 1992:93).

Much to Massanet’s chagrin, they departed from Monclova in May 1691 with only 10 friars, three lay brothers, and 50 soldiers (Casis 1899; Hatcher 1932:48). In June, on the Guadalupe River, the Spanish again met the enigmatic Juan Sabeata. Here he handed over two letters from the missionaries riding out a storm of trouble in east Texas. By the time the Spanish arrived in east Texas Fontcuberta had died, and as the Hasinai Caddo suffered the effects of disease and drought relationships strained. Nevertheless, in Massanet’s absence Casañas and Bordoy still managed to found El Santísimo Nombre de Maria [ca. Oct 1690], the second mission in the project area. Mission Santísimo Nombre de Maria was around eight kms to the east of the first mission, and much closer to the Neches River. Both missions were within the boundaries of the Nabadacho [Nabedache].

In desperate need of provisions, Terán de los Ríos headed to Matagorda Bay in August. He received supplies and orders while there to “explore the province thoroughly before returning” (Chipman 1992:97). Upon returning to east Texas, they found that the conditions had worsened. Earlier, Alonso de León

considered Bernardino, appointed *caddi* after the death of his uncle, a notable and rational man (Chipman 1992; Hatcher 1932). Nonetheless, at this point he told the Spanish that he was temporarily leaving and that they should not be around when he returned.

Terán de los Ríos orders required that he at least visit the Kadohadacho on the Red River. In November, they reached the area but never actually founded any of the four proposed and authorized missions. Strangely enough, Damián Massanet agreed with this decision. De los Ríos left east Texas in January, along with six of the missionaries, leaving only three religious and nine soldiers at the missions (Chipman 1992:98; Hatcher 1932). No new missions were constructed and only scant new information came from De los Ríos' trip to the Kadohadacho. Although given a number of tasks, including exploration of the lower Mississippi valley, few were completed and the expedition ended in complete failure. De los Ríos' biggest contribution to modern anthropologists and archaeologists is one of the earliest and most discussed map of the Nasoni Caddo village (see Figure 1.3).

After the return of the Terán de los Ríos expedition Gregorio de Salinas Varona succeeded him as the governor of Coahuila. Varona had accompanied the expeditions of Alonso de León in 1690 and De los Ríos in 1691. Varona was an experienced soldier, and during the former expedition he and Captain Francisco Martinez had "carried the astrolabe and determined coordinates for the province of Texas throughout the 700 leagues they traveled" (Foster et al. 1993:267). One of Varona's first orders was to re-supply the troubled east Texas missions, which he did successfully in June 1693. Regardless, at the end of the year Varona received orders to retrieve the Spanish from the failing missions and only winter prevented his immediate action (Chipman 1992).

## **The Failure of the First Missions**

By the fall of 1693, the inevitable abandonment of missions San Francisco de los Tejas and Santísimo Nombre de Maria had already begun. Missionaries buried the mission bells, packed up, and prepared to abandon east Texas. Before abandoning Mission San Francisco de los Tejas during the night in late October, 1693, they set it afire. Of those who left, four soldiers including Captain Urrutia deserted and lived with the Tejas groups for some time (Chipman 1992:99). Still, from 1694 to 1715 all of Texas was 'officially' unoccupied by the Spanish as the first effort at colonization lasted less than four years.

A great deal of information from this period of continuous occupation (ca. 1690-1693) relates the early Spanish missionizing experience in eastern Texas. This includes the narratives of Juan Bautista Chapa, Alonso de León, and Frs. Francisco Casañas de Jesus Maria, Francisco Hidalgo, and Damián Massanet (Bolton 1908; Castañeda 1936; Chapa 1997; De León 1690; Hadley et al. 1997:317-358; Hatcher 1927, 1932; Massanet 1899, Margry 1876-1886). Fray Damián Massanet's report to the Viceroy of New Spain (Hadley et al. 1997:342-351) summarizes much of the experience.

Among other things, he noted that the Caddo refused to settle at the missions, were largely indifferent to religious instruction, and held the Spanish responsible for the horrible diseases that swept through the settlements. One of the primary goals of the Spanish priests was to convince Caddo groups to congregate in the villages that held the missions. The Hasinai had lived near their fields for hundreds of years, however, and the Spanish encouragement to re-settle failed. The Caddo may have come to the missions to trade and receive gifts, but the traditional dispersed and self-sustaining settlement pattern prevailed (Wade 2008).

Barr (2007) noted the Spanish soldier's abuse of Caddo women as another reason for the problems in east Texas. The impact of disease was also a mitigating factor, disrupting everyday life such as the ability to tend crops. According to accounts, the Hasinai believed that the sacrament of baptism was responsible for the spread of infectious diseases. Even though they may have had the method of transmission wrong, the source was not.

During this time of extreme stress maintaining the traditional ways of life was especially critical and the belief systems of the Caddo, described in detail by Massanet, persisted. According to Carter (1995:83), it was "easier to construct chapels than... to change the faith of the Caddo." Bad weather, specifically drought, also had a serious effect on the earliest mission experience. Weather conditions during those years led to poor harvests and the lack of food was a real concern. It is clear that the Hasinai blamed the Spanish for both the shortage of food and the scores of deaths from disease.

### **The French Advance**

Charles II died in 1700, and effectively ended the Hapsburg dynasty in Spain. Phillip V, a French Bourbon, ascended to the Spanish crown and set out to resolve the differences between his adopted and native countries. French suggestions for cooperation between the two countries came under the guise of rebuffing English advances in the area (Chipman 1992). The French had long recognized the importance of the Mississippi valley, and in 1697 the French Minister of Marine and Colonies, Comte de Pontchartrain, instructed Pierre Le Moyne, Sieur d'Iberville, the newly appointed governor of Louisiana, to re-locate and then settle the mouth of the Mississippi River (Chipman 1992). In early 1699, more than a decade after the failure of La Salle's colony, a flotilla of four ships

entered the waters of the Mississippi Sound and again claimed the territory of Louisiana for France.

Louis Juchereau de St. Denis (the elder), a French-Canadian soldier, trader, and explorer, joined his first cousin Iberville in Louisiana and became the commander of a fort on the Mississippi River and then of another on Biloxi Bay. St. Denis was also part of expeditions between 1700 and 1705 that explored areas west into the lower region of the Red River where he encountered Caddo groups, including the Hasinai and the Natchitoches (Clark 1902; Margy 1876-1886). Through his experiences, he became familiar with Caddo languages, the local customs, and the geography of the region, making him “the best-informed and most-powerful man on the eastern borders of Texas” (Chipman 1992:103). The Spanish, not entirely unaware of the renewed French efforts, chose to do little to stop the advance.

Antoine de La Mothe, Sieur de Cadillac, chosen to be the French commander of Louisiana, hoped to establish an open trading relationship with New Spain. One of the first directives sent a vessel to Veracruz to exchange goods (Chipman 1992). The reception was just as it had been years before when on the way to find the Mississippi River the Spanish refused to let the French port in Pensacola Bay. This time, testing the Spanish prohibition on goods in Veracruz, the French were turned away and only allowed supplies necessary for the return trip.

A letter from Fray Francisco Hidalgo found its way into the hands of Sieur de Cadillac, and ultimately led to a change in overseas strategy. The letter, drafted years earlier, encouraged the two powers to coordinate Spanish missionizing activities and directly contradicted official policy. The friar’s appeal for assistance in east Texas prompted Sieur de Cadillac to change his focus from

trade via the gulf to overland routes and there was no man better for the job than St. Denis. He issued St. Denis a passport in late 1713 with directives to found a trading post and contact Fray Hidalgo.

St. Denis traveled to the village of the Natchitoches and established the first permanent French settlement among the Caddo, Fort St. Jean Baptiste aux Natchitos. Unable to locate Fray Hidalgo, he traveled through the lands of the Hasinai on his way to the Spanish presidio of San Juan Bautista. At the turn of the 18<sup>th</sup> century, this outpost near the Rio Grande extended the influence of missionary efforts north and eastward, and served as a way station between northern New Spain and all the missions in frontier Texas (Weddle 1968). The commander of that outpost, Diego Ramón, placed the foreigner St. Denis under house arrest in July 1714 for carrying prohibited goods. The authorities then shipped St. Denis to Mexico City to testify before an official for the Viceroy (Margry 1876-1886).

#### **THE SECOND PERIOD OF SPANISH MISSIONS IN EAST TEXAS, 1716-1773**

The arrival of St. Denis, first at the Rio Grande and then in Mexico City, convinced the Spanish that settlements were once more necessary in Texas. St. Denis' arrival erased any doubts as to French whereabouts and intentions. The French presence in the land of the Caddo, and the potential for gaining influence, finally motivated the Spanish to re-occupy east Texas and establish four missions and a garrison with 25 soldiers (Chipman 1992).

They paid the wily trespasser St. Denis 500 pesos to serve as guide and Domingo Ramón, son of the commander at San Juan Bautista (Shelby 1923), led the soldiers. Also in attendance were the presidents of the Querétaro and Zacatecas missionary colleges, Frs. Isidro Félix de Espinosa and Antonio Margil

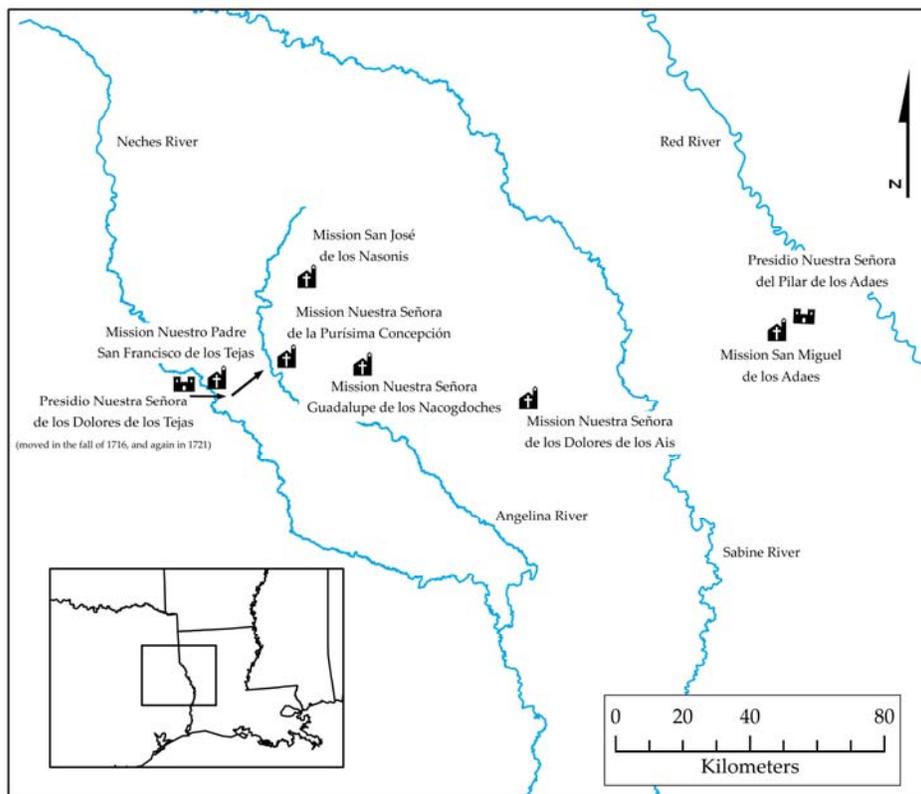
de Jesús, respectively. The well-known Fray Francisco Hidalgo was in the group, along with six other priests. Around 70 people in all set out in the spring of 1716 determined to set up enough settlements to counter French influence. Notably, “seven of the soldiers were married and brought along their families. Their wives were the first recorded female settlers in Spanish Texas” (Chipman 1992:112).

Many important leaders and other members of the Caddo met the expedition when it reached east Texas in late June. As in 1690, the groups celebrated the occasion with ceremony and display. Both the soldiers and the Caddo marched in formations, there were shots fired into the air, the religious banner was raised, the pipe was smoked as a sign of peace, and food and goods were exchanged (Castañeda 1936; Foik 1933; Foster 1995; Hackett 1931-1946; Tous 1930). They repeated many of the same types of demonstrations the next day when members of the Nacogdoche [Nazadachotzi from Casañas] and Nasoni arrived. Within days, the Spanish had resumed construction of the new missions (Figure 3.3).

Presidio Nuestra Señora de los Dolores de los Tejas was founded June 30, 1716 around 3 leagues (12.6 km) east of the former Mission San Francisco de los Tejas, but moved from the west side to the east side of the Neches River in the fall (Foster 1995:120). The Caddo negotiated amongst themselves as to the locations for the missions and St. Denis served as the interpreter (Tous 1930:22). The renamed Mission Nuestro Padre San Francisco de los Tejas, officially established on July 3, 1716 for the Neche and nearby tribes of the Hasinai, was located near the original location of San Francisco de los Tejas [1690].

The new mission was apparently located across the Neches River from the original site, one league (4.2 km) to the east of the river (Castañeda 1936). After years of encouraging a return to the Tejas [Hasinai Caddo], it was fitting that

Father Hidalgo be appointed to minister at this first site. They also established a second mission, Nuestra Señora de la Purísima Concepción, about eight or nine leagues (33.6-37.8 km) northeast of the first mission. This mission was located a league and a half (6.3 km) east of the Angelina River at the principal village of the Hainai, then the head of the allied Hasinai groups. The Spanish formally appointed Cheocas, the Hainai *caddi*, to be captain-general for the entire Hasinai tribe (Foik 1933:20-21; Tous 1930:20-22). Both of these missions fell under the direction of the missionary college of Querétaro.



**Figure 3.3. Spanish Missions in the Second Period of Settlement in East Texas**

The third mission, Nuestra Señora Guadalupe de los Nacogdoches, was located at the main village of the Nacogdoche tribe. It was founded

approximately nine leagues (37.8 km) east-southeast from Mission Concepción, near the present city of Nacogdoches. Given to Father Antonio Margil de Jesús, it was the only mission at this time under the direction of the college of Zacatecas (Castañeda 1936:61). A fourth mission, San José de los Nasonis, was set up for the Nasoni and Nacono. It was located in the village of the former, and according to Ramón, placed around 10 leagues (42 km) west of Mission Guadalupe. The archaeological site was located more than 25 years ago in the southern part of Rusk County, Texas (see below), but there are no detailed reports on the archaeological findings.

The Spanish founded two additional missions for the College of Zacatecas in early 1717, but there are conflicting accounts as to the timing and founding of these two missions (Castañeda 1936:66-67; Espinosa 1964:724; Chipman 1992:114). It is likely that the first San Miguel de los Adaes was placed just eight or nine leagues (33.6-37.8 km) west of the French settlement of the Natchitoché (Castañeda 1936). They founded this easternmost mission near modern day Robeline, Louisiana for the Adae tribe. The relationship of the Adae to southern Caddo groups is unclear, and even the status of their language is a point of debate (Lesser and Weltfish 1932:14; Swanton 1942:7).

The Spanish established Nuestra Señora de los Dolores de los Ais near modern San Augustine, Texas, in an ideal location for Father Margil's headquarters (Chipman 1992). They established the mission for the Ais (or Ays), a group that according to Griffith (1954:58), along with the Adae "belong more properly" with the Red River Caddo. Bolton (1987:32) also suggests that the Ais were not members of the Hasinai alliance. Detailed archaeological reports exist for the site, the first mission in east Texas confirmed in the archaeological record (Carlson and Corbin 1999; Corbin et al. 1980; Corbin et al. 1990).

## **Colonials Clash in the Land of the Caddo**

Soon after the first four missions were re-established St. Denis and Diego Ramón II (son of Domingo Ramón) traveled to Natchitoches, then to Mobile to report to the Sieur de Cadillac (Chipman 1992). When they returned to east Texas in late 1716, just months after the re-founding of the missions, the mood was anything but celebratory. Luckily, they brought with them much needed supplies. Domingo Ramón and the Franciscans articulated the needs in an earlier report (Castañeda 1936; Chipman 1992), which included an additional 25 soldiers and 6000 pesos a year for gifts for the Native groups. In other words, it took little time for the Spanish to realize that they were not prepared for a sustained missionary presence among the Hasinai. The conditions were bordering on desperate in less than two years, as the Spanish lacked food, clothes and essential religious accessories.

The return of St. Denis and Diego Ramón II to San Juan Bautista on the Rio Grande in 1717, loaded with goods secured in Mobile, caused quite a stir. The authorities confiscated the illegal goods and again detained St. Denis. Soon after, they sent him to Mexico City to testify to the Viceroy (Shelby 1923). After testifying, St. Denis escaped and fled back to Louisiana where in early 1721 he assumed the post of commander at the fort in Natchitoches.

The counsel of Fray Antonio de San Buenaventura y Olivares, who was part of the initial efforts at San Juan Bautista, led to an agreement with Spanish officials to establish a mission near the San Antonio River (Chipman 1992). With the help of Martín de Alarcón, appointed governor of Texas in 1716, they were also to re-supply and send reinforcements to the struggling missions of east Texas. From the time he left Mexico City Alarcón never proceeded with much

haste, and it was not until the 1<sup>st</sup> of May that they founded the mission San Antonio de Valero, today commonly known as the Alamo.

The Alarcón expedition did not arrive at Mission San Francisco de los Tejas until six months after crossing the Rio Grande (Castañeda 1936:102). In the meantime, and fortunately for the missionaries, they recovered some goods stashed months before near the Trinity River. Alarcón completed his assignment by visiting the six missions and presidio, but did not deliver the necessary reinforcements of families or soldiers who were to serve as guards.

According to the missionaries, he passed out goods with little discretion, confiscated illegal goods of French origin, and returned to San Antonio (Chipman 1992:117-118). He did little to solve the long-term problems associated with occupying the land of the Caddo (Castañeda 1936:107-109), and resigned his position after returning to Mexico. The wealthy Marqués de Aguayo succeeded him as Governor and Captain General of Coahuila and Texas.

On the international stage, Spain invaded Sicily in 1717 and Sardinia in 1718, and shortly after military engagements between France and Spain began. The conflict spilled over into their colonial ventures when several Frenchmen from Natchitoches attacked mission San Miguel de los Adaes, but there were only two people present, a Spanish soldier and a religious lay brother. When the French soldiers went after the mission's chickens, the lay brother slipped away. As soon as word of French aggression got out, all of the Spanish settlements in east Texas were hastily abandoned (Castañeda 1936; Espinosa 1964), and everyone retreated to the presidio, mission, and settlement at San Antonio.

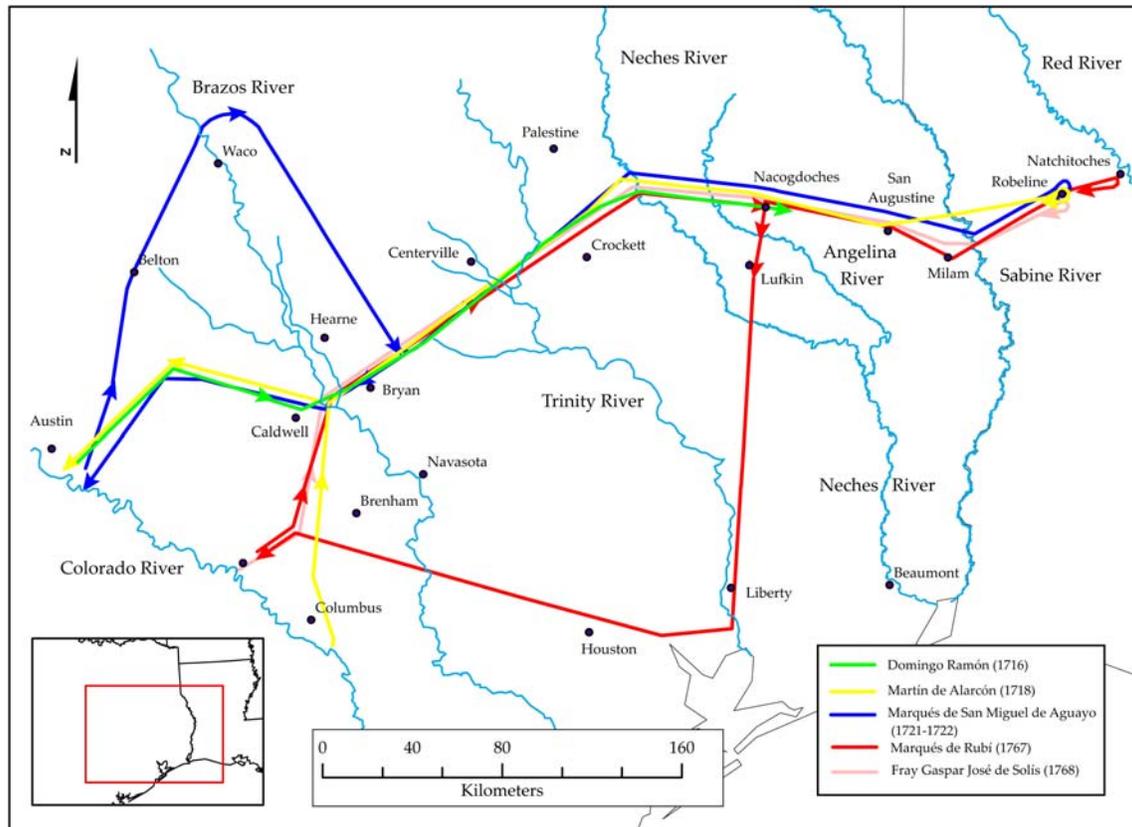
## Marqués de Aguayo Reestablishes the Missions in East Texas

The Marqués de Aguayo's first assignment was to retake east Texas and fight off the French. In terms of settling in the area, however, the Spanish had twice offered the Hasinai Caddo missions and the services of the clergy and were "ignored, rebuffed, and twice expelled" (Wade 1998:117). When the Hasinai negotiated for the locations of the missions in 1716, they told Espinosa "they could not assemble until they had gathered their harvest" (Tous 1930:22). Two years later, at Mission Tejas, the Hasinai inform Alarcón that they could not congregate because many of their people were out hunting buffalo (Castañeda 1936:103). These are activities related to subsistence, not the soul, but the Hasinai had numerous reasons to remain noncommittal. Still, this was not enough to dissuade the Spanish, and they sent Aguayo to re-establish all missions and the presidio in east Texas.

The Marqués de Aguayo personally funded the largest Spanish effort at permanent occupation in east Texas. He recruited over 500 men and gathered supplies and livestock, including "twenty-eight hundred horses, forty-eight hundred cattle, and sixty-four hundred sheep and goats" (Chipman 1992:121); at the time, it was the biggest cattle drive in Texas. Aguayo arrived at the Trinity River on July 9, 1721 (Figure 3.4).

The Spanish spent a couple of weeks crossing the river, but soon after were met by the leader of the Aynay [Hainai], leader of the Hasinai alliance, and presumably the grand *xinesí*, eight chiefs [*caddi?*], and four Native American women (Buckley 1911; Castañeda 1936; Forrestal 1935:38). At the end of the month, St. Denis left Natchitoches, and reached the village of the Hainai to meet with Aguayo (McDonald et al. 1999:61). They agreed upon a truce so long as the

French would evacuate the entire Province of Texas (Forrestal 1935:43). St. Denis accepted and headed back to the post of Natchitoches.



**Figure 3.4. Expeditions during the Second Period of Spanish Missions**

The Marqués de Aguayo, with the help of Friars Isidro Félix de Espinosa and Antonio Margil de Jesús, immediately began to restore the missions among the Hasinai. In most cases, the missions were in ruins, in others no vestiges of the churches or dwellings remained (Castañeda 1936:149-160; Forrestal 1935:43-53; Foster 1995:154). The mission of San Francisco de los Tejas was re-established in the same spot on the east side of the Neches River, in the village of the Neche. Renamed San Francisco de los Neches, it was placed under the care of the

College of Querétaro. Likewise, the Querétaran missionaries re-established Nuestra Señora de la Purísima Concepción and San José de los Nasonis in the same locations. The former, positioned in the middle of the Hainai village, remained the headquarters for Fr. Espinosa. The reports place San José de los Nasonis “seven or eight leagues [29.4-33.6 km] to the northeast of Concepción” (Castañeda 1936:154). The formal reestablishment at each site took place with the familiar ceremony, demonstrations, and ritual.

The expedition continued to the first mission established for the College of Zacatecas, Nuestra Señora de Guadalupe. After arriving, they restored the mission and placed it under the direction of Fray Margil. Next, they returned to the missions Nuestra Señora de los Dolores de los Ais and San Miguel de los Adaes to restore them. At Los Adaes, they found the remains of the mission but no one there to meet them. A scouting party located *rancherías* of the Adae about 10 or 15 leagues (42-63 km) away. The chief of the Adae arrived the next day and explained that they had moved due to French and Native depredations. The Spanish urged the Adae to congregate in the rebuilt mission, but a month later there were still not enough Native Americans around to start the mission (Castañeda 1936:158-159).

The Marqués de Aguayo established the presidio of Nuestra Señora del Pilar de los Adaes on 29 September 1721 and staffed it with 100 men (Chipman 1992:123). Placed between the Red and Sabine rivers, near the French trading post of Fort St. Jean Baptiste aux Natchitos and right next to the old site of mission San Miguel de los Adaes, the presidio would become the first Spanish capital in the province of Texas. The presidio and mission have been located and excavations conducted there (Avery 1996; Gregory et al. 1980; Gregory et al.

1982; Gregory et al. 1984; Webb and Gregory 1978), and both sites are now owned and maintained by the state of Louisiana.

Finally, Aguayo relocated the presidio Nuestra Señora de los Dolores de los Tejas from the Neches River to a location nearer the Angelina River. Stationed in proximity to mission Nuestra Señora de la Purísima Concepción, the Spanish staffed it with 25 soldiers. As Chipman noted (1992:126), “Aguayo would later face criticism for the cost of maintaining the presidial defenses he had set up in Texas, but overall his expedition secured, as never before, Spain’s claim to the province.” Presidio Adaes would in fact be the seat of the Spanish government in the area for the next 50 years. The Marqués de Aguayo had reestablished all of the missions, added another presidio, and significantly increased the Spanish civil, military, and religious presence in east Texas.

### **The Slow Decline and Final Years of the Missions among the Hasinai**

Before the Marqués de Aguayo left the mission field, he suggested a successor take over his position. Aguayo’s departure was a sign of things to follow. Fray Isidro Félix de Espinosa also left the Concepción mission for his college in Querétaro in 1721, and Fray Antonio Margil de Jesús left to serve the next year in Zacatecas. A couple of years later a Native American stabbed and killed Captain Domingo Ramón at the La Bahía mission near the coast. Commandant Diego Ramón, his father, died of natural causes the following year. Finally, the eminent Fray Francisco Hidalgo resigned his post in San Antonio, and: “[T]his most resolute advocate of missions in Texas and Coahuila for more than thirty-five years died in retirement at Mission San Juan Bautista in September 1726. In that same year, Margil, arguably the most renowned Franciscan to serve in Texas, died in Mexico City” (Chipman 1992:128).

The departure of these figures, so central to early Spanish settlement and the (re)occupation of east Texas, must have been demoralizing. To make matters worse, Fernando Pérez de Almazán and the soldiers stationed at presidio Los Adaes experienced consecutive years of crop failures. The situation worsened because of the delays of goods from interior Spanish Mexico, and it seemed likely that death, illness, and desertion would finally bring to an end the Spanish venture.

In Mexico City it was decided that Pedro Rivera y Villalón be charged with inspecting all of northern New Spain. On a mission to save the crown from expenses, Rivera left in November 1724 and reached presidio Nuestra Señora del Pilar de los Adaes three years later. There were no serious indiscretions reported concerning the troops stationed at the presidio Los Adaes. The post of 100 men was orderly and well protected, and enough to counter the 25 soldiers at the French garrison of Natchitoches. The results were not the same for Nuestra Señora de los Dolores de los Tejas (Castañeda 1936:220-222; Chipman 1992:129; Murphy 1937), and Rivera quickly determined that the best course for the presidio was abandonment.

Pedro Rivera listed the groups in the area, most of them still living in their traditional *rancherías* “located within a radius of ten to fifteen leagues” [42-63 km] from the presidios, as the Adaes, Ays, Aynays [Hainai], Nazonis [Nasoni], Neches, Nacogdoches, Naconomes, and Navidachos [Nabedache] (Castañeda 1936:221). Unfortunately, there is no description of the exact locations of these groups. They lived in peace and accord with the remaining Spanish clergy and soldiers, but few if any of the Hasinai Caddo chose to live in the various mission complexes. The determinations of the Rivera inspection led to the closing of presidio Los Tejas and the reduction from 100 to 60 men at Los Adaes.

Theoretically, reductions in the other presidios, including those at La Bahía and San Antonio, left less than 120 Spanish soldiers in all of Texas (Castañeda 1936:231).

The recommendations of Pedro Rivera came as no surprise, but there was some resistance when the official news reached east Texas. Friars representing the College of Querétaro complained that their missions would be unsustainable without the aid of presidio Los Tejas. Rivera agreed with the Franciscans' proposal to move the missions to locations that were more tenable. By July 1730, the Spanish had closed Presidio los Tejas and moved the three Querétaran missions, Concepción, San Francisco, and San José to the Colorado River. Forty years after founding their first mission, San Francisco de los Tejas, the Spanish abandoned the westernmost area of the Hasinai Caddo. Only a few months later they relocated these missions to the San Antonio area (Chipman 1992:131).

Years after the loss of so many important Spanish officials, St. Denis remained at Natchitoches and he continued to profit from what was left of the Spanish occupation. Natchitoches supplied the Presidio Nuestra Señora del Pilar de los Adaes and by extension the three Zacatecan missions, Nuestra Señora de los Nacogdoches, Nuestra Señora Dolores de Ais, and San Miguel de los Linares de los Adaes, with all of the necessary provisions in 1741.

Chipman states (1992:144) that "the population did not even carry on subsistence farming, forcing its dependence on basic foodstuffs purchased at Natchitoches from St. Denis on his terms." Governor Tomás Winthuysen's report of 1744 noted that not a single Native American was living at the missions Guadalupe de los Nacogdoches, Dolores de los Ais, or San Miguel de los Adaes (Magnaghi 1984:175-176). The governor helped to resupply the post of Los Adaes and basic improvements came with his support, but the situation continued to

deteriorate and proposals for the closure of some the missions came as early as 1754. According to Fr. Morfi (1935:91), by the 1750s there was a French trader living in every Caddo village, including those in Spanish Texas.

The Marqués de Rubí and Nicolás de Lafora military inspection and Fray Gaspar José de Solís's visit to the missions and presidio in east Texas which took place in 1767-1768 were the last official reports before the east Texas missions and presidios were finally abandoned in 1773 (Kress 1932; Forrestal 1931; Jackson 1995). In part, the end of the French and Indian Wars (1754-1763) prompted the Rubí inspection, after which France compensated Spain, then an ally, for losses. France ceded all of Louisiana west of the Mississippi River to Spain and east Texas became an interior province.

From La Bahía, Rubí traveled to Los Adaes reaching the "rancheria de San Pedro of the Texas Indians who are pagan [*sic*] but gentle and friendly to Spaniards" on September 5, 1767 (Jackson 1995:125). Rubí noted another *rancheria* of the same nation [Nabedache] "a short distance" way, but he did not visit it (Ibid). After crossing the Neches River, they "came at 2 leagues to the place where the Nechas Indians had their ancient residence and unproductive mission" (Jackson 1995:125-126).

Many Natives came to see them, and the diarist noted that they were adorned "with their vermillion paint, adornment of beads, and their hair combed French-style, smeared with mud, and whitened" (Jackson 1995:126). Similar to other diarists, Rubí noted the housing construction, granaries, and crops as well as the number of horses available. The expedition stopped and rested at Mission Nuestra Señora de Guadalupe, and then on September 9 they reached Mission Dolores. Two days later, they arrived at the presidio of Los Adaes. During the following days, Rubí visited "San Juan Bautista de Natchitoché... belonging until

now to the French, who occupy it" (Jackson 1995:130). Rubí was the first Spanish to visit the French fort as its commander and that event marked the end of an era and a major change in colonial policy.

In late April 1768, Fr. Solís crossed the Trinity River into east Texas, and reached a village of the Hasinai located west of the Neches River. Solís noted (Kress 1932:62-69) that large settlements of the Tejas, Asinays, and Navidachos were located in the areas west of Mission Guadalupe. Later, he noted that the groups living near this mission included the Nacogdoches, Navidachos, Caddodachos, Asinays, and Nazones. After touring the rest of the missions and the presidio of Los Adaes, Solís reached the conclusion that "there is no hope, not even a remote one, of their [Ais] reduction and congregation" (Kress 1932:67). Even though he was referring particularly to the Ais, I suggest we can extend the point to include most of the allied Hasinai groups and the Adae as well.

Rubí's report and international conditions led to the order for abandonment of the missions and presidio. The Governor of San Antonio ordered the removal of all of the Spanish settlements in east Texas, and in 1773, the Spanish permanently abandoned the mission and presidio at Los Adaes and missions Guadalupe and Dolores de los Ais. The settlers were marched and resettled in San Antonio, but a group of them would later return. Eventually this group led by Antonio Gil Ybarbo, and sometimes called the Adaesanos, returned to the deserted buildings at the former settlement of Mission Guadalupe to form the modern town of Nacogdoches. The town, a mixture of Spanish, French, Natives, and perhaps Africans, was to play an important role in Texas history.

## THE UNITED STATES AND REMOVAL, POST-1773

Spain was aware that Louisiana was not particularly profitable, but it still sought to deter British expansionism. Spain's inability to govern Louisiana led them to settle on leaving the administration largely in the hands of French agents (Marceaux and Perttula 2010). According to Bolton (1914:72), the decision to carry on the French system of annual presents and a network of French and Creole traders was the "line of least resistance." The system formally extended to include the Caddo tribes of east Texas, including Bigotes, the Hainai *caddi* and leader of the Hasinai Caddo. The principal French agent was Athanase Christophe de Mézières, son-in-law of St. Denis.

Bigotes and another Caddo chief, Tinhouen of the Cadohadacho, rose to become important political figures in the early 1770s (Carter 1995:179). This period, characterized by Native hostilities and epidemics, provided the Caddo chiefs with the opportunity to flex their political muscle. Due to epidemics, many of the Caddo tribes coalesced and the situation worsened as the amount of trade goods from France began to dwindle.

Numerous displaced tribes in the area became increasingly hostile, and the Spanish and their surrogate French traders enlisted the help of Tinhouen and Bigotes to bring about peace. The Caddo proved their skill at diplomacy by arranging meetings that ended in treaties with several chiefs of groups hostile to the French and Spanish. Athanase de Mézières, appointed lieutenant governor of Spanish Louisiana in 1769, worked with Bigotes to secure treaties with Wichita groups, including the Tawakoni, Taovaya, Yscani, and Kichai. For his efforts, Bigotes became the "Head Chief of all these Nations" at a ceremony in San Antonio de Béxar (Carter 1995:189).

Unfortunately, the withdrawal of the missions from East Texas did not end the spread of diseases and the archival records document several epidemics. An outbreak hit the Hasinai groups particularly hard in 1777, killing nearly a third of the Hasinai including Bigotes and a Nabedache chief (Bolton 1914; Carter 1995; Kinnaird 1949; Smith 1998:176).

Hainai *caddices* died so often during the next 30 years that many times it forced *canahas* to assume power temporarily. Real political power came to rest with the *caddices* of the Nabedache, Nacogdoche, and Nadaco. The Nadaco reinforced their political separation from the Hasinai by physically moving northward from the headwaters of the Angelina River to the upper Sabine (Smith 1998:176; Bolton 1914, Vol. II:138, 250, fn 303; Hackett 1931-1946, Vol. III:444-446; John 1975:498-499).

Only a decade later a “cruel fever” took the lives of two-thirds of the Caddo, along with many Europeans (Derrick and Wilson 2001:94; Smith 1991). The influx of other Native American groups, displaced and pushed westward, were a constant concern, as were the repeated threats of Osage attacks from the north. Therefore, the Kadohadacho moved southward down the Red River to Caddo Lake after 1795, coalescing as a means of survival. The consolidated Kadohadacho tribes renamed their new home on Caddo Lake, *Sha’chahdinnih* after the first village of all Caddo peoples noted in origin stories (Carter 1995:217; Parsons et al. 2002; Tiller 2010).

The area east of the Mississippi River came under the control of the United States in 1783, after the war for independence. The areas west of the Mississippi were still under Spain control, but jurisdictional differences made administration complicated. In secret dealings, Spain transferred the territory of Louisiana back to France in 1800; the United States then purchased it from France

in 1803. While the United States believed the purchase included part of the Texas territory, the Spanish did not agree. Hasinai groups were clearly living in Spanish Texas, but the place and affiliation of the Kadohadacho were less clear, as least according to Spain and the newly established United States. The Caddo again found themselves on the border of rival colonial governments.

The American population in Texas reached 20,000 by around 1834, about 3,500 of which lived in the Department of Nacogdoches (Jackson 2003:253), and 700 in the community of Nacogdoches (Sanchez 1926:283). The Native groups comprised an estimated 14,200 individuals, but less than 2,000 were Caddo (Schoolcraft 1851-1857; see Table 1.1). The majority of the Native population was from recently arrived immigrant groups such as the Cherokee, Choctaw, Kickapoo, Shawnee, Delaware, and Alabama-Coushatta. Significantly, non-Native Americans made up the majority of the population living in east Texas for the first time since European colonization and settlement (Carter 1995:275-276).

Caddo groups in Louisiana and Arkansas, including the Kadohadacho (which at this time included the Yatasi and the Natchitoches), ceded approximately one million acres of their lands to the United States in 1835 for an agreed upon price. The United States was supposed to pay the Kadohadacho \$30,000 worth of goods and horses immediately and \$10,000 in cash for the next five years. In return, the United States expected the Kadohadacho to leave the territory and move into the Republic of Mexico within one year. However, in October of the same year, the Texan's revolt against Mexico began and the threat of the Kadohadacho groups allying with the Mexicans prompted the Americans to ask them to stay out of Texas. Around this time, the Hasinai consisted of 225 members united under the leadership of the Hainai. Along with 250 Nadaco, they became one of the "associated bands" of the Cherokee, a powerful

conglomerate of Texas Native Americans negotiating with the Mexican government for land rights (Smith 1998:178).

Concern for safety led some of the Hasinai and Nadaco to leave their traditional homelands in August 1836. They settled on the Trinity River, far from European settlements, and were joined a couple of years later by most of the Kadohadacho. Representatives of Texas signed a declaration guaranteeing to Native Americans “peaceable enjoyment of their rights to their lands” (Carter 1995:276), but in 1838 Mirabeau Lamar, the second president of the Republic of Texas, instituted a policy of complete removal (Neighbours 1973).

Europeans forcibly pushed all of the Hasinai, Nadaco, and Kadohadacho tribes out of East Texas between 1836 and 1842 (Perttula and Nelson 2006:20). From this time, until the United States annexed Texas in 1845, and through their removal to Oklahoma in 1859, the lives of Caddo peoples were fraught with violence, constant relocation, and uncertainty (Anderson 2005; Moore 2006, 2007). Major Robert Neighbors, a proven friend and ally of the Caddo people, led the Caddo’s precipitous removal from the Brazos Reserve (1854-1859) to Indian Territory (Neighbours 1975).

Sustained contact between the Caddo peoples and the Spanish, French, Mexican, Texan, and American governments brought trade materials and technology in tandem with the social objectives and policies of these foreign groups. Many of these policies aimed at changing Caddo cultural identity under the pretext of religious conversion, trade, and participation as consumers in a new market economy (Marceaux and Perttula 2010).

Ultimately, Texans and Americans, who sought the rich lands in modern Arkansas, Louisiana, Oklahoma, and Texas, achieved the aim of dispossessing the Caddo of their lands. Despite that, the Caddo were able to coalesce as the

primary means of maintaining their cultural identity and assured their survival in a chaotic world by relying on long-standing commonalities and alliances between kin-related Caddo groups and families (Smith 1998).

As noted in Chapter 1, this dissertation focuses on the Caddo past and heritage, but it is essential to remember that more than 5,000 members of the federally recognized Caddo Nation of Oklahoma currently live in Binger, Oklahoma and throughout the United States. To this day, the Caddo Nation traces their roots to the original groups and alliances such as the Hasinai Caddo

## Chapter Four: History of Archaeological Research

In this chapter, I review the history and development of archaeological research in the upper Neches and Angelina rivers, particularly as they relate to this study and the Hasinai Caddo. I have divided the chapter into four parts that are generally chronological and which cover: 1) the early archaeological inquiry and explanations by American settlers, naturalists, and antiquarians; 2) the work that resulted from large public projects and the establishment of university programs; 3) the introduction of scientific applications, the role of legislation in archaeology, and salvage projects; and finally 4) the most recent research in the study area and the contributions of nonprofessional archaeologists. This chapter relies on both Guy's review (1990:27-130) of previous investigations in *The Archeology and Bioarcheology of the Gulf Coastal Plain* and on Perttula's discussion (1992:45-56) of the application of Caddo area archaeological theory and methods in *The Caddo Nation: Archaeological and Ethnohistoric Perspectives*.

The history of archaeological research in the Caddoan area goes back well over a century, and a thorough review of such research is beyond the scope of this dissertation. More comprehensive reviews and broad surveys of the archaeological research throughout the Caddoan area are already available (see Davis 1970; Guy 1988, 1990; Jeter et al. 1989; Kenmotsu and Perttula 1993; Perttula 1992; Sabo et al. 1988; Story 1990). I have instead focused on the people, projects and research that most apply to the study area, especially the ones that identified sites and artifact assemblages that are potentially associated with the Hasinai Caddo.

## ANTIQUARIANS AND MYTHS OF THE MOUNDBUILDERS: PRE-1930S

The first written accounts of European explorers in east Texas are from the early sixteenth century, but the archaeological record of the Native American dates back much further. This was not always believed to be true, however, and as settlers pushed west into and beyond the Mississippi River valley in the nineteenth century the debate began over the “mystery of the moundbuilders.”

Early settlers and travelers made note of the large monuments of earth, and soon after began to dig into the mounds, finding human remains along with artifacts of extraordinary quality. Antiquarians collected artifacts such as distinct and well-made ceramics, carved stone pipes, and anthropomorphic effigies of copper, shell and mica from throughout the southeastern United States, including the Caddo area.

The origin of the peoples responsible for building the large earthen mounds and the accompanying art and artifacts, were soon a source of great debate. Many settlers believed the monuments to be evidence of a long-vanished culture, and interpretations ranged from the Vikings or the long-lost tribes of Israel to evidence of Mesoamerican groups that no longer existed in the area. Implicit in this argument was the belief that Native Americans currently or recently residing in the region were incapable of building the large and complex sites or creating elaborate artworks.

The United States government involvement in the management of cultural institutions began in 1800 with the creation of the Library of Congress, and after the Civil War it began to conduct ethnographic and archaeological research through the Smithsonian Institution. Not long after this, Congress appropriated funds for an expedition up the Red River. Led by trained scientists Thomas Freeman and Peter Custis, a surveyor and medical student, respectively, they

noted mounds sites and abandoned villages in Arkansas, Louisiana, and Texas, and made contact with Caddo groups in the area (Flores 1984). Still, it was not until 1839 that the ethnologist Samuel G. Morton, utilizing evidence from mounds and contemporary human remains across the Americas formally suggested that the ancestors of North American populations constructed mounds.

Few people accepted Morton's conclusion until after the Smithsonian Institution established the Division of Mound Exploration of the Bureau of Ethnology in 1881 (Smith 1985). Led by Cyrus Thomas, the special investigation excavated many earthen mounds and examined thousands of artifacts recovered from them, eventually bringing to a close the mystery and the myths of the moundbuilders.

Eventually, the Antiquities Act of 1906 established criminal sanctions for the unauthorized disturbance or removal of historic or prehistoric remains on federal lands. It also authorized the establishment of areas of historic or prehistoric interest as national monuments. The Historic Sites Act of 1935 later implemented a federal policy that included protection for historic structures, battlefields, and antiquities

There was very little substantive information gained from these earliest efforts and the work of antiquarians, collectors, and naturalists added little to the basic understanding of Caddo archaeology. Unfortunately, their interests were more in observing and in collecting the artifacts for themselves and for museums. Reports and publications were brief and mostly descriptive, and information related to provenience and context necessary for modern interpretations and archaeological analysis were scarce or altogether absent.

## **Caddo Archaeology in the Early 20<sup>th</sup> Century**

At the turn of the 20<sup>th</sup> century, the field of archaeology became more systematic and formalized as a discipline, adopting techniques and standards that were more rigorous. Much of our understanding of Caddo archaeology results from the work of early pioneers such as A. T. Jackson, Clarence H. Webb, and Alex D. Krieger. The contributions of Webb, a physician by trade, emphasize the early influence of avocational archaeologists in advancing understandings of Caddo prehistory and history. A discussion of the continuing support of avocational archaeologists, vital to the following study, follows below.

Clarence B. Moore of the Philadelphia Academy of Science visited many important Caddo sites along the Ouachita and Red rivers, some of which no longer exist (Moore 1908, 1909, 1912, 1913), and his investigations led to the recovery of artifacts from major mound sites, villages, and cemeteries. He published the results widely, and at some of these sites, human remains were associated with European trade goods providing direct evidence of early contact.

Soon after, Mark Harrington's work in Arkansas for the Heye Foundation at the Museum of the American Indian resulted in the influential *Certain Caddo Sites in Arkansas* (1920). Harrington led an archaeological expedition to southwestern Arkansas where he excavated many mound and village sites. The resulting publication described the sites, and interpreted sequences of structures and mound construction.

Perttula noted (personal communication, 2010) that Harrington's work was astutely important because he was the first to recognize Caddo archaeology as distinct in terms of such elements as mound construction, mortuary practices, and ceramic styles. Other important conclusions included the proposal that another distinct Native culture had preceded the Caddo settlement of southwest

Arkansas, now known to be from the Archaic period, and the association of archaeological materials and the mound-building culture with the ethnographically known Kadohadacho groups (Guy 1990; Harrington 1920; Perttula 1992).

#### **FOUNDATIONS AND FRAMEWORK OF CADDO ARCHAEOLOGY: 1930S-1950S**

In response to the Great Depression large-scale public projects such as those of the Civilian Conservation Corps (CCC) and the Works Progress Administration (WPA) conducted archaeological excavations in east Texas from 1936-1941 (Guy 1990). Private foundations, such as the Laura Spelman Rockefeller Foundation that funded almost 10 years of archaeological research in east Texas, also helped to complete significant projects (Barnard 1939; Perttula 1992). Resulting from these large-scale endeavors was a large number of archaeological excavations across the United States, predominantly in the Southeast, but also in the Caddo area. The WPA research that put people back to work, and the salvage excavations prompted by the construction of reservoirs and highways, were critical to archaeology in a number of ways.

First, more excavations were done on sites than ever before, leading to a flood of new archaeological data. The contextual controls (provenience) and reporting improved greatly from the turn of the 20<sup>th</sup> century onward, although they were still far from modern standards. Archaeologists working in laboratories developed systematic methods to catalog and organize the large collections generated from the investigations. They used the information and artifacts to construct chronological and regional syntheses.

Finally, new people were actually engaged in archaeology. These were increasingly middle class persons introduced to archaeology through university

anthropology departments, and other academic disciplines, where they had exposure to the new methods and theories guiding American archaeology (Trigger 1989; Willey and Sabloff 1974).

### **Archaeological Inquiry in Texas**

The amount of archaeological work in Texas increased under the direction of James E. Pearce, the first chair of the Department of Anthropology at the University of Texas (UT). Pearce secured funding from the Bureau of American Ethnology beginning in 1919, but work most relevant to this dissertation did not begin until the 1930s (Barnard 1939; Jackson 1933, 1934; Pearce 1919, 1932, 1932a, 1932b). During this time archaeologists from UT such as Pearce, Jackson, and A. M. Woolsey, all conducted fieldwork at Caddo sites and cemeteries in the project area. Jackson was the most prolific of the field supervisors at UT, while Pearce noted the direct association of European trade goods with human remains and suggested they had identified the Hasinai Caddo in the archaeological record (Pearce 1932b:53; see also Jackson n.d., 1932).

Linking the material remains buried with members of the Caddo culture, specifically European trade goods diagnostic to more or less known periods of time, allowed archaeologists to associate specific locations with historic events. Termed the direct historical approach (Strong 1935, 1936; Steward 1942), archaeologists used this method to establish “possible ethnic and cultural links between postcontact tribal histories (after ca. 1520) and precontact archaeological cultures” (Perttula 1992:50). The direct historical approach relied on the available and extensive historic and archival record to locate and describe the specific character of Hasinai Caddo groups (Bolton 1908, 1987; Griffith 1954; Hackett 1931-1946; Margry 1876-1886; Swanton 1942).

Initially, researchers applied the direct historic approach only to those sites with European trade goods. Later, they also characterized and compared the collections from sites without European goods, especially those with distinctive Caddo ceramics and chipped stone artifacts. If the list of artifact traits were comparable between the sites with and without European trade goods, then one could argue that the sites dated to around the same time. This extensional argument was the basis for the earliest attempts at space-time systematics (Sayles 1935), but it was unsuccessful with the Caddo sites clearly predating the introduction of European materials because of the imprecise and limited chronological framework for Caddo archaeology and prehistory that existed at that time (Perttula 1992:50).

E. B. Sayles in *An Archaeological Survey of Texas* (1935) was the first to utilize the materials collected by Jackson and Pearce, primarily ceramics vessels, to define a phase that he believed represented the Hasinai groups of the Neches and Angelina rivers. Unfortunately, the sample of whole vessels that were key to his argument was biased towards mound centers, burials, and cemeteries (the kind of sites that typically contain whole vessels). Less work was done (and whole vessels are less often found) in the domestic areas of villages or hamlets.

The focus on mortuary remains and artifacts associated with elite members of the Caddo, in addition to the poor recording and documentation of the times, made the collections inadequately suited “to the development of a systematically applicable spatial-temporal framework... and ineffective as a cultural-historical device” (Perttula 1992:51). The typological and chronological scheme developed by Krieger (1944, 1946) and Webb (1945, 1959) soon replaced the Hasinai phase proposed by Sayles.

Another notable study from around this time is Thomas N. Campbell's Master's Thesis (1936) from the University of Texas. In it, Campbell examined the decoration and ornamentation occurring on ceramic vessels from more than 20 sites in east Texas, including some from areas occupied by the Hasinai Caddo. While the study is mostly descriptive, it effectively illustrates how often the Caddo decorated ceramic vessels, where the decoration occurs on the vessels, and the great variation in decorative techniques and designs. It also compares the results from surrounding areas, including the Mississippi River valley, thus clearly setting the Caddo area aside as a distinctive archaeological culture.

### **Establishing Chronological Sequences and Typology**

After the passing of Pearce in 1938, J. Gilbert McAllister became the chair of the Department of Anthropology at UT. McAllister's exposure to the latest archaeological theory and methodology motivated him to make changes in personnel and training at the university (Guy 1990:42). The most notable of these changes was the appointment of Alex D. Krieger as manager of the WPA laboratory in Austin in the late 1930s. Other important figures at this time were A. T. Jackson, the supervisor for the UT-WPA surveys and excavations in the study area, and several field directors including Gus E. Arnold, H. Perry Newell, and A. M. Woolsey. Extensive investigations took place across Texas at important Caddo sites including the George C. Davis (GCD), and the Hatchel, and Mitchell sites (Guy 1990).

In the process of documenting and organizing the extensive WPA collections and by incorporating stratigraphic associations when possible, Krieger began to develop "an artifact classification system which would order the data in such a way that spatial and temporal variation could be more easily

applied” (Guy 1990:47). Around the same time Clarence H. Webb from Shreveport, a pediatrician by profession, became interested in archaeology and was part of excavations at major Caddo sites in northwestern Louisiana including the Belcher (Webb and Dodd 1939, 1941) and Gahagan mound sites (Webb and Dodd 1939a).

In what has been called the First Caddo Conference on archaeology Krieger, Webb, and several other archaeologists convened for an informal weekend meeting at Webb’s house in January 1942 to compare collections and discuss the state of Caddoan archaeology (Krieger 1947). It was out of that meeting, and several more to follow, that many of the ceramic types still used today were “confirmed and established” (Guy 1990:47; Webb 1978). There have been more than 50 Caddo Conferences since 1942, gaining in attendance and interest, with papers and panel discussions occasionally published in the Bulletin of the Texas Archeological Society (BTAS), as well as in Special Publications of the Oklahoma Archeological Survey, and in the Caddo Archeology Journal (see Davis and Davis 2009).

Applying the analytical methods of the time Krieger (1944, 1946), in collaboration with Webb (1945, 1959), developed the first comprehensive and systematic cultural history of the Caddo area. Born out of the culture-history paradigm, the Midwestern Taxonomic System (MTS) was one of the leading taxonomic methods employed by archaeologists of the time. W. C. McKern was the first to propose arranging classificatory units in a hierarchy from general to specific using the terms component, focus, aspect, phase, pattern, and base (see McKern 1939:308-310 for discussion of the definition and applicability of terms).

Using the MTS, archaeologists created classificatory units by developing “trait comparisons at varying levels of similarity” (Perttula 1992:52). Built from

the ground up, using information on sites and assemblages, the archaeologists placed taxonomic classifications into an ordered system meant to indicate cultural relationships. In practical terms, Krieger only employed the component, focus, and aspect in his culture history studies.

Krieger (1944; 1949:205-215) defined two major periods, the Gibson Aspect (A.D. 1100-1450) and the Fulton Aspect (A.D. 1450-1650), and 13 foci for the study area. When first proposed as part of the Fulton Aspect, Krieger (1946:205-211) considered the Frankston Focus to be primarily prehistoric, but also the archaeological antecedent to the Hasinai Caddo groups. The ceramic types most often associated with the Frankston Focus were Poynor Engraved, Bullard Brushed, Maydelle Incised, LaRue Neck Banded, and Killough Pinched.

Krieger noted (1946:206) that most of these pottery types continued into historic times, but that one type, Patton Engraved, appeared “invariably in those Frankston Focus sites which also yield glass, iron, etc.” Later, Newell and Krieger (1949:191) decided to establish the Allen Focus for Caddo sites that had historic materials and Patton Engraved ceramics, and the Frankston Focus was determined to be solely pre-contact. Krieger’s proposal was important because it established the chronological differences between two directly related archaeological cultures.

Importantly, the MTS was an approach that attempted to deal with chronology and the relationship between archaeological cultures. It attempted to move beyond the descriptive in order to explain archaeological relationships, but ultimately the MTS was unable to address:

[C]ultural context or variability inherent in the [classificatory] units themselves. That is, contextual biases in unit formulation, whether they were of Prehistoric or Historic period affiliation, were not explicitly

recognized for a class of entities (i.e., components) or the problems in association were ignored in lieu of typological and trait descriptions... This problem in cultural classifications is potentially acute with Caddoan Historic period components because European trade goods are sparse in Caddoan sites predating 1730, and they are concentrated in cemetery contexts (Perttula 1992:55).

Classifications based solely on linked and diagnostic traits were not intended to be temporal, although Krieger set up his classifications to recognize temporal relationships. As McKern stated (1939:302), "the archaeologist requires a classification based upon cultural factor alone; temporal and distributional treatments will follow as accumulating data shall warrant."

### **The Handbook of Texas Archeology**

Krieger's initial and seminal effort has remained mostly intact. With Dee Ann Suhm [Story], and the collaboration of Edward B. Jelks, Krieger later synthesized and published the artifact typology in *An Introductory Handbook of Texas Archeology* (1954). According to Guy (1990:86), the Handbook "may represent the single most influential study published in this period" (see also Davis 1979). The fact that after only two years the publication was out of print supports this claim. The collaborative effort provided a comprehensive review of cultural complexes from across Texas, along with descriptions and illustrations of the key ceramic and lithic types. Professionals and non-professionals quickly adopted these cultural units and type descriptions, using them both critically, and at times unsystematically.

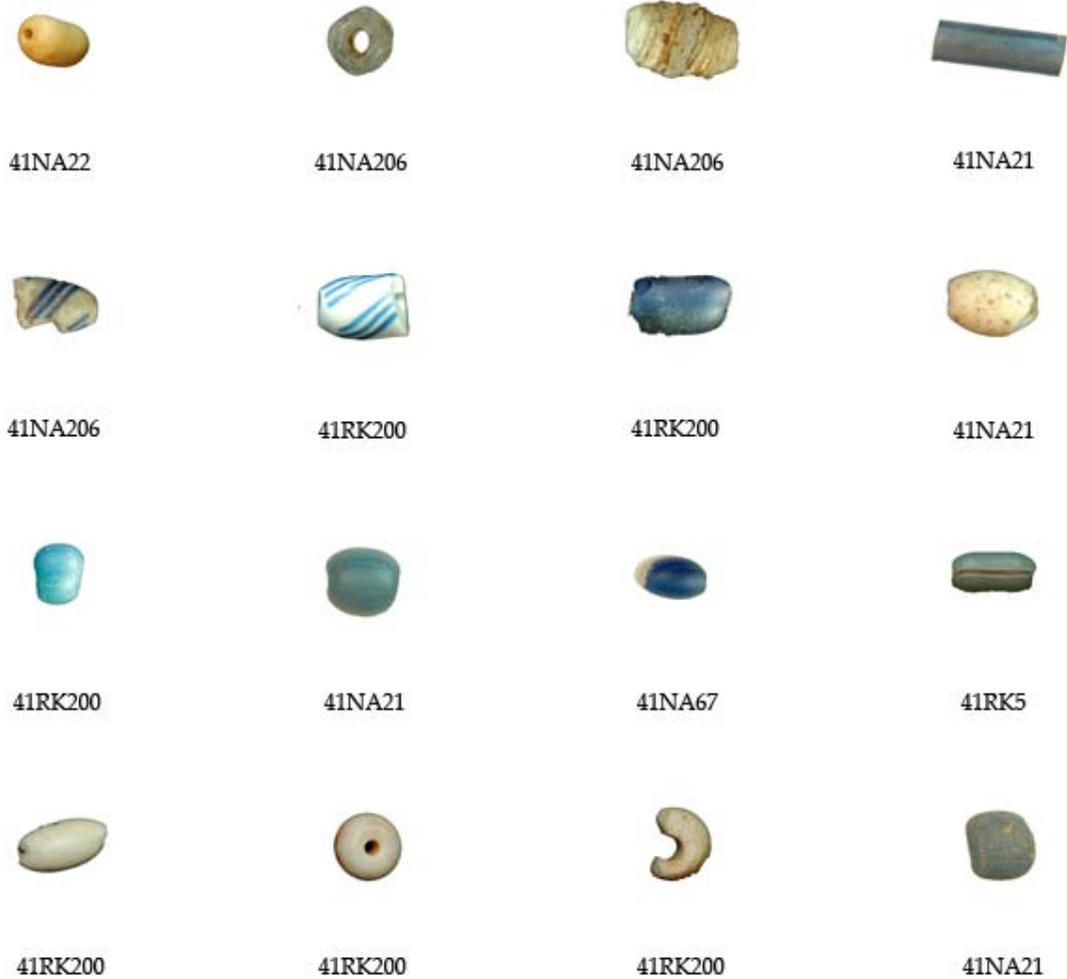
Suhm et al. (1954:219-221) reported that the Allen Focus [circa A.D. 1600-1800] components occurred in Anderson, Cherokee, Henderson, Houston, and Nacogdoches counties. The *Handbook* characterized the Allen Focus as having

small permanent villages positioned along minor streams, many with a cemetery in, or adjacent to, village middens. The people of this focus practiced agriculture, supplemented by hunting, fishing, and gathering. Patton Engraved dominates the ceramic types, and there are minor amounts of Hume Engraved as well (see Chapter 5 for discussion of ceramic types). Poynor Engraved, Killough Pinched and Maydelle Incised continued in use from the earlier Frankston Focus, and Avery Engraved and Simms Engraved vessels appear as trade goods. Cuney and Turney replaced the Perdiz arrow point types.

Items of European origin such as majolica, olive jars, glass trade beads, iron knives and axes, and other metal artifacts associated with the introduction of the gun and horse were also regularly present at Allen Focus sites. As expected, numerous European trade goods are present at Spanish Mission sites as well (Figures 4.1-4.4).



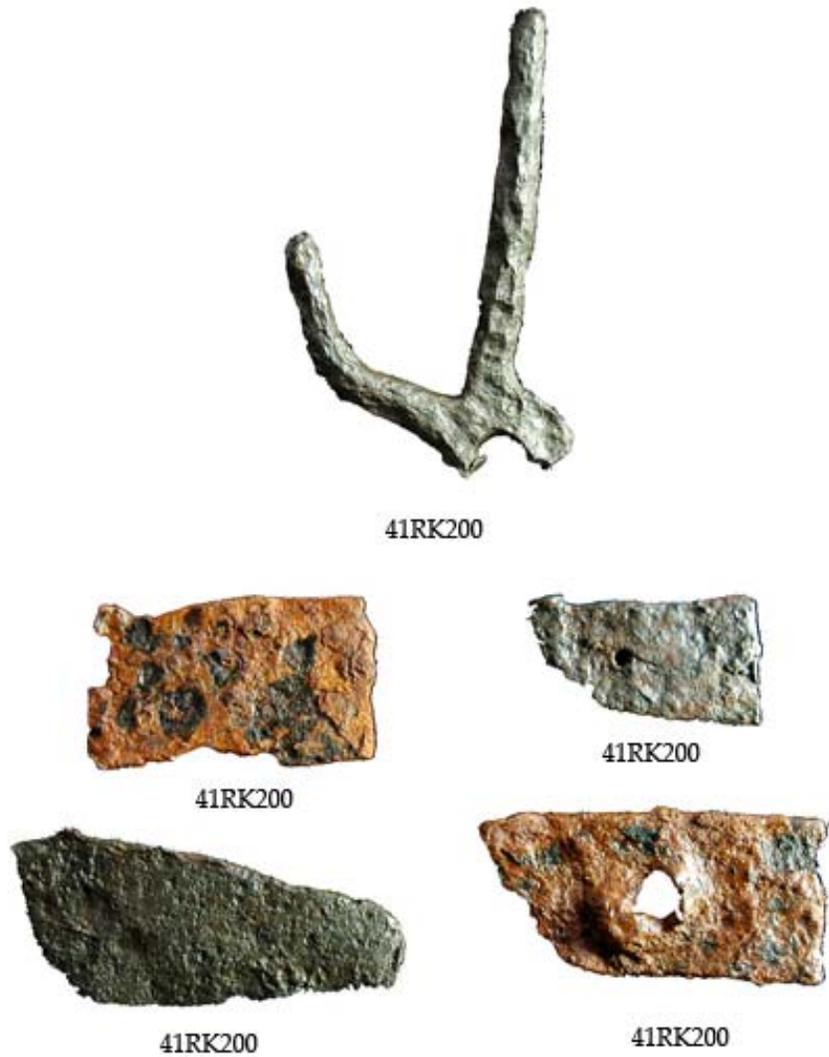
**Figure 4.1. Gun Parts from Historic Caddo Sites**



**Figure 4.2. Glass Trade Beads from Historic Caddo Sites**

Later, the Allen Focus designation changed to the Allen phase when the use of aspect and focus designations fell out of favor. Story and Creel (1982:34) defined the Allen phase based on extensive excavations and analysis of materials at the Deshazo site (41NA13/27), along with a comprehensive review of the collections from Late Caddo and Historic Caddo sites in the central part of East Texas and adjacent parts of Louisiana. The Allen phase “may date to roughly

A.D. 1600 to 1750... In particular, the Allen phase is believed to have developed out of the Frankston phase and, more importantly, to have shared the same form of organization, kinds of intergroup interaction, and settlement patterns." They proposed the term Anderson Cluster to describe these similar socio-political units groups in the Upper Neches and Angelina drainages from ca. 1400 A.D to the early Historic period.



**Figure 4.3. Spur and Knife Fragments Recovered from Mission Nasonis**



41RK200



41RK200



41RK200



41RK200

**Figure 4.4. Gun Parts Recovered from Mission Nasonis**



41RK200

41RK200

41RK200

41RK200

41RK200



41RK200

41RK200

**Figure 4.5. European Ceramics Recovered from Mission Nasonis**

It is important to note that archaeologists intended to update and revise the cultural units and type descriptions as more information became available. These were not intended to be comprehensive, static, or without qualification. In fact, minor revisions of the type descriptions appeared in the reissued version of Part II of the *Handbook* (Suhm and Jelks 1962), and Suhm and Jelks (1962:viii) elaborated on the importance of defining types:

A type is not just a descriptive category, but must have cultural and historical meaning if it is to be employed successfully as a tool for archeological interpretation. Consequently, each proposed type should be supported by distributional data (both geographical and temporal) and should be keyed to foci, aspects or other archeological assemblages with which it occurs.

Suhm and Jelks (1962) stressed that the principal criteria for demonstrating that the type is a valid cultural entity is continuity in distributional data. I will discuss this further in Chapter 5, along with the use and definitions of ceramic types.

#### **SCIENCE, LEGISLATION, AND SALVAGE ARCHAEOLOGY: 1950S-2000**

In terms of scientific applications in archaeology, the second half of the twentieth century was a period of great innovation. Archaeologists created and developed techniques designed to answer the most basic questions related to archaeological materials, such as what is the chronological date of the material, and what is the exact composition of the materials? Answers to the former question came via various dating techniques adapted from the geological sciences, the most popular of these used in archaeology being radiocarbon dating. To answer the latter question, archaeologists have turned to analytical

chemistry for the chemical and elemental composition of materials. Below I discuss some of the analyses Caddo archaeologists frequently use.

Another important development during this period was the introduction of legislation related to archaeological research (Table 4.1). The passage of laws such as the Reservoir Salvage Act (1960) and the National Historic Preservation Act (1966) served to formalize and mandate archaeological work, and provided guidance on the management of cultural resources. Legislation plays a major role in the modern practice of archaeology, and below I review some of the most important examples.

**Table 4.1. Important Legislation Related to Archaeology**

<b>Legislation</b>	<b>Year</b>
Antiquities Act	1906
Historic Sites Act	1935
Reservoir Salvage Act	1960
National Historic Preservation Act	1966
National Environmental Policy Act	1969
Archaeological Resources Protection Act	1979
Native American Graves Protection and Repatriation Act	1990

Congress passed the Reservoir Salvage Act in reaction to the alarming damage done to the archaeological record during the building of dams, reservoirs and highway systems. Janice Guy (1990:48-73) has described in detail the increase in archaeological research in the Caddo area of east Texas due to construction and development, especially in relation to large dams built for reservoirs in the years following World War II. These projects were the impetus for the majority of archaeological work from the mid-1940s to the mid-1960s and resulted in the recovery of a wealth of information and in huge collections of

artifacts from sites investigated throughout the region. I will review the reservoir salvage projects from the upper Neches and Angelina River basins, particularly those that identified sites potentially associated with the Hasinai Caddo.

### **Science in the Study of Material Culture**

The use of radiometric dating techniques in archaeology began to flourish after the development of radiocarbon (or  $^{14}\text{C}$ ) dating in the mid-twentieth century. Most radiometric dating techniques, sometimes referred to as chronometric dating, are dependent on the physical and chemical composition and properties of materials. Radiometric dating permitted archaeologists to assign a specific date to materials associated with artifacts, providing a measure of certainty and precision never before possible.

Based on the rate of radioactive decay of organic remains, radiocarbon dating is still the most common and widely used dating technique. Poor sampling strategies and an unsophisticated understanding of the processes resulted in less critical analysis in some early efforts, but modern techniques have been refined and greatly improved. Archaeologists also realize that chronometric dates do not necessarily indicate when a particular cultural event took place, but rather the date of the material in question. Still, when considered in the overall archaeological context, radiocarbon dates have proven valuable in constructing a more specific sequence of chronological events.

First organized in 1958, the University of Texas Radiocarbon Dating Laboratory did not publish its first date list from sites in Texas until several years later (Guy 1990:55). As of 1990, there were only 22 radiocarbon dates from six sites with Caddo occupations in the Neches-Angelina river basins, not including the large sample of dates ( $n=130$ ) from the George C. Davis site (Story 1990:325).

Only one of those sites, the Chayah site (41NA44), was included here and the four dates suggest the site was primarily occupied before historic times (Valastro et al. 1978).

There are a significant number of radiocarbon dates from over 100 Caddo sites in east Texas post-1990 (Perttula 1998, 1998a), bringing the total radiocarbon database to over 500 samples. This includes dates from recently investigated Historic Caddo sites included in this study such as the Nabadache Blanco (41HO211) and Nabadache Azul (41HO214), as well as the Kah-hah-ko-wha site (41CE354) (Perttula and Nelson 2006; Perttula and Nelson 2007).

Unfortunately, radiocarbon dating may not be particularly well suited for the purposes of this study. This is because of rapid changes in the atmospheric levels of  $^{14}\text{C}$  after A.D. 1500, making it difficult to acquire precise and accurate dates from archaeological occupations post-dating that time (Stuiver 1993:67-68). These severe and short-term atmospheric radiocarbon fluctuations would affect the calibrated age ranges for materials recovered from the sites examined here, which presumably date to after A.D. 1650. As Miller (1996:54) pointed out, most calibrated dates that fall after A.D. 1600 will “span the entire period” between that time and the present (see also Perttula and Nelson 2007).

Thermoluminescence (TL) dating is another dating technique with the potential to date more precisely Historic Caddo components (or at least the ceramics from those components). TL dating is based on the principle that materials absorb radiation from the environment, and the stored radiation can be emitted and measured as brightness of light (luminescence). The light emitted by commonly occurring minerals, primarily quartz, accumulates radioactive energy over time. When materials are reheated to around 300°C or higher, electrons trapped within the minerals are released, producing light that is measured. For

ceramics, this technique dates the last firing event to reach a certain temperature. The range of ages over which TL dating will work varies, and this is dependent on the “nature of the luminescence signal and the dose rate from the environment” (Duller 2008:20).

Theoretically, TL dating should work better than radiocarbon methods for ceramics from historic period Caddo sites because the dating technique is not dependent on the rate of decay of carbon. The error factor for luminescence ages is much lower, and therefore the range limits for the technique are much lower and provide a more precise date. With the assistance of a grant from the Texas Archeological Research Laboratory (TARL), I submitted two samples of ceramic materials from recent excavations at the J. T. King site (41NA15) in Nacogdoches County to the University of Washington Luminescence Dating Lab.

Archaeologists have also utilized analytical chemistry to identify the chemical composition of cultural materials. I recently participated in a workshop on X-ray fluorescence (XRF) held by the Classics Department at the University of Texas and Bruker AXS. Using a Bruker portable XRF, I collected compositional information from 112 sherds from eight historic period Hasinai Caddo sites. This includes a sample of vessels sherds previously submitted by Perttula for instrumental neutron activation analysis (INAA), another method used to determine the chemical composition of materials. In recent years, Timothy K. Perttula has submitted over 1000 samples of Caddo pottery and east Texas clay for INAA. The results are stored with many others in a digital database maintained by the University of Missouri Research Reactor Center (MURR). We hope to compare these results in a future publication.

## **Modern Legislation in Archaeology and Cultural Resources Management**

The majority of archaeological work in the United States today is completed under the purview of Culture Resource Management (CRM). Enacted in 1966, the National Historic Preservation Act (NHPA) created a number of institutions that are essential to the practice of CRM. These include the National Register of Historic Places (NRHP), the Advisory Council on Historic Preservation (ACHP), and the State Historic Preservation Officers (SHPO).

The major impacts of NHPA legislation were that: 1) it required all federal agencies to determine (in consultation with other parties participating in the Section 106 review process) if actions enabled by their agency would have the potential to threaten archaeological and architectural properties, including sites that could be listed on the NRHP or be determined eligible for inclusion on the NRHP, 2) it required that each state governor appoint a SHPO who would develop state historic preservation plans and coordinate historic preservation activities, 3) it established the ACHP to advise the U.S. President and Congress on the state of historic preservation at the federal level, and on occasion serve an active role in the Section 106 process, and 4) it required federal agencies to establish procedures for identifying, inventorying, and evaluating the eligibility of historic properties, as well as consulting with other Section 106 parties, including SHPOs, Native American tribes, and interested persons.

Legislation of particular interest to archaeologists in CRM is Section 106, which when written required agencies to concern themselves only with impacts on places included in the NRHP. In 1972, Congress revised it to include all properties that were eligible for inclusion in the NRHP (King 1998). Section 106 states that federal agencies must take into account the effects of their actions on

historic properties, and afford the ACHP, the SHPOs, Native American tribes, and interested persons, a reasonable opportunity to comment on their actions.

The Section 106 procedures became formal regulations (36 CFR Part 800) in 1979, but Congress has revised it several times since. For example, Congress amended NHPA in 1992 to expand federal agency responsibilities under the act, and formally established a program to support tribal historic preservation programs. Under these programs, tribes could take over SHPO responsibilities by establishing Tribal Historic Preservation Offices, and substitute their own procedures for the ACHP in Section 106 reviews on tribal lands.

Several other important pieces of legislation have affected the nature of archaeology and CRM. The National Environmental Policy Act (NEPA) passed in 1969, articulated a national policy favoring environmental protection and created the Council on Environmental Quality (CEQ). NEPA is clearly a natural resource management authority, but it is also an authority for managing the impact of federal government actions on all aspects of the human environment making it a cultural resource management authority.

The Moss-Bennett Act (1974) expanded the scope of the Reservoir Salvage Act of 1960, and Congress passed the Archaeological Resources Protection Act (ARPA) in 1979 to strengthen the requirements for managing and protecting archaeological sites on federal lands.

The Native American Graves Protection and Repatriation Act (NAGPRA) was passed in 1990 in order to provide a process for museums and federal agencies to return certain Native American cultural items such as human remains, funerary and sacred objects, and objects of cultural patrimony, to lineal descendants of culturally affiliated Native American groups. In fact, the

enactment of NAGPRA was largely the result of the growing influence of the members of Native American nations.

### **Reservoirs and Salvage Archaeology**

The Inter-Agency Archeological and Paleontological Salvage Program began in 1946, and initially conducted salvage archaeology projects related to the construction of reservoirs. At the Smithsonian Institution, the Bureau of Ethnology organized the River Basin Surveys (RBS) to carry out excavations. They established one of several nation-wide field offices in Austin, Texas. According to Jelks (1952), the goal of the program was to salvage approximately 10% of the archaeological resources threatened by the government-sponsored construction of reservoirs.

From 1947 to 1958, the RBS conducted investigations for 14 proposed reservoirs in Texas including McGee Bend on the Angelina River and Blackburn Crossing on the Neches River (Table 4.2). RBS fieldwork generally consisted of a reconnaissance survey of the area proposed for inundation. In addition, the program made an effort to contact avocational archaeologists and local landowners and collectors.

These local informants provided valuable information on sites and their location, and led to the recording of many sites including some used in this study. They completed forms for each site, and plotted the locations of all sites on United States Geologic Survey (USGS) topographic maps when available for the area. The USGS topographic maps have become the standard in archaeology, particularly the 7.5 minute quad map. It was also during the late 1950s that all researchers in the state of Texas began to utilize the still-in-use Smithsonian trinomial system.

**Table 4.2. Important Reservoir Projects in the Study Area 1948 to 1976**

<b>Reservoir (Lake): Basin</b>	<b>Counties</b>	<b>Investigations</b>
McGee Bend (Sam Rayburn): Neches-Angelina	Angelina	1948 RBS survey, tests
	Jasper	1956-57 RBS tests, excavation
	Nacogdoches	1958 Lawton tests
	Sabine	1960, 1962 TASP survey, tests, excavation
	San Augustine	1961-1962 SNASoc excavation
Blackburn Crossing (Palestine): Neches	Anderson	1957 ETASoc excavation
	Cherokee	1957 RBS survey, tests
	Henderson	1969-70 SMU survey, tests, excavation
	Smith	1975 TAMU tests
Bayou Loco (Nacogdoches): Neches-Angelina	Nacogdoches	1972 NASoc survey, tests
		1972 TASP survey
		1975 TASP tests, excavation
		1975 UT excavation
		1975 SFASU tests
		1976 UT excavation

### **The Angelina River Basin**

Robert L. Stephenson of the RBS conducted the initial survey for the McGee Bend Reservoir on the Angelina River in 1948. Stephenson located 80 sites, including many reported a decade earlier by Gus Arnold during the WPA-UT survey. Stephenson (1948, 1950) recorded sites from both Early and Late Caddo period occupations and recommended further excavations at over 30 sites. Under the RBS in 1956 and 1957, Edward Jelks directed excavations at nine of these sites and later provided a synthesis of the archaeology of the McGee Bend Reservoir in his dissertation (Jelks 1965). Excavations at the Wylie Price site (41SA94) on the edge of the Attoyac River floodplain produced a glass trade bead from a burial, indicating a Historic period occupation. I consider the

collection from Jelks' excavations, particularly the large number of ceramics, in the detailed ceramic analysis in Chapter 5.

The UT-affiliated Texas Archeological Salvage Project (TASP) replaced the RBS from 1958 to 1966 and carried out work on 19 reservoirs in the Gulf Coastal Plain (Guy 1990:55). This included another visit to the McGee Bend Reservoir, now known as Lake Sam Rayburn. Lathael Duffield recorded the McElroy site (41SA116) on the Attoyac River in 1960, and excavations there produced a large amount of ceramics. Although informants reported finding numerous glass beads and other European trade goods, the TASP recovered only one bead fragment (Guy 1990:63).

Founded in 1965 the Texas Archeological Research Laboratory (TARL) was a cooperative effort of the TASP, the Department of Anthropology at the University of Texas, the Division of Research in Anthropology, and the Texas Memorial Museum (Guy 1990). TARL remains closely linked to the College of Liberal Arts and the Department of Anthropology, and over the years has become a nationally recognized research facility and the largest repository for archaeological records and materials in Texas. The facility continues to provide support for undergraduate and graduate students including access to collections, laboratory space, and training with specialized equipment. TARL also provides professionals, including private CRM firms and independent archaeologists, with essential information for archaeological research in Texas.

### **The Upper Neches River Basin**

LeRoy Johnson Jr. and W.A. Davis with the RBS, advocational archaeologist Sam Whiteside, and several members of the East Texas Archeological Society (ETASoc), surveyed and investigated sites in the Blackburn

Crossing Reservoir in the upper Neches River basin in 1957. Of the 35 sites identified, most had Caddo occupations and the majority likely date to the Frankston Focus (Guy 1990:57; Johnson 1961). Johnson believed that the area had a high research potential and recommended further testing of several sites, but no professional excavations took place before the completion of the dam in 1959. Ten years later, because of plans to enlarge the lake, archaeologists from Southern Methodist University (SMU) returned for additional work around the newly formed Lake Palestine.

During the survey they located an additional 98 Native American sites, most of which were attributed to the Late Caddo period or the Frankston Focus (Anderson 1972). Although 85 of the 98 sites had Caddo ceramics, there were no European trade goods found. Poynor Engraved, Maydelle Incised, and Bullard Brushed are the dominant pottery types, and the categories of decoration (engraving, incising, punctuating, pinching, and neck banded) and technological features are consistent throughout the upper Neches.

At these sites, from 10 to 60% of the sherds were brushed and approximately 95% of the sherds had grog inclusions (Anderson 1972:184-191). SMU archaeologists subsequently excavated a number of the prehistoric Caddo habitation sites at Lake Palestine, proposing several ceramic indices for settlement types represented by the excavated sites (Anderson et al. 1974).

It is necessary to note several influential studies that used previously excavated materials from sites in the upper Neches basin; the final two are Master's Theses from the University of Texas. First, Shafer (1968) proposed a seriation of ceramic vessel attributes from five Frankston and Allen phase sites. The proposed order of the sites from most recent to oldest was Patton (41AN26), Allen (41CE12) Freeman (41AN34), Cook (41AN2), and Hood (41CE14).

Nancy Cole (1975) focused on mortuary evidence from eight Caddo sites, including Allen (41CE12), Hackney (41CE6), Jowell (41AN13), Owens (41AN21), Patton (41AN26), Cecil (41AN8), Freeman (41AN34), and Reagor (41CE15). Although the last three sites did not have European trade goods, Cole considered all of the sites to date to the Historic period. Cole reanalyzed all of the materials and field notes from these sites in order to determine to what extent there was evidence for social status and differential treatment of the dead.

Most relevant for this study, Cole documented ceramic vessel forms and decorative attributes in detail. Along with an attempt to isolate ceramic micro-traditions that might demonstrate social distance, Cole (1975:284) used 24 different attributes in statistical tests to explore the similarities (homogeneity) and differences (heterogeneity) within and between the sites' ceramic collections. Most of the 24 attributes were classified as either consciously and unconsciously executed.

The variation in vessel decoration, a thorn in any detailed study of Caddo ceramics, forced Cole (1975:213) to combine form and decorative motif as a unit of analysis. Small sample size was another issue that affected the results. In order to make the statistical tests meaningful, Cole had to reduce the number of sites and range of attributes. Despite all of this Cole concluded, "Most of the ceramics were not part of the differential treatment of the dead at these sites" with the possible exception of effigy vessels, statistical tests of the ceramic attributes indicate "there is intersite homogeneity in unconsciously executed attributes but heterogeneity in consciously executed attributes. There seems to be intrasite homogeneity in both consciously and unconsciously executed attributes," and there was some evidence of ceramic micro-traditions (Cole 1975:361-364).

Finally, Ulrich Kleinschmidt (1982) completed an important study of the materials from the A. C. Saunders site (41AN19), analyzing the large collection of well-preserved artifacts, including bone, shell, and ceramics. The study also included a review of over 650 sites with artificial mounds and/or concentrated middens in the six surrounding counties, as well as an analysis of complete vessels from 35 cemeteries. Kleinschmidt identified ceramic types such as Poynor Engraved or "PO" (n=164 vessels) and Patton Engraved or "PA" (n=64 vessels) among the more than 250 vessels from the upper Neches basin. In addition, he identified vessels with a hybrid of Poynor and Patton elements or "PP" (n=43 vessels) (see Kleinschmidt 1982, Figures 19 and 20).

The study of the Poynor and Patton Engraved types as temporal markers came about as a result of the identification of at least one Patton Engraved vessel in the Saunders collection and several other vessels which contained Poynor and Patton elements (Group "PP" in the vessel analysis), as seen in the original type definitions [in the Handbook] (Kleinschmidt 1982:213). [brackets my own]

Kleinschmidt attempted to refine the regional chronology of Late and Historic Caddo cemetery sites based on the relative frequency of these types of engraved vessels (Kleinschmidt 1982:212-228). Using the resulting seriation, he suggested a tentative chronology of sites that included an Allen phase group (Historic Caddo) following three Frankston phase groups (Late Caddo, Group 1, 2, and 3). Notably, the sequence corroborates the order of the sites in the Shafer (1968) seriation.

The five sites in the Allen phase group all had European trade goods. The dominant engraved type at the sites was "PA" (68%) and there were very few "PO" vessels (8%). The "PP" hybrid made up for around one quarter of the

vessels in both the Allen phase and the preceding Frankston phase group 3. According to Kleinschmidt (1982:213), the latter subdivision “may represent the last of the prehistoric Frankston phase sites.” One-half of the total vessels were “PO” in the Frankston phase group 3, but this increased dramatically in groups 2 (85%) and 1 (100%). There was less than 10% of “PA” and “PP” vessels in Frankton phase group 2, and group 1 had no “PA” vessels or “PP” vessels with ticking in the decoration (see Figure 24, Kleinschmidt 1982).

Even though no absolute dates were established, the work of Kleinschmidt helped to clarify the differences between the prehistoric Poynor Engraved and historic Patton Engraved types. For example, Patton Engraved definitely shows up in prehistoric sites and Poynor Engraved vessels with decorations containing ticking are more common in the late sites. The study also helped to establish several important characteristics regarding collections from prehistoric and historic cemeteries, such as the definite changes in arrow points from Perdiz to more diverse collections such as Bonham, Cuney, Scallorn, and Turney (Kleinschmidt 1982:239-240). The results from all of these studies in the upper Neches are informative and instructive, and have been helpful in determining which attributes will be most useful for further study.

### **Bayou Loco Reservoir and the Deshazo Site**

In the early 1970s, the Texas Archeological Salvage Project (TASP), later the Texas Archeological Survey (TAS), with the assistance of the Nacogdoches Archeological Society (NASoc) conducted archaeological surveys and test excavations in the area proposed for the Bayou Loco Reservoir (Prewitt et al. 1972). Together they located and recorded more than a dozen sites, and recommended further testing for seven of them. Consequently, several sites with

Historic period Caddo occupations received extensive excavations and study before the construction of the reservoir that later became Lake Nacogdoches.

For example, the TAS crew led by Elton Prewitt returned to the southeast side of the proposed Bayou Loco Reservoir in the spring of 1975 and dug a series of backhoe trenches and limited hand excavations at the Deshazo site (41NA13/27). The most recognizable and well-studied site in the area (Story, editor 1982, 1995), the multi-component Deshazo site was first found and excavated by avocational archaeologists Robert Turner Sr. and Robert Turner Jr. sometime in the late 1930s. The Turners' excavations focused on a Historic period Caddo cemetery that produced glass beads, metal knives, and brass hawk bells, as well as Caddo pottery vessels. Not long after, Arnold with the WPA-UT also surveyed areas of the site.

Thomas and Janice Mayhew, members of the NASoc, also worked extensively in the area. They located several sites, and had begun salvage work of their own around Bayou Loco months before the TAS (Guy 1990). Then, after the TAS investigations, they continued systematically surveying drainages in the study area. Under the direction of the Mayhews, several members of the NASoc helped with test excavations at the Loco Bottom site (41NA23). The Mayhew's "systematic and thorough" work went beyond Bayou Loco, including Legg Creek, near the Sam Rayburn Reservoir, and areas throughout Nacogdoches County (Prewitt 1975:4).

In addition to the excavations Prewitt led, Dee Ann Story conducted the University of Texas Field School at the Deshazo site in the summers of 1975 and 1976 (Story, editor 1982, 1995). During the same period, James "Jim" Corbin of Stephen F. Austin State University also led limited excavations and a survey at Deshazo. Most of the excavations took place on the main areas of occupation in

the small, centralized hamlet, which had a midden and at least nine circular structures (Good 1982), but there was also extensive testing across the small tributary to the south where the Turners excavated the Caddo cemetery.

The Turners discovered no other evidence of burials, but identified an older Woodland component in parts of the site. The majority of the artifacts and features from the Deshazo site, however, date to a single historic Allen phase occupation from the late 17<sup>th</sup> century to the early 18<sup>th</sup> century. The detailed analysis and conclusions drawn by Story and others (Story, editor 1982, 1995), discussed in the following chapters, will be a cornerstone of the arguments made in this dissertation.

The TAS completed other work in the Bayou Loco area in 1975, including excavations at the Mayhew (41NA21) and Iron Rock (41NA22) sites. According to Prewitt (1975), they excavated at least 20% of the Mayhew site in a large block. Intensive excavations produced large amounts of both Caddo and European artifacts, and Prewitt speculated that the site might represent a French trading post. Nancy Kenmotsu's subsequent analysis of the materials indicated that most of the European artifacts were French, and she concluded that the site was a single component 18<sup>th</sup> century (ca. 1700-1750 A.D.) Hasinai Caddo farmstead. She also suggested the Mayhew site was likely associated with the larger hamlet at the Deshazo site (Kenmotsu 1992:166). For this dissertation, I have reexamined the extensive ceramic collection of more than 20,000 sherds from the Mayhew site. The TAS also worked at the Iron Rock site (41NA22), but there is little information available regarding the work done there, and no published report. I have analyzed and included the materials from the Iron Rock site in this study.

## Legg Creek and Ayish Bayou

The TAS survey identified the Chayah site (41NA44) in 1972 on the flood plain of Legg Creek, only 5 km west of Deshazo and Bayou Loco sites. Jim Corbin joined the faculty at SFASU shortly after the first field school at Deshazo, and the next summer (1976) he led the first Stephen F. Austin State University Archeological Field School at the Chayah site. Researchers hoped that results from the site would provide an interesting contrast between Caddo sites in the Angelina River basin (Corbin et al. 1978; Story, editor 1982). The field school testing and excavations at the Caddo hamlet revealed at least three areas of occupation, but there were essentially no cultural features discovered. I reanalyzed a large collection of ceramics obtained from their work for this study.

Corbin's excavations from the site now known to be the 18<sup>th</sup> century Mission Dolores de los Ais (41SA25) represent another significant collection of Historic Caddo ceramics. At the request of the San Augustine Historical Society (SAHSoc), Kathleen Gilmore of North Texas State University conducted the first excavations at the site between 1972 and 1973 (Corbin et al. 1980: Appendix 1). The excavations focused on the north side of State Highway 147, and though they recovered artifacts dating from the colonial period, the scarcity of intact features or architectural remains left the identification of the site as Mission Dolores unresolved. However, as is often the case, finds from the last day of the field season on the south side of SH 147 provided encouraging results.

Results led the SAHSoc to enlist the help of Corbin who, with the help of SFASU students and the NASoc, excavated the site from 1976-1978. Their study positively identified the site as Mission Dolores, the first mission in east Texas identified in the archaeological record (Corbin et al. 1980). Corbin worked at the site for the Texas Department of Highways and Public Transportation once more

in 1984 (Corbin et al. 1990). Below is a more detailed discussion of the investigations and conclusions from that work.

#### **RECENT RESEARCH IN HASINAI CADDO ARCHAEOLOGY: 2000-PRESENT**

The majority of archaeological work used in this dissertation occurred before the turn of the twenty-first century; however, I have also included the most recent investigations. As with earlier investigations, they generally fall into two categories: professional and private. Professional archaeologists, in many cases, volunteer great amounts of time and energy, working in the field, and organizing regional meetings, conferences and research groups dedicated to the study of specific Caddo archaeological research topics. The professional investigations include work completed in order to comply with the requirements of Section 106, most often done by CRM firms, but professionals also work with universities, state agencies and public organizations (i.e., National Park Service, Texas Historical Commission, Texas Parks and Wildlife Department, and NASoc).

Working closely with the professionals, another vital source contributing to the recent work on Hasinai Caddo archaeology in east Texas, are avocational archaeologists, interested citizens, local landowners, and student volunteers. The contribution of these nonprofessionals to Historic Caddo archaeology is significant, and often essential to completing projects. In the final section of the chapter, I discuss their role and the direct impact they have had on this study. I also cover the results of both of these groups' investigations in more detail in Chapters 5 and 6.

## Recent Professional Projects

Stephen F. Austin State University held three field schools at the Spradley site (41NA206) on Bayou La Nana in Nacogdoches County, a site first found by avocational archaeologist Tom Middlebrook (2007). The first field school took place under the direction of Corbin in 2001, and in subsequent years (2003 and 2005) Victor Galan led the excavations in several areas of the site. The investigations are currently unpublished, but I have documented the ceramics and European trade goods as part of this study. Other joint ventures with SFASU include minimal testing and a recent geophysical survey (with Archaeo-Geophysical Associates, LLC, and the Texas Historical Commission) at Mission Dolores (41SA25).

A private individual contacted Perttula in 2003 to document a recently acquired collection. The individual, hearing that the artifacts were being put up for sale, purchased them in order to keep the collection together and make them available for research studies (Perttula et al. 2005). The collection includes materials from sites (41HO64 and 41HO65) located on private property on the north side of San Pedro Creek across from Mission Tejas State Historical Park (MTSP) in Houston County.

Glass trade beads dominate the collection, but there are also metal artifacts, a gunflint, an elbow pipe fragment, and a catlinite pipe (Perttula et al. 2005:87-99). Although the exact association of the artifacts is unclear, all of the materials are likely to have come from Historic Caddo burials at 41HO64, except for the catlinite pipe, which is from 41HO65. Archaeologists identified these sites, along with several others in the area around San Pedro Creek in earlier investigations (see Chapter 7), believing they were part of a Nabedache village

known from the historical sources. In fact, archaeologists once thought 41HO6 to be the site of Mission San Francisco de los Tejas.

Not long after Perttula documented the collections from 41HO64 and 41HO65, an archaeological survey found three sites on a tract of land acquired by the Texas Parks and Wildlife Department along San Pedro Creek (Cooper and Cooper 2005). Following that survey, Archeological & Environmental Associates, LLC (A&E, LLC) conducted more intensive testing in the summer of 2005. In a detailed report, they demonstrate that two of the sites were part of a late 17<sup>th</sup>-18<sup>th</sup> century Nabadache village known from historical sources (Perttula and Nelson 2006). The Nabadache Blanco (41HO211) and the Nabadache Azul (41HO214) sites are likely part of the Nabadache village associated with either Mission San Francisco de los Tejas [1690] or with Mission Nuestro Padre San Francisco de Tejas [1716], or with both.

In the hope of gathering information from other poorly known sites in areas inside of the MTSP, archaeologists from A&E, LLC and volunteers including myself conducted investigations again in February 2007. Using available information (see Erickson and Corbin 1996), shovel testing, and metal detecting scans, we relocated the sites 41HO91, 41HO122, and 41HO147. We also recovered a modest amount of material, including Late Caddo and Historic Caddo ceramics, lithics, and a few metal artifacts. Although the evidence is limited, it suggests the sites are likely part of the Nabadache village (Perttula and Nelson 2007a). Finally, at the request of John Tatum, Park Ranger at MTSP in Houston County, A&E, LLC also examined a large collection of Caddo ceramic sherds curated at the park (Perttula et al. 2007). The collection includes over 600 prehistoric and mainly early Historic Caddo ceramic sherds collected by Plev

Cutler (the first park manager at MTSP) and his family from the areas in and around the park.

Archeological & Environmental Consultants, LLC also recorded and tested the Cherokee Tree Farm or Kah-hah-ko-wha site (41CE354) in 2006 during an archaeological survey for two proposed lakes on Flat Creek in the upper Neches River basin (Perttula and Nelson 2007). The significance and scale of the site led to further excavations, including hand and mechanical testing, as well as a geophysical survey, to search for buried archaeological deposits and features and to determine if the site was eligible for inclusion in the NRHP. The results of the survey and excavations clearly indicate that the site was an early Historic Caddo domestic settlement with well-preserved midden deposits and subsurface features. Perttula and Nelson's analysis demonstrated how controlled archaeological investigations of a Caddo domestic setting can lead to a better understanding of Caddo material practices and lifeways in the early historic period (Perttula and Nelson 2007:130).

Finally, there are two small collections of materials from Historic Caddo sites analyzed by Perttula. The first collection was the result of building a parking lot in downtown Nacogdoches in 1999. After Caddo ceramics, animal bones, and late 18<sup>th</sup> and early 19<sup>th</sup> century European artifacts were located during the construction, Corbin (1999) conducted minimal excavations at 41NA223. Perttula (2008) later analyzed the collection of 111 ceramic vessel sherds in detail, and submitted a Patton Engraved rim to be analyzed using INAA. Perttula (2009) also examined ceramic sherd collections recovered by SWCA Environmental Consultants during the survey and shovel testing for the Keystone Pipeline project. Of particular interest are the materials recovered from the Allen Phase

site 41NA317. The assemblage consists of just a few sherds, but it included a Patton Engraved rim and brushed sherds.

### **Avocational Archaeology**

Avocational archaeologists, several already mentioned, have a long history of working closely with professional archaeologists in east Texas. In several of the cases noted below, nonprofessional involvement in the study area goes back to the 1930s. Their initiatives have ensured the recording, investigation, and protection of archaeological resources. Over the course of my involvement with Caddo archaeology in east Texas, I have established and developed close relationships with local avocational archaeologists, landowners, and collectors. We have worked together in the field and in the laboratory to recover, record, analyze materials, and contextualize information from unreported collections.

One example of this early avocationalist work is the investigations by Robert Turner, Sr. and Robert Turner, Jr. in the Angelina River basin. Bob Turner and his father excavated nine burials in the late 1930s from the southern part of the Deshazo site. The Turners also excavated at the Stephens Farm site (41NA202) in late 1940 and early 1941, recovering Caddo ceramic materials in association with over 7000 European trade beads. Robert Turner Jr. believes that the materials were from “at least one shallow grave of an individual that had been plowed up and the grave offerings scattered from the yearly cultivation of the area” (Turner 2008:9). Turner continues to contribute and share information, as he has provided me with notes and photographs from these sites for use in this study.

Thomas and Janice Mayhew did extensive work in western Nacogdoches County from 1972-1976 (Notes on file at TARL). They were able to identify 81 sites through the course of their systematic surveys, 10 of which are part of this study (41NA23, 41NA33, 41NA44, 41NA47, 41NA53, 41NA54, 41NA55, 41NA60, 41NA65, and 41NA67). Five of these sites are included in the detailed analysis, including the Loco Bottom site (41NA23) where the Mayhew's directed members of the NASoc in test excavations in 1973.

Locals first relocated the J. T. King site (41NA15) in western Nacogdoches County sometime in the early 1920s. They found it when plowing revealed a burial with three pots and glass beads. Shortly thereafter, Jackson with UT located one burial with associated ceramic vessels, as well as Historic Caddo ceramic vessel and pipe sherds. Subsequently landowners left the area in pasture and have since kept it protected.

More recently, a new generation of (professional and non-professional) volunteers and locals interested in Historic Caddo archaeology have again conducted investigations at the J. T. King site (41NA15), this time aimed at better understanding the relationship of Historic Caddo sites to the Spanish *El Camino Real de los Tejas*. Along with the 2009 and 2010 excavations, geophysical survey, and detailed mapping at the J. T. King site, archaeologists have located several potentially related sites along King Creek. Surface collections and shovel testing at two of these sites, the David King site (41NA321) and the Wes Wisener site (41NA336), have Allen phase components with Patton Engraved sherds and European trade goods.

Another important contributor to the current research on Historic Caddo archaeology in east Texas, who was also instrumental in the recent investigations at and near the J. T. King site, is Tom Middlebrook. His participation in the

archaeology of the area goes back close to 40 years, first by volunteering at the Deshazo site during the UT Field School. Middlebrook began work in 1985 at the Henry M. site (41NA60), another Allen phase site on Bayou Loco, with excavations continuing intermittently under his supervision until 1991. The majority of the excavations at this early Historic Caddo farmstead, as summarized in a recent publication (Perttula et al. 2010), focused on a house with an overlying and partially overlapping well-preserved midden.

Middlebrook discovered another Historic Caddo site, the Loco Fork site (41NA183), and led minor test excavations at the site from 1986-1996. He made the previously unpublished materials from both of these sites available for this study. Middlebrook also graciously provided financial and material support for the current study, including field notes and photos, access to collections, advice and insight, and countless meals.

Together with Perttula, Middlebrook helped establish the East Texas Caddoan [now Caddo] Research Group (ETCRG). The ETCRG met at least seven times from 1996-2008, creating a practical venue in which to discuss in detail—but in an informal setting—research issues, problems, and findings concerning East Texas Caddo archaeology (Perttula and Middlebrook 2009). I was fortunate to participate in the meetings in between 2006 and 2008, both focused on Historic Caddo archaeology in Texas and northwest Louisiana. Most of the attendees, including myself, published their presentations from the ETCRG in Volumes 26 (2007) and 28 (2008) of the *Journal of Northeast Texas Archaeology*. Archaeological work took place at the J. T. King site after the Caddo Conference and East Texas Caddo Research Group meetings in 2008.

Middlebrook is the current president of a reestablished and rejuvenated ETASoc, that recently organized multiple field days and lectures. Many of these

field days took place on Plaza Principal (the historic downtown square) in Nacogdoches. Middlebrook, along with interested locals such as Morris Jackson, have been excavating at sites (41NA302 and 41NA303) on Plaza Principal since 2008. In association with a Spanish well and other large pit features, they have discovered late 1700s European and Native American ceramics.

Another recent field day occurred at the D'Ortolan site (41NA299), a late 1790s to 1830s ranch identified in the historic record as Rancho San Bernando del Loco. Middlebrook located the site in 2003, and through the years has recovered a significant sample of materials from the only Spanish Colonial *ranchito* structure ever excavated in east Texas (Middlebrook, 2009 personal communication). During the work, they also recovered Caddo ceramic sherds presumably obtained or purchased from groups in the area (see Perttula 2008a, 2008b). Together the finds from the D'Ortolan and Plaza Principal sites represent "some of the latest aboriginal Caddo ceramic wares currently known in East Texas" (Perttula 2008a:21)

Another recent Middlebrook project was the relocation of materials known only from a handwritten note in the TARL site files. The landowners originally found the materials in 1933 when floodwaters exposed a Historic Caddo burial containing ceramic vessels and a pipe, an Anderson blade, and European trade goods. Chasing down leads in a manner worthy of a detective novel, Middlebrook found the surviving daughters of the former landowner (who had long-since moved to another town), still in possession of most of the collection. He also relocated and documented the site, the A. L. Self site (41NA340), and conducted minor testing (Middlebrook 2010).

Finally, Middlebrook and a group of others located sites along the Angelina River, including the likely site of Mission Nuestra Señora de la

Purísima Concepción. The initial survey in May 2010 identified three sites no more than one-half a kilometer apart with artifacts consistent with Historic Caddo sites. Additional work this year at the Gallant Falls site (41NA344) makes it a very likely candidate for Mission Concepción, only the third to be located archaeologically in east Texas. Establishing its location will change and influence future arguments for the associations of sites with Hasinai groups.

Mission San José de los Nasonis (41RK200), the second mission to be located in east Texas, was found by Bill Young in the Angelina River basin in Rusk County more than 25 years ago (Perttula et al. 2009). Young discovered the site after the area had been cleared of timber, and subsequent work included a systematic surface collection and metal detector survey. His efforts recovered an extensive collection of Caddo and European materials, an invaluable contribution that provides insight into life at the east Texas mission. In addition, while working in the area he also discovered two contemporaneous Nasoni Caddo sites (41RK191 and 41RK197). Young has been extremely helpful, making the collections from these sites available to Perttula and to me for analysis. The results from our study, which includes materials from limited work done at the Mission Nasonis in the late 1980s by Jim Corbin and Kathleen Gilmore, are published here in full for the first time.

As a youth in around 1960, Mr. Ron Green, along with a group of friends, located two sites (41AN183 and 41AN184) in an abandoned field on Walnut Creek, a tributary to the upper Neches River (Perttula 2010). Green and several other individuals excavated what turned out to be Historic Caddo burials, recovering various materials from the site among which were Caddo ceramic vessels (including Patton Engraved and Poynor Engraved vessels), glass trade beads, Cuney arrow points, and an Anderson biface. Unfortunately, there is no

information regarding the association or provenience of the artifacts, but Green donated the artifacts to the Caddo Nation of Oklahoma in 2007. In a letter to the Caddo, Green apologized and stated that “[n]othing can undo what has been done, but I know that the Caddo Nation will ensure these artifacts are given the proper respect and honor they would get no where else” (Green 2007:2). The site is significant because it represents one of the few known Historic Caddo sites found in the upper Neches River basin (Perttula 2010).

Finally, Mr. Faulkinberry, a private landowner living in Cherokee County, contacted Mark Walters in early 2009 about materials collected on his property. Together with the help of the landowners and Bo Nelson, Walters documented nine sites in the area along Stone Chimney Creek in the upper Neches River basin. Surface collections from several of the sites (41CE421, 41CE422, 41CE423, and 41CE429) indicate that they have Historic Caddo occupations (all have Patton Engraved sherds, and 41CE429 has a gunflint). They did not collect many sherds from the other sites, but the high percentage of brushed wares at each of them indicates they may also be Historic Caddo sites. Tentative plans are to conduct further testing at these sites and publish the results in the near future.

I have also received information from an unnamed source regarding several other Allen phase sites in Cherokee County near 41CE354. A collection from one of these sites includes over 460 ceramic vessel sherds, dominated by brushed wares, as well as obsidian sourced to northern New Mexico. The majority of the identified sherds are Patton Engraved, but there are also Hume Engraved and Poynor Engraved sherds. There are also engraved elbow pipes sherds, typical of Allen phase pipes from other Hasinai Caddo contexts in east Texas (see Napoleon 1995). I hope that at some point in the future these sites and the materials recovered from them can be made public.

## SECTION 2 SITES AND CERAMIC ANALYSIS

## **Chapter Five: Criteria and Methods for Ceramics Analysis**

In Section 2, I first review the methods used to analyze Historic period Caddo ceramics and then present the data collected during the analysis. I explain the selection of sites and the corpus of materials in this chapter, as well as discuss the important characteristics and attributes utilized in the study. The study seeks to address multiple aspects of ceramic analysis, but primarily places the emphasis on the stylistic and technological character of vessel sherd collections.

I discuss the archaeological sites, prior investigations, and the inventory of collections in Chapter 6. Most importantly, it presents the results from the detailed sherds analysis, which provide the data used in the seriation analysis, additional interpretations and conclusions. Chapter 7 briefly introduces other significant sites and collections excluded from the detailed sherds study.

### **CRITERIA FOR SITES**

In terms of the archaeological sites and collections, my initial objective was to be as inclusive as possible. By examining numerous collections, I ensure a large comparative sample. All of the sites in this study contain materials associated with the Historic period in east Texas. Many of the sites contain European trade goods, which verify the presence of a Historic component. The remaining sites have ceramic types believed to date to this period (i.e. Patton Engraved), and I believe it is fair to suggest that all of the materials included in the analysis date from ca. A.D. 1650-1850.

After identifying a large number of sites in the study area, I divide them into two groups. The first group includes 63 sites that contain Historic period Caddo ceramics and/or European trade goods, but are not included for

additional and varying reasons (Table 5.1). For example, the analysis of ceramic sherds from the newly proposed Mission Concepción (41NA344) is not complete, or yet large enough, to compare with other sites. The A.C. Saunders site (41AN19) has a well-documented occupation that just predates the historic period and so it is excluded (Kleinschmidt 1982). However, the site has archaeological features that indicate activities at the site included maintaining a perpetual fire (Jackson 1936; Kleinschmidt 1982). Europeans in the area documented this practice, performed at a special location or site, in the early historic records (Hatcher 1927). The site is notable because of these connections.

I analyzed ceramic vessels and sherds from many of these sites, but they are not included in the detailed vessel sherds analysis. The most common reason for exclusion is an inadequate amount of material. To elicit a representative sample, the collection must have greater than 100 decorated sherds. I include a few sites based solely on reported finds. Therefore, their classification as Historic period sites is tentative pending additional work. I organize the groups further, by arranging them according to geographical proximity.

The second group of 28 sites also contain Historic period Caddo ceramics, but all have greater than 100 decorated sherds (Table 5.2). In addition, approximately one-half of the sites in this group have European trade goods. The amount, scope, and quality of fieldwork differ at each site in the study. In some cases, extensive excavations took place over the course of years. These included numerous excavation units, the scraping of large areas to uncover features, and fine or water screening of the entire matrix. In other cases, the only materials available are the result of a surface collection by the property owner. I review the details of field investigations at each site in the chapters that follow.

**Table 5.1. Significant Sites Not Included in the Detailed Analysis**

<b>Attoyac River</b>	<b>Middle</b>	<b>Nacouche Creek</b>
41SA135	<b>Angelina River</b>	41NA244
	41NA33	41NA311
<b>Ayish Bayou</b>	41NA47	
41AG39	41NA53	<b>Upper Neches River</b>
41SA38	41NA55	41AN8
41SA41	41NA317	41AN13
41SA135	41NA321	41AN19
	41NA336	41AN26
<b>Bayou Loco</b>	41NA340	41AN32
41NA18	41NA344	41AN34
41NA26	41NA345	41AN183
41NA29	41NA346	41AN184
41NA65		41CE6
41NA202	<b>Middle</b>	41CE12
41NA299	<b>Neches River</b>	41CE15
	41CE19	41CE25
<b>East Fork</b>	41CE27	41CE421
<b>of the Angelina River</b>	41CE47	41CE422
41RK1	41HO1	41CE423
41RK5	41HO6	41CE429
	41HO64	41CEXXD
<b>Bayou La Nana</b>	41HO65	41CEXXE
41NA113	41HO67	41CEXXF
41NA144	41HO91	
41NA182	41HO122	
41NA223	41HO147	
41NA302	41HO211	
41NA303		

The extent and conditions of the field investigations are not the only factor that affects this study. How archaeologists handle the artifacts post-excavation also plays a role. The collections are in various states, including some materials in the exact same bags used in the fieldwork. However, most of the collections

are already processed; this includes cleaning, labeling, sorting into broad classes (ceramics, lithics, bone), and re-bagging. Some researchers also sorted the ceramic collections into further categories, mainly based on the type of sherd (rim, body, or base), the provenience, the decorative techniques, or a combination of these. For the most part, this facilitated my analysis and provided a review of previous lab investigations.

**Table 5.2. Historic Caddo Sites Included in the Detailed Sherd Analysis**

<b>Attoyac River</b>	<b>Legg Creek</b>
41NA67	41NA44
41SA94	41NA54
41SA116	
	<b>Lower Neches River</b>
<b>Ayish Bayou</b>	41AG22
41SA25	
	<b>Middle Angelina River</b>
<b>Bayou Loco</b>	41CE62
41NA21	41NA6
41NA22	41NA15
41NA23	
41NA27	<b>Middle Neches River</b>
41NA60	41CE20
41NA111	41CE48
41NA183	41CE293
	41HO214
<b>East Fork of Angelina River</b>	
41RK200	<b>Upper Neches River</b>
41RK191	41AN21
41RK197	41CE39
	41CE354
<b>Bayou La Nana</b>	
41NA206	

The majority of the collections used in my analysis are currently stored at regional research facilities such as TARL and the SFASU Archaeology Lab. All of these collections have gone through initial processing, and most have been sorted into specific groups. For the majority of sites, there is some information available on the recovered materials (site location, inventory form...). In other cases, particularly sites investigated decades ago, there is little information. Conversely, several sites have received considerable attention and the detailed studies are widely available.

Theoretically, the site collections used in the detailed analysis are all associated with Historic Caddo occupations, ca. A.D. 1650-early 1800s. I exclude any materials from the sites that are clearly not part of this component, however, the connections between the prehistoric Frankston and historic Allen phase are well documented (Chapter 4). This means the inclusion of materials from the Late Caddo (and Proto-historic) period is possible. In almost all cases, I suggest the ceramic collections used in the analysis are from temporally discrete Historic Caddo components.

#### **METHODOLOGY FOR THE DETAILED CERAMICS ANALYSIS**

The detailed analysis is an examination of selected ceramic artifacts, and focuses on recording specific stylistic and technological attributes (see below). Importantly, my interpretations and conclusions are based on the similarities and differences of these attributes. I designed the analysis with the help of archaeologists familiar with Caddo ceramic assemblages, and built on their knowledge and expertise. The methods employed in this study are comparable to those used in other ceramic studies from Caddo sites in east Texas (Perttula 2005, editor; Perttula and Nelson 2007; Perttula et al. 2010).

As noted, the ceramic collections are in various conditions and organized in different ways. Therefore, the analysis was adapted to each site. Generally, I examined the artifacts in groups as they appeared in the (sometimes-sorted) bags. The process of sorting, classifying, and characterizing ceramic attributes was rarely, if ever, black and white. Further complicating the matter, multiple people participated in the analysis. In fact, it was only with the great help of Tim Perttula and Mark Walters, that I was able to examine all of the collections. Bo Nelson also helped with some of the sherds analysis, and photographed all of the whole vessels. In order to minimize bias, errors, and idiosyncratic differences, the classifications and attributes were well defined. Communication was also essential, and when available, I utilized standard charts and figures (i.e. vessel form, rim form, oxidation conditions).

We examined the ceramic materials macroscopically or with a 10X hand lens, and exposed a fresh cross-section of the fabric on select sherds. At times, this was necessary in order to determine the type of inclusions, oxidation conditions, or paste characteristics. I recorded attributes from each individual vessel or sherd on paper forms, and later entered the information into digital formats (i.e. Microsoft Excel 2007, FileMaker Pro 9).

### **Terminology**

I describe the ceramics used in the analysis in terms of vessels, sherds, vessel sections, and sherdlets. Vessels are complete, or nearly complete, ceramic containers that occur primarily as simple bowls, carinated bowls, jars, and bottles. I use the term sherd most frequently to describe fragments of these vessels, but it can also refer to fragments of non-vessel objects such as ceramic pipes or spindle whorls. I divide the vessel sherds into the categories of rim,

body, and base. The rim category includes sherds that have portions of the body attached as well. The same is true of bases. Even if part of the body is attached, it falls in the category of base.

A vessel section is a group of sherds that originates from the same vessel. The vessel sections include those that fit together, though that may not always be the case. The identified vessel sections, regardless of the number of sherds, count as one sherd. There are also fragments of ceramics too small (less than 1.5 cm on a side) or eroded for inclusion in the analysis. In most cases, I quantify these sherdlets but do not collect additional attribute information.

Care is taken to separate out sherds that are from the same vessel, but the process is difficult. In a few cases, researchers had previously sorted sherds into vessel batches and stored them together. Some of them I agree with, and others I argue are from separate vessels. My discussions frequently focus on the rims sherds because they provide a better measure for estimating the number of vessels than the body sherds. However, I do not attempt to assign vessel counts to the collections.

Kleinschmidt's analysis of the ceramics from the Saunders site is a prime example of the difficulty in this task. The major part of his study was to create a vessel count from more than 7,500 vessel sherds (Kleinschmidt 1982:97-100). In order to do this, he examined bowl and jar rims ( $n=1,465$ ), and bottle bodies ( $n=47$ ). He first split these groups into decorative categories and then assigned them to vessel batches. After intense scrutiny, Kleinschmidt classified the majority of sherds ( $n=1,291$ ) as being from individual vessels. Remarkably, more than 90% of all of the vessels are represented by one sherd (Kleinschmidt 1982). This is unlikely the case for sites in my analysis, but I did make a special effort to

identify rims sherds from the same vessel. In this way, the rim counts are as close to vessels counts as possible.

The sample size of sherd collections varies from site to site. There is an average of 2,368 total vessel sherds from sites in the detailed analysis (Table 5.3). The largest collection (41NA27) contains more than 31,000 sherds, and the smallest collection (41AN21) has only 160 sherds. For analytical purposes, I classified all of these sherds as either plain or decorated. The average number of decorated sherds per site is around 1,400, which is slightly higher the average number of plain sherds (n=1,216).

The sample size differs for each of the attributes considered in the analysis except for decoration. I recorded a description of decoration, or lack of, for every sherd in the analysis. For additional attributes, the goal was a 20-30% sample or at least 100 sherds. This was often difficult because of the way collections were organized, and so the sample size for each attribute varies from site to site. Overall size of the collection also plays a factor in the sample size. For example, I examined 98.4% of the sherds from the Wallace site (41CE20) for inclusions, but only 15.8% of the sherds from the Iron Rock site (41NA22). However, there are 252 inclusion subjects from the Wallace site, and just over 500 from the Iron Rock site. Both of these are large samples and presumably representative of the site.

**Table 5.3. Sample Size from Sites in the Detailed Analysis**

Site	Total Sherd Sample	Decorated Sherds	Plain Sherds
41AG22	188	163	25
41AN21	160	147	13
41CE20	256	183	73
41CE293	579	519	60
41CE354	568	474	94
41CE39	235	124	111
41CE48	255	194	61
41CE62	276	148	128
41HO214	227	172	55
41NA15	222	182	40
41NA111	361	217	144
41NA183	501	238	263
41NA206	8,822	4,154	4,668
41NA21	15,636	9,819	5,817
41NA22	3,638	2,874	764
41NA23	3,481	2,301	1,180
41NA27	30,422	23,448	6,974
41NA44	2,485	1,812	673
41NA54	237	189	48
41NA6	995	673	322
41NA60	2,718	2,140	578
41NA67	538	210	328
41RK191	365	231	134
41RK197	210	131	79
41RK200	9,305	2,576	6,729
41SA116	2,999	1,210	1,789
41SA25	2,080	1,940	140
41SA94	2,075	1,195	880

**ANALYTICAL CATEGORIES AND CLASSIFICATION**

I classify all of the vessel sherds in the analysis as either plain, utility ware, or fine ware. The definition and descriptions of each of these categories, well established in previous studies, facilitate the analysis and appear below. The

detailed analysis of decorated and plain sherds is also based on attributes such as the type of sherd (rim, body, or base), decoration (when present), inclusions, firing conditions, and surface treatment. When applicable, and possible, I also identify the vessel form, rim and lip form, and orifice diameter.

### **Plain Sherds**

One of the first sorting criteria is whether the sherd is plain or decorated. Although establishing this is one of the easier tasks in ceramic analysis, determining whether the sherd is from a plain or decorated vessel is more difficult. This is because Caddo vessels rarely occur as entirely plain, or entirely decorated. Decorations occur at different rates and in different locations on the vessel. For example, regardless of the type of decoration, it rarely occurs on the bases of Caddo vessels.

Plain vessels appear regularly at Historic Caddo sites, most often in the form of simple and carinated bowls, less frequently as bottles. In the absence of whole vessels, plain rims are the best indication of the presence of plain vessels. This is because, generally, decorations never occur alone on the body of bowls (simple, carinated, or compound). If the rim of a bowl is plain, then the vessel is plain. Essentially, if plain rims are absent then I assume the plain body sherds are from undecorated portions of fine and utility wares. Bottles are an exception because occasionally the neck/rim is undecorated. Fortunately, the bottle neck/rim is distinctive and easy to distinguish from the rims of bowls.

Along with count, I record technological attributes of plain sherds, particularly from plain rims, but from body sherds as well. I also use the counts of plain (P), decorated (DR), brushed (BR), and wet paste (WP) sherds to calculate a series of ratios (P/DR, BR/P, and BR/WP). These ratios, along with

other measures, provide researchers a means of sorting out temporal differences in collections and sites (Perttula 2005; Perttula and Nelson 2007; Perttula et al. 2010). I present the ratios and metrics in the subsequent chapters and in summary tables in Appendix 2.

## **STYLISTIC CERAMIC ATTRIBUTES**

A principal research goal of the study is to better define the characteristics and chronological relationships of Historic Caddo ceramic collections. Along with the aforementioned ratios, the frequency of established ceramic types has proven to be the best method for accomplishing this goal. Therefore, the stylistic study focuses on the identification and definition of recognizable fine and utility ware types as well as utility ware decorative classes (see below). The range of techniques used to decorate Historic Caddo sherds from the study area is well known. Detailed descriptions are available in several reports (Fields 1995; Kleinschmidt 1982; Perttula and Nelson 2006, 2007; Perttula et al. 2010). I also use Rice (1987:144-148) as a guide for the discussion of surface decoration.

In most cases, identifying the decorative treatment on a sherd is not complicated. Rice (1987:144) defines decoration as “embellishment of a vessel beyond the procedures used in forming the clay mass into the final vessel shape and finishing its overall surface.” The decoration on Caddo ceramics most often occurs on the rim, the body, or both. As noted, decoration rarely occurs on the base of vessels. Decoration occurs almost exclusively on the exterior of vessels, and in the large sample of sherds in this study, I am certain of only two examples to the contrary. The decorative classes I consider here fall under the category of displacement or surface penetration. In other words, all of the decorations are either impressed (displaced) or cut away (removed) from the surface.

## Utility ware

Though there are technological factors as well (see below), a principal characteristic distinguishing utility ware from fine ware is the timing of the decorative treatment (Perttula and Nelson 2007; see also Balfet, Fauvet-Berthelot, and Monzon 1983). Incising on utility ware takes place before firing the vessel, while engraving on fine ware occurs post-firing. This distinction is usually easy to make, but can be more difficult on small and eroded sherds.

Utility ware is characterized by wet paste decorated vessels, usually simple bowls and jars for cooking, serving, and storage of food. Generally, utility wares have:

[A] coarse temper, and usually lack burnishing, polishing, or slipping on interior and exterior vessel surfaces. Such vessel sherds are decorated with brushing and other wet paste decorative methods, including incising, punctations, appliquéd, and neck banded elements, either by themselves or in combination with one or more of these decorative methods (Perttula and Nelson 2007:75).

I identify eight decorative classes in the current study. The five listed above by Perttula and Nelson, as well as lip notching, grooving, and pinching. These decorative classes occur alone, and in 35 combinations (Table 5.4), to make up the classifications used to evaluate the utility ware. Below I briefly describe the eight methods that make up the basic decorative classes.

Brushing is a common method of finishing the surface of Caddo cooking jars in the upper Neches-Angelina River basins that goes back to the Middle Caddo, ca. 1300 A.D. (Perttula 2010, personal communication). Recent research establishes that the frequency of brushing on Caddo ceramics increases through time (Perttula and Nelson 2007: Table 4; Perttula et al. 2010). Therefore, I

calculate the percentage of brushed sherds in the decorated sherd sample, as well as a brushed to plain ratio (BR/P). Both of these measurements, along with the plain to decorated ratio (P/DR), may provide evidence for the temporal relationships of collections. I also explore the brushed to non-brushed wet paste decorations (BR/WP) for possible temporal and cultural associations.

**Table 5.4. Brushed and Wet Paste, Non-Brushed Decorative Classes**

<b>Brushed</b>	<b>Wet Paste, non-brushed</b>
Brushed	Incised
Brushed-Incised	Punctated
Brushed-Punctated	Incised-Punctated
Brushed-Incised-Punctated	Appliquéd
Appliquéd-Brushed	Appliquéd-Incised
Appliquéd-Brushed-Punctated	Appliquéd-Punctated
Appliquéd-Brushed-Incised-Punctated	Appliquéd-Incised-Punctated
Grooved-Brushed	Lip notched
Grooved-Brushed-Punctated	Lip notched-Incised
Lip notched-Brushed	Lip notched-Punctated
Lip notched-Brushed-Incised	Pinched
Neck banded-Brushed	Pinched-Incised
Neck banded-Brushed-Incised-Punctated	Grooved
Pinched-Brushed	Grooved-Incised
	Grooved-Appliquéd-Punctated
	Grooved-Punctated
	Neck banded
	Neck banded-Appliquéd
	Neck banded-Incised
	Neck banded-Punctated
	Neck banded-Grooved

Brushing is accomplished by roughening the still-wet surface of vessels with stiff bundles of grasses, sticks from other plants, or some type of tool with multiple prongs. The decorative treatment produces closely spaced parallel, to roughly parallel, lines. I define brushing as a decorative treatment, rather than a

surface finish, because of its deliberate and extensive use in decorative elements. Although at times it appears carelessly applied, it also occurs as an integral part of decorations on both rim and body sherds.

Bullard Brushed is the most common utility ware type at Historic Caddo sites (Figure 5.1). These vessels usually have vertically brushed rims and bodies, but horizontal brushing is popular as well. Diagonal and opposed brushing also occurs less frequently. Brushing often covers both the rim and the body, with the brushing marks reaching to just above the base. As a rule, if there is brushing on the rim, there is brushing on the body. However, in some cases brushing occurs on the body and not the rim.

Many of the utility ware collections in this study have very high rates of brushing on both rim and body sherds, which demonstrate that brushing covered most of the vessels' surfaces. Bullard Brushed sherds can also have rows of punctations below the lip and at the rim-body juncture (Suhm and Jelks 1962: Plate 21). Frequently, the punctations are pushed through the brushed marks.

Potters produce punctations by applying pressure with a tool to the surface of a vessel. The decorative technique leaves punches or gouges that occur alone, in rows or in zones, and as part of larger decorative elements on the surface of the vessel (Fields 1995; Rice 1987). I identify a range of tools (grasses, wood, cane, fingernails) used to create punctations in various shapes (circular, linear, oval, square, rectangular, non-directional) and sizes.



**Figure 5.1. Bullard Brushed Vessels**

Incising refers to the wet paste decorative treatment that uses a hard tool to cut lines, simple designs, and more complex elements. This is one of the most variable of the decorative techniques, and the appearance of the decoration “depends on the state of the clay (wet, leather-hard, dry, fired), the texture of the paste, the size and shape of the instrument, the angle at which the instrument is held, the pressure used, and the direction the tool is moved” (Rice 1987:146). There are wide variations in the appearance of incised and engraved decorations, and some of the decorations are part of complex elements and motifs.

In order to deal with this complexity, I focus on several aspects of the decorative element. An element refers to the “smallest self-contained component

of a design that is manipulated or moved around as a single unit”(Rice 1987:248). From this point of view, an element can include a single line, though this may be of little analytical value. For the purposes of this study, a decorative element “is a single component of the decoration on a vessel, such as a set of engraved triangles filled with hatched lines or rows of tool punctations” (Perttula 2005:104). In the collections from this study, only a small number of these elements can be recognized as part of larger motifs. The definition of motifs is the “fixed combinations of elements that are used to form larger components of the decoration (Rice 1987:248). Engraved concentric circles with triangular tick marks attached to the lines are an example of a motif that occurs on Historic Caddo vessels in this study.

I also include descriptive features such as direction, shape, and orientation in the decorative description. A line may be straight or curvilinear, form a triangle or oval, or run horizontally across the vessel rim. In some cases, I include quantity and indications of size. For example, when I refer to a decorative element as parallel engraved lines 3+ with large triangular tick marks. Large refers to the size of the tick marks and the 3+ indicates more than three lines.

Additional decorative descriptions include whether or not the element has hatching or cross-hatching, or occurs in zones. Descriptions of the decorations can be as complicated as the elements and motifs themselves. For example, a sherd that has a horizontal neck band and tool punctated row above a horizontal incised line and diagonal brushed zone. In cases such as this, in order to be concise, I describe the sherd’s decoration as neck banded tool punctated incised brushed element.

Brushing and incising occur together in various combinations of decorative elements. One distinctive combination of these elements consists of

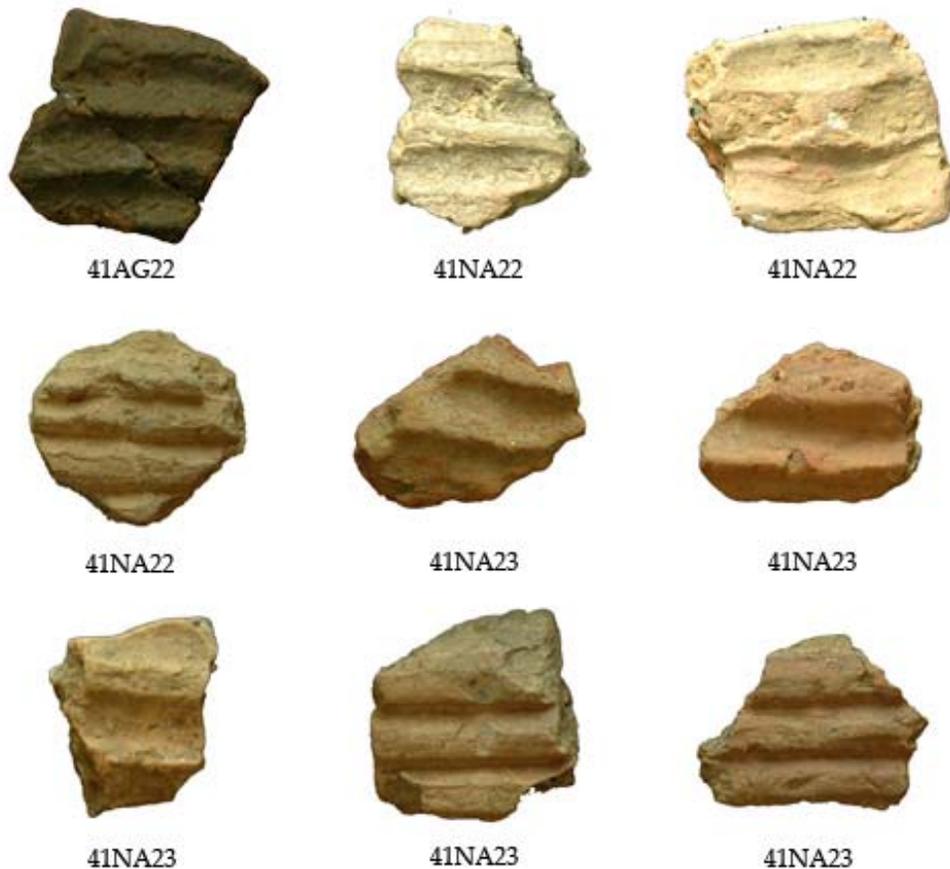
parallel brushing with overlapping straight incised lines opposed or perpendicular to the brushing (Figure 5.2). This newly named Historic Caddo utility ware type, Spradley Brushed-Incised, was defined based on a large sample of sherds (n=41) with this decorative element from the Spradley site (41NA206) (Perttula et al. 2010:11). The type is present in 12 of the collections in the detailed analysis.



**Figure 5.2. Spradley Brushed-Incised Sherds**

Another recently named utility ware type is Lindsey Grooved (Figure 5.3). Ross Fields, in his analysis of the ceramics from the Deshazo site (1995), identifies this type of decorative treatment as ridged. However, Fields (1995:199-200 and Figure 75) describes the treatment as “the manipulation of the vessel surface to form shallow horizontal grooves alternating with mounded ridges. The grooves are trough shaped, and the ridges are not appliquéd.”

At the Deshazo site (41NA27), and in general, the decorations appear on large bowls or jars with direct or slightly everted rims. The horizontal grooved decoration is the defining characteristic of this utility ware type, and is different from the form of ridged decoration associated with the type Belcher Ridged (Perttula et al. 2010). Grooving appears with other decorative classes, including appliqué, brushing, incising, and punctations. Lindsey Grooved rim and body sherds occur in 10 of the collections in the detailed analysis, including its namesake the Lindsey site (41CE293). Interestingly, Lindsey Grooved and Spradley Brushed-Incised appear at eight of the same 10 sites.



**Figure 5.3. Lindsey Grooved Sherds**

The decorative technique appliqué refers to the application of shaped pieces of clay to the surface of a vessel. Caddo potters attach or join the additional amount of clay, primarily a node, strip or ridge, to the surface of an already formed vessel. The nodes are usually no more than thumb-size, but can be larger. The appliquéd strips are relatively flat and normally form vertical or horizontal lines. An appliquéd fillet is a strip of clay that has punctations. Ridges, as defined here, are also appliquéd strips of clay. However, the strip is not left lying flat on the surface, but shaped into a sharp ridge. This is similar to a decorative treatment described in the *Handbook* for the type Belcher Ridged (Suhm et al. 1954:246, Plate 6).

The ridged decorations also resemble pinching, the decorative treatment that defines Killough Pinched (Suhm et al. 1954:314, Plate 41). Pinching up the wet surface of the vessel, or fingernails impressions, form the decorations on Killough Pinched. This creates vertical rows and complex designs, and the pinched rows can form linear ridges. In some cases, unless an appliquéd ridge has detached from the vessel, it can be difficult to distinguish between the two decorative methods.

Neck banded refers to a decorative treatment that takes each clay coil added to the neck or rim of the vessel and crimps it onto the preceding coil. Vessel surfaces are normally smoothed to the point that coils are indiscernible, but in this case, they remain visible. This is the distinguishing feature of the type LaRue Neck Banded (Suhm et al. 1954:316, Plate 42), but it occurs in combination with every other decorative class except for lip notching.

I also consider lip notching to be a decorative method. Lip notching consists of small, incised lines on the lip of the vessel in a vertical or a diagonal orientation. The decorative method is most common on utility ware vessels, but

it appears above engraved designs as well. The classification of lip notching (fine ware, utility ware) depends on the overall decorative element. If the sherd in question has no other decoration or surface treatment (i.e. engraving, burnished), it is classified as utility ware.

Using the term utility ware is complicated by the fact that most pottery types from the Historic period were manufactured for utilitarian purposes (Cole 1975:211). Yet even though fine ware as well as utility ware vessels shows signs of use, Cole's analysis (1975:347) documents the preference for engraved decorations, rather than punctations, incising, or brushing, in Allen phase cemeteries. Perttula and Nelson (2007) also demonstrate that utility wares were made, fired, and used in different ways than the fine ware. They suggest the utility ware vessels are primarily for domestic use, cooking, serving food, holding liquids, and for storage. The Caddo use fine ware to serve food and hold liquids as well, but it may not have been on a daily basis. Fine ware is also favored in funerary, and likely in ritual, contexts.

### **Fine wares**

As noted, a principal difference between utility and fine ware is the point at which incising takes place on the vessel. The technique for decorating fine wares occurs post-firing and the decorations applied to utility ware occur while the paste is still wet. Additionally, the fine ware:

Consist principally of engraved and slipped vessel sherds from carinated bowls, bottles, and some simple bowls that were used for food serving and the holding of liquids. The fine ware vessels and vessel sherds more frequently are well-smoothed, burnished, or polished on the exterior surface, and have finer temper inclusions and thinner vessel walls than do the utility wares (Perttula and Nelson 2007:75).

Engraved decorative elements and motifs most commonly appear on the rim panel of Historic period Caddo vessels. Decorations on the body of fine ware vessels occur less frequently, though this may increase through time. In fact, there are few established types from this period, fine ware or utility ware, with decorations on the body and not the rim. This is particularly true for bowls and carinated bowls, and less so for engraved bottles. Although less often, engraved decorations cover large portions of the vessel body as well as the rim. Brushing also occurs on the body of bowls and carinated bowls with engraved rim panels.

As in other studies on Historic Caddo ceramics (Perttula and Nelson 2007; Perttula et al. 2010), I treat slipping as a special decoration. A distinctive red slip, produced by hematite-rich clay, is present on both the interior and exterior of a number of vessels from this period. Excising is another decorative technique indicative of fine ware. Essentially, very finely spaced engraved lines result in zones where engraving or excising almost completely removes the surface. Its primary use is to form scroll-shaped and triangular-shaped areas, seen on Poynor Engraved, but not as often on Patton Engraved vessels.

### **Identification of Fine Ware Types**

Except for the newly identified types and varieties, I rely on the definitions for ceramic types provided in the *Handbook* (Suhm et al. 1954). Unfortunately, it is often difficult to identify the diagnostic ceramic types from only a sherd. Sherd size, condition, and breakage patterns all contribute to low identification rates. I classify sherds based on the presence of known and identifiable elements and motifs. I also identify sherds that compare favorably (cf.) to the definition of the type in question. The abbreviation cf. is used to indicate a close resemblance of the decorative element with an established type.

The most commonly identified fine ware type in the study is Patton Engraved (Figure 5.4; see Chapter 4). The vessel forms associated with this type are bowls (globular and carinated) with a restricted, direct, or everted rim. The most distinguishing characteristic of Patton Engraved vessels is horizontal engraved lines around the rim with tick marks. In addition, the rims on Patton Engraved carinated bowls “commonly have two large arms curving toward one another from the upper and lower margins, each arm consisting of two, three, or four parallel lines” (Suhm et al. 1954:117). Most often, one of the exterior lines in this group of lines has ticking. Horizontal engraved lines usually frame the motif of two large arms, which repeats several times on the rim panel. Sets of vertically oriented lines, usually arching and back-to-back, separate the motif, and these lines may have ticking as well (Suhm et al. 1954). These are larger, but similar in form to the dividers discussed below.



**Figure 5.4. Patton Engraved, var. Unspecified Vessels**

The bodies on Patton Engraved vessels are either plain or decorated. Decorations on globular bowls primarily consist of concentric circles, curvilinear elements, or spiraling lines. These lines occur with and without tick marks. On Patton Engraved carinated bowls, the body is usually either plain or brushed. The body decorations on other bowls vary, but include straight and diagonal lines with triangular tick marks. Engraved elements on the body and rim may have white and red pigment.

I make use of several varieties of Patton Engraved recently identified in a review of Late Caddo and Historic Caddo ceramic assemblages from the upper Neches River basin (Perttula 2008c). The motif associated with Patton Engraved, *var. Allen* is multiple horizontal lines around the rim with tick marks (Figure 5.5; Perttula 2008c, Figure 2a). The tick marks usually point in one direction, either upwards or downwards, but direction of ticking may also alternate.



**Figure 5.5. Patton Engraved, *var. Allen* Vessels**

The motif with curved arms noted above indicates Patton Engraved, *var. Patton* (Figure 5.6; Perttula 2008c, Figure 2b). In most cases, only one exterior line of the curved arms has tick marks. In fewer cases, multiple lines that make up the curved arms have ticking. Notably, many of the Patton Engraved, *var. Patton* vessels have forms associated with Poynor Engraved. These carinated bowls with high rims clearly have Patton Engraved motifs.



**Figure 5.6. Patton Engraved, *var. Patton* Vessels**

The remaining two suggested varieties are closely related and difficult to distinguish among sherds and vessels. Both varieties have horizontal engraved lines at the top and bottom of the rim with triangular tick marks that face each other. According to Perttula (2008c), Patton Engraved, *var. Freeman* also has a vertical divider in the rim panel similar to those found on Poynor Engraved vessels. Decoration on the body of this variety usually consists of either a spiral

or concentric circles motif with ticking (Figure 5.7; Perttula 2008c, Figure 2c). These motifs repeat multiple times around the body of the vessel.



**Figure 5.7. Patton Engraved, *var. Freeman* Vessels**

I suggest that the distinguishing difference between Patton Engraved, *var. Freeman* and *var. Fair* is that the latter does not have a divider in the rim panel. The decorative motif on the body is similar in both varieties and typically consists of concentric circles (or spiral) surrounded by curvilinear lines. The curvilinear lines extend around the concentric circles and attach to horizontal lines on the bottom of the rim (Figure 5.8; Perttula 2008c, Figure 2d). Generally, most of these lines have ticking.

Only two whole vessels from the sites considered here fits the strict description of Patton Engraved, *var. Fair*, but many other vessels are clearly

related. For the purposes of this study, I classify sherds that have horizontal engraved lines at the top and bottom of the rim with triangular tick marks that face each other as Patton Engraved. In many cases, the bodies of these sherds are missing. Therefore, I do not specify a variety, though they are probably Patton Engraved, *var. Fair* or *Freeman*. If the sherd also has a vertical divider, then it is likely from either a Patton Engraved or Poynor Engraved, *var. Freeman* vessel.



**Figure 5.8. Patton Engraved, *var. Fair* Vessel**

Perttula also suggests Patton Engraved varieties are temporally sensitive (Perttula 2008c:53). Based on “lower proportions of *var. Freeman* and *var. Patton* at the Jim Allen site (41CE12), but higher proportions of *var. Allen* (41.2%) and several unspecified varieties, it is suspected that *var. Allen* is a later Patton Engraved variety. He also points to stylistic similarities between Poynor and Patton Engraved, to suggest that *var. Freeman* is the earliest of the Patton varieties and the latest of the Poynor Engraved varieties (Perttula 2008c:52-53).

Triangular tick marks are a dominant feature in Patton Engraved elements and motifs, but short linear tick marks are also present. In rare cases, oval tick marks appear as well. The difference between triangular and linear tick marks is

not always easy to discern. Shape and size of tick marks depends on the many factors related to the engraving process (see above). Tick marks always attach to a line or decorative element on Patton Engraved vessels, but entire elements are normally not visible on sherds. In fact, in some cases, sherds are broken along an edge where the tick marks are present and there is no sign of the element.

The distance between ticks is also variable, and triangular tick marks can occur spaced so closely that no line is visible. In the following study, I distinguish between the shapes of tick marks and establish their relationship to the element or motif. I do not attempt to determine the distance between ticks (Fields 1995) or the average number of ticks per distance (Cole 1975). Tick marks also appear in decorative elements not associated with Patton Engraved, especially in other Historic Caddo fine ware types such as Natchitoches Engraved and Simms Engraved. Therefore, not every sherd with tick marks is necessarily Patton Engraved, but ticking as a practice generally increases in use through time.

Patton Engraved and Poynor Engraved are different in many ways, but their connections are well-documented (Kleinschmidt 1982; Perttula 2008c). On the rim of Poynor Engraved bowls the “most common motif is a series of negative ovals made with concentric lines arched back-to-back; these may be spaced somewhat apart and the area between them filled with other lines (Plate 62, A), cross-hatching or scrolls (Plate 62, C, D)” (Suhm et al. 1954:123). Punctated zones or small circular punctations may occur in the ovals. Poynor Engraved bottles have a wide variety of motifs including negative ovals and circles. These motifs run vertically on the bottle instead of horizontally as on bowls. Red pigment occasionally appears in the decorative elements.

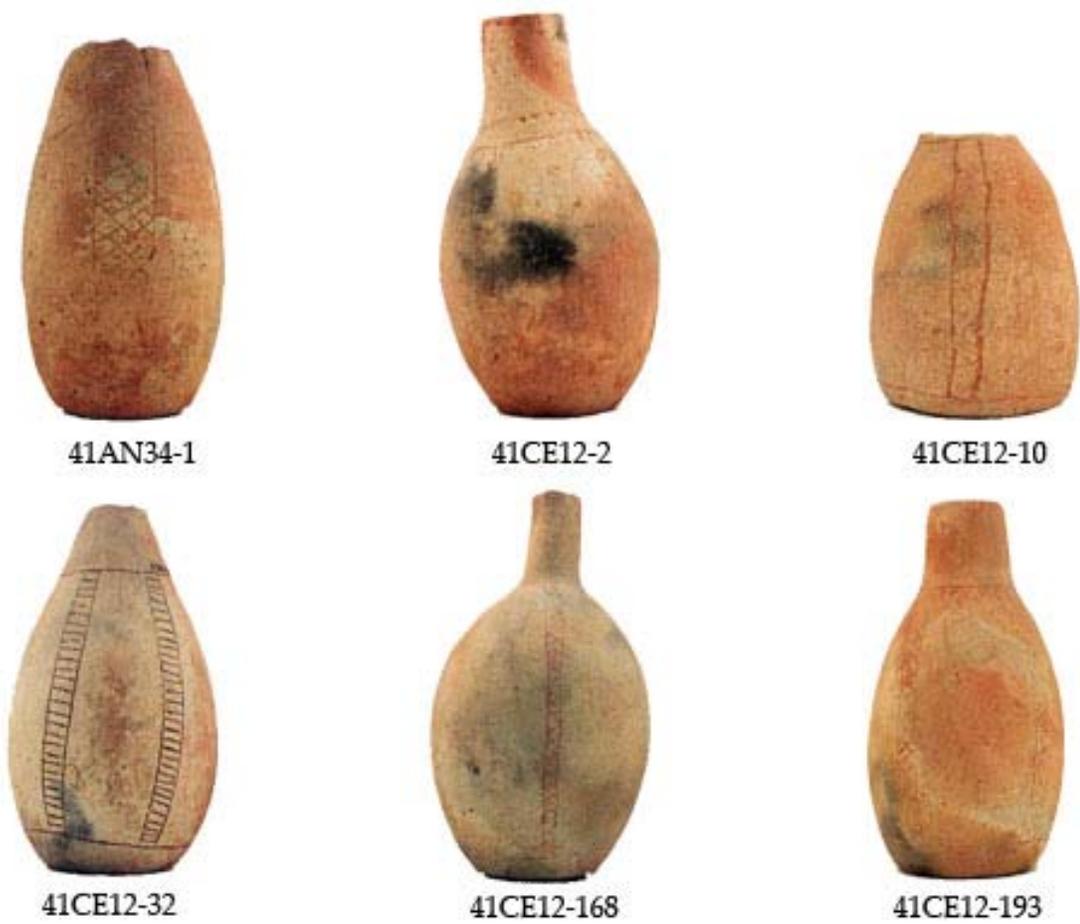
A recent detailed examination of vessels from Late Caddo sites identifies several new varieties of Poynor Engraved (Perttula 2008c). In the study, Perttula recognizes at least 30 different motifs that appear on the rims of 229 Poynor Engraved vessels. He also identifies five new varieties that represent more than 73% of the vessels, including Blackburn, Cook, Freeman, and Hood (Perttula 2008c, Figure 1). Most of these varieties have vertical or arched dividers, or brackets, that separate the rim panel into sections. Occasionally, ticking occurs on Poynor Engraved.

For example, Poynor Engraved, *var. Freeman* has horizontal engraved lines at the top and bottom of the rim panel with vertical dividers and triangular tick marks that face each other (Figure 5.9). According to Perttula (2008c), Poynor Engraved, *var. Freeman* vessel bodies are either plain or have spiral lines without tick marks. As noted, these clear stylistic links to Patton Engraved, *var. Freeman* also have temporal implications.



**Figure 5.9. Poynor Engraved, *var. Freeman* Vessels**

Hume Engraved is a fine ware type that appears in post-1650 Allen phase contexts (Figure 5.10). Decorations on Hume Engraved consist of widely spaced vertical bands filled with cross-hatching or hatching. Large crosshatched and hatched triangles may also attach to horizontal lines at the neck-body juncture. Hume Engraved vessel forms are primarily bottles with elongated bodies and short necks, and less frequently bowls (Suhm et al. 1954). Red and white pigments frequently occur in the lines.



**Figure 5.10. Hume Engraved Vessels**

Effigy vessels, recently classified as the type Hood Engraved, appear at Late Caddo and Historic Caddo sites in the upper Neches and Angelina river basins (Perttula 2008c). These effigy vessels vary in form, and the only other decorative treatment is engraved elements (Figure 5.11). Varieties of this type include:

Hood Engraved, *var. Allen* is found in association with Patton Engraved, and is an Allen phase diagnostic. This effigy vessel form includes tail riders. The other varieties of Hood Engraved have effigy heads and tab tails—as well as horizontal engraved lines, with *var. Cook* also having engraved pendant triangles—and are found in Frankston phase temporal contexts (Perttula 2008c:53).



**Figure 5.11. Hood Engraved Vessels**

King Engraved is a newly recognized type that occurs at Historic period Caddo sites in the study area (Figure 5.12; Perttula et al. 2010:19-20, Figures 14b and 15b). Thus far, no sites have complete King Engraved vessels, but decorative elements on King Engraved include crosshatched engraved zones, either in panels, panel dividers, or in large bands apparently oriented in several directions on the rim panel. Similar sherds are present at the Deshazo site (Fields 1995, Figure 70d, j), and King Engraved sherds appear in at least eight other ceramic assemblages primarily in the Angelina River basin.



**Figure 5.12. King Engraved Sherds**

Other minor fine ware types that appear at sites included in this study include Keno Trailed, Natchitoches Engraved, and Simms Engraved. These types, presumably acquired by trade, date to the Late Caddo and Historic Caddo period. The distinctive decoration on Keno Trailed is wide, trough-shaped curvilinear and straight lines formed by incising or engraving (Suhm et al. 1954:310, Plate 39). The type dates as early as 1400 A.D and has a wide distribution. It occurs primarily on bottles, many with globular bodies.

Natchitoches Engraved is a post-1700 A.D. fine ware type most often recovered east of the study area. The decoration on Natchitoches Engraved

vessels is primarily “scroll bands, outlined by crosshatched areas and with ticked line bisecting each band down the middle” (Suhm et al. 1954:334, Plate 51). Natchitoches Engraved sherds usually have multiple curvilinear lines, negative elements, small triangular tick marks, and shell inclusions. The vessel forms are primarily small carinated bowls of special form and effigy bowls (Suhm et al. 1954). Natchitoches Engraved vessels frequently have white pigment rubbed into lines, while red pigment appears less common.

Finally, Sims Engraved refers to a type frequently found north of the study area in post-1500 A.D. contexts. All of the decorations on Simms Engraved vessels occur on the rims of carinated bowls. These carinated bowls are different from those in Patton and Poynor Engraved, “in that the rim is very narrow and bends inward sharply, at times almost at a right angle, and the lip turns upward or outward at a right angle to the rim” (Suhm et al. 1954:354, Plate 62). Therefore, it is necessary to compress the decorative motifs into the small space on the narrow rim panel. The decorations are mainly rectilinear elements with small ticking. The inclusions are shell, and red pigment occurs rubbed into the lines, white pigment appears less frequently.

#### **TECHNOLOGICAL CERAMIC ATTRIBUTES**

While I emphasize the stylistic attributes above, I also examine important technological attributes of ceramics in this study. I will briefly discuss each of these, including the type of inclusions, the character of paste, firing conditions, and sherd thickness.

## **Inclusions**

I refer to all the materials identified in the paste (or fabric) as inclusions. Archaeologists commonly refer to these materials as temper, but I try to avoid using this term because of its imprecise nature. As noted by Rice,

In its traditional meaning, temper is a behavioral inference drawn from an analytical observation, not the observation itself, and this suggests that the term should be used very carefully if at all to refer to particulate matter in the paste of archaeological pottery... Inclusions may be mineral or organic, large or small, plastic or nonplastic. They may be present in the natural clay selected by the potter or additions to it; if added, the term inclusions is neutral on whether the incorporation was intentional (Rice 1987:412-413).

Using the term inclusions avoids several complicated issues, and still serves the purpose of this analysis. The only six materials that I identify in use as inclusions are grog, bone, hematite, organics, shell, and quartzite. These six materials occur in more than 50 combinations. In some instances, inclusions are not present. I do not quantify the amount of inclusions in each sherd, but report the dominant material in each case. In other words, the category 'bone-grog' has both inclusions present but bone occurs in greater amounts. I also calculate the total frequencies of each type of inclusion. These totals and percentages include every instance of an inclusion, regardless of whether it is the major or minor inclusion.

Grog and bone are the dominant types of inclusions in use at sites in this study. Grog refers to clay inclusions; frequently it is coarse, angular, and of some size. Grog also occurs in smaller amounts and more finely ground. This makes it more difficult to detect. There is no evidence that Caddo potters fired clay pieces

for the sole purpose of use as inclusions, so presumably grog resulted from crushed pieces of previously fired ceramics (i.e. sherds). Bone is presumably from the large variety of animals such as birds, reptiles, and mammals that were available to the Caddo. The bone is frequently charred or burnt before use, and occurs in large and small pieces.

Hematite, also referred to as hematitic sandstone (Chapter 2), is present in substantial amounts across the study area. The distinctly red crushed pieces of hematite appear frequently as an inclusion. In some cases, the hematite may occur naturally in the clays. Therefore, without a closer examination of the clay sources it is difficult to judge the consistency and amount of hematite that is present in sherds. It seems that hematite occurs as random pieces, small to medium in size. Conversely, it occurs consistently across the surface and in the cross-section of the sherd in small to large pieces and its addition appears deliberate. Most pieces are rounded, and sometimes the larger pieces are angular. Quartzite, organics, and shell also appear in very small measure.

### **Characteristics of Paste**

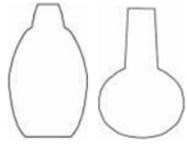
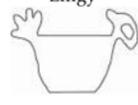
While examining the ceramics for inclusions, I also note the gross paste characteristics. Generally, the paste is exclusively comprised of a mixture of clay and inclusions. At times, there are large amounts of sand in the paste. This can occur with and without additional inclusions. Data support that the group of sherds with extremely sandy paste, which is usually of large rounded sand grains, belongs to the earliest types of pottery made in East Texas (i.e. Goose Creek Plain). There is also general agreement the sand was not added to the clay, but the clay was selected consciously for its high sand content (Fields 1995:179).

The early types of sandy paste ceramics are distinct from Caddo sherds that have high amounts of sand as well. The sand in the paste of Caddo sherds is not as abundant, and the grains are normally finer than the sandy paste Early Ceramic sherds. At times, the surface on these Caddo sherds is rough and substantial amounts of quartz can make it gleam under light. I identify a large number of Caddo sherds with sandy paste, and around 95% of these have one or more of the inclusions noted above. While the sand is difficult to quantify, and highly subjective, I believe it is worth noting because it may indicate regional or local preferences.

Silt also occurs in large quantity in a few sherds in the Neches River basin. The only other peculiar characteristic of paste relates to a number of sherds from the upper Neches River basin. These sherds, termed pinkware, have a distinct pink color likely related to iron-rich clay sources and/or firing conditions (see Perttula et al. 2007).

### **Vessel form, rim form, and lip form**

Though difficult when dealing with sherds, I identify the vessel form if possible (Figure 5.13). The vessel forms represented are primarily bowls, globular bowls, carinated bowls, bottles, or jars. Generally, bowls have an orifice diameter greater than or equal to the height of the vessel. Simple and globular bowls appear frequently in whole vessel collections, but unless the sherds are from a rim and/or large enough, they are difficult to identify. Carinated bowls commonly have a distinct S-shape to their wall profile. The rim panel may be relatively large and it usually contains decorations. The body below the carination point can be plain or decorated. Carinated bowls are easily identifiable if the sherd includes points of the carination.

POST-FIRING DECORATION	Burnished, Smoothed and/or Polished Body	Bottles 
		Bowls Globular  Effigy 
WET PASTE DECORATION	Brushed	Simple  Carinated 
	Brushed or Punctate Body	Jars 
	Pinched or Noded Body	Bottles 

**Figure 5.13. Vessel Forms at Historic Caddo Sites (after Anderson et al. 1974:10)**

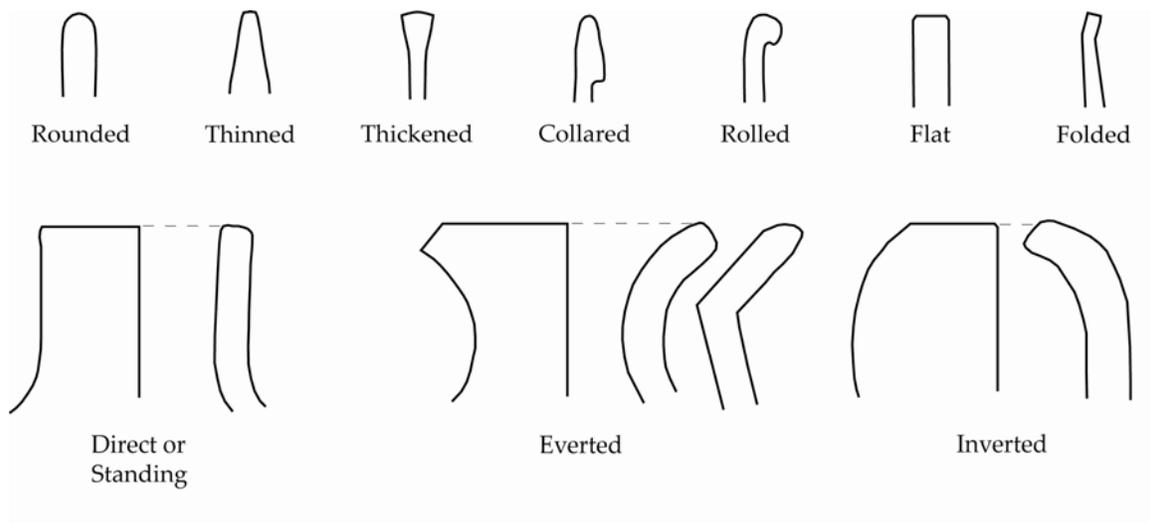
Jars are taller than they are wide, and the amount of curvature in profile varies. This vessel form is very difficult to identify from only a sherd. Therefore, even though sherds from utility ware jars dominate the collections, they are the least identified vessel form in the study. Bottles sherds are notable because they have rough interior surfaces and/or an obvious curvature that is associated with the neck section. Effigy vessels occur often in sites that for the most part predate the sites in this study, but they are present at Historic Caddo sites as well. They

are frequently small bowls with horizontal engraved lines encircling the rim, and small anthropomorphic, zoomorphic, or “comb” elements on the rim.

General classes of vessel forms conform to the general categories of activity (i.e. cooking, serving, storage, and ritual). The categories of decorations and surface treatment are also associated with different forms. For example, engraving is restricted to bowls and bottles. Wet paste decorations occur primarily on jars with the exception of brushing on the base of engraved bowls.

A variety of lip forms occur on vessel rims in the study (Figure 5.14). The vast majority of these are rounded, but a large number are folded as well. All of the folded lips are oriented outward towards the exterior of the vessel. Flat lips are the only other lip form that is well represented. The remaining forms only occur in small measures.

Three types of rim forms dominate the assemblages. Direct or standing rims make up around three-quarters of all rims, while the remainder is mostly everted rims. Only a small number of sherds have inverted rims.



**Figure 5.14. Rim and Lip Forms at Historic Caddo Sites (after Brown 1996:333)**

## **Surface treatment**

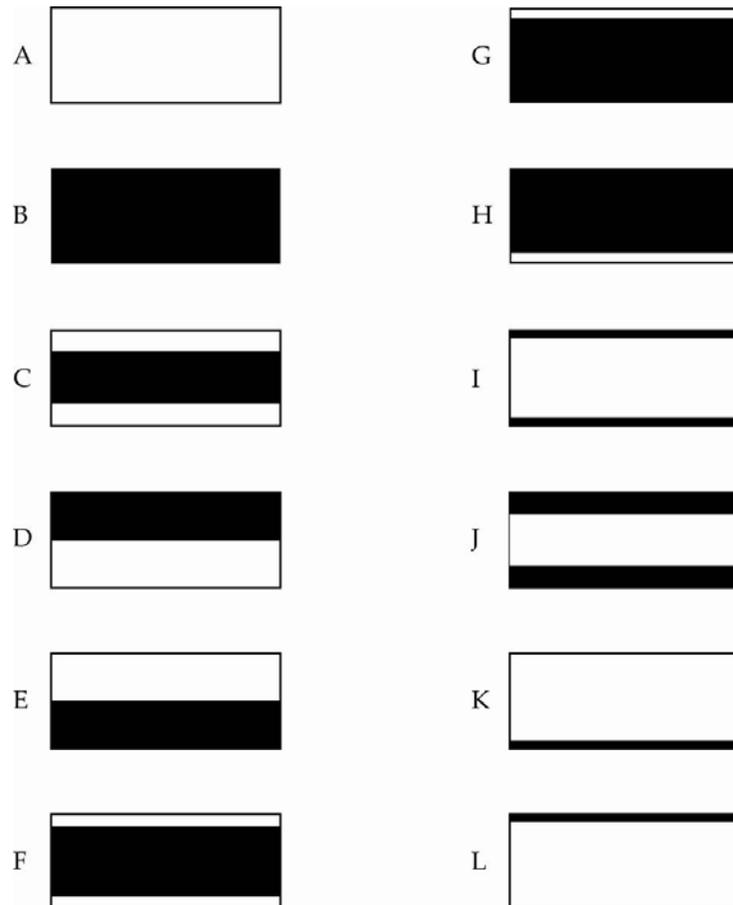
In most cases, once a vessel reaches its final shape and form, the interior and exterior surfaces are finished. The primary methods of finishing (or surface treatment) on Caddo vessels include smoothing, burnishing, and polishing. As noted above, I consider brushing a decorative treatment more than a functional surface treatment. Smoothing the surface with a soft tool, such as a piece of leather, usually takes place before the vessel is completely dry. The process ensures “a finer and more regular surface,” and this surface has “a matte rather than a lustrous finish because the particles are not aligned or compacted” (Rice 1987:138). During burnishing, the “surface is finished by rubbing back and forth with a smooth, hard object such as a pebble, bone, horn, or seeds” (Rice 1987:138). The burnishing process compacts and reorients the fine clay particles, leaves a series of facets, and gives the surface luster. Burnishing usually takes place when the clay is dry.

In some cases, great care was given to surface treatments and the entire vessel may have received attention. In other cases, the treatment is cursory and focuses on particular parts of the vessel (i.e. interior, exterior, rim panel) in other cases. Post-depositional processes affect the size and condition of sherds as well, especially as it relates to the surface. The poor condition of sherds often makes it difficult to identify surface treatment. Finally, the treated surfaces of some plain sherds clearly indicate that they are actually undecorated parts of fine ware.

## **Firing Conditions**

I examine the cross-section of sherds in order to determine the conditions or environment in which a vessel was fired. The cross-section reveals the firing core, along with the oxidation patterns that occur during the firing and as the

vessel cools (Teltser 1993, Figure 2; Perttula 2005, Figure 5-30). The darkest area represents a reducing environment, while those cores with just a sliver of lighter areas indicate firing in a reduced environment but cooled in open air (Figure 5.15, B, F, G, H). Conversely, the area that is entirely light is indicative of an oxidizing environment, and those cores that are primarily lighter in color are from incompletely oxidized environments (Figure 5.15, A, C, D, E). Additional firing conditions may result from processes such as smudging, sooting, or refiring (Figure 5.15 I, J, K, L). I compare the results of firing conditions in Appendix 3.



**Figure 5.15. Firing Conditions (after Perttula 2005:168)**

## **Sherd thickness**

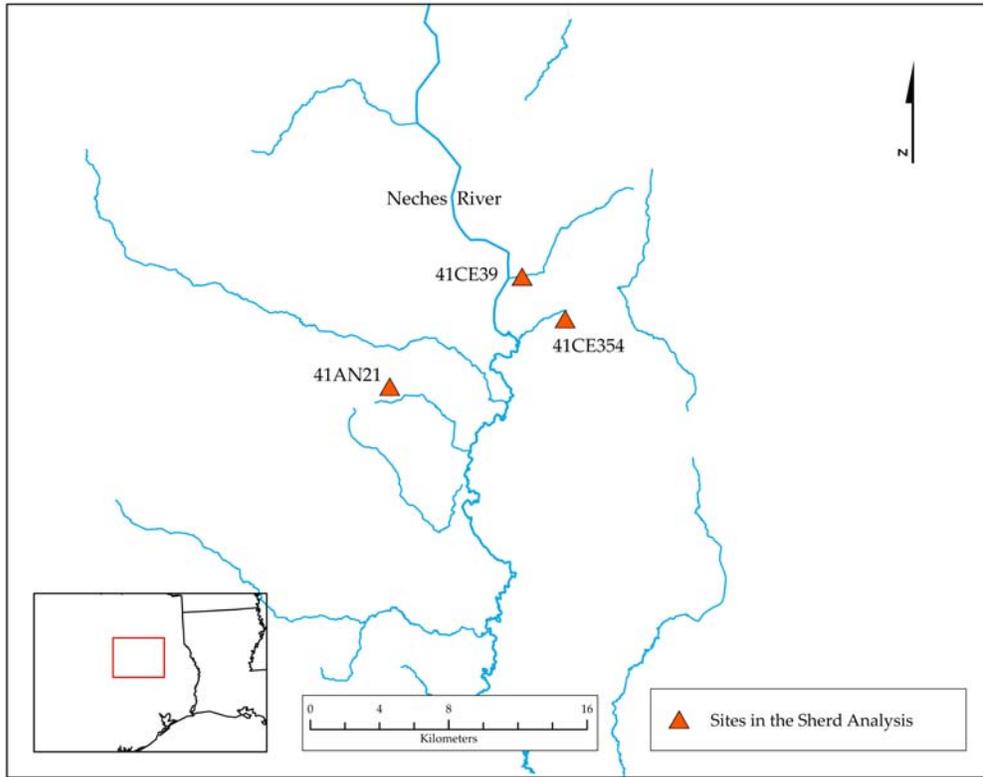
I measure sherd thickness in millimeters at the midpoint of the sherd. In some cases, thickness varies considerably from one end to another, particularly if the sherd includes part of the base and body. When this is the case, I take multiple measurements. I compare the results of sherd thickness, including the minimum, maximum, average and standard deviation, for the different types of ware in Appendix 4.

## **Chapter Six: Historic Sites and the Detailed Ceramic Analysis**

In this chapter, I present the archaeological sites included in the detailed ceramic analysis and seriation. All of the sites have substantial collections of ceramic vessel sherds. Many of the sites have European trade goods, which verify a historic period occupation, and the other sites have ceramic types associated with the Historic period in East Texas. I have organized the sites into groups based solely on proximity and geography. Below, I briefly introduce the area associated with the groups, followed by the sites included in each group. I briefly review the history of investigations, the origins of each collection, and any prior study of the materials. I also discuss and characterize the vessel sherd collections, and present the results from the detailed ceramics analysis in tables.

### **THE UPPER NECHES RIVER**

I begin with sites in the upper Neches River basin, predominantly in the area south of what is now Lake Palestine. These are the northern-most sites, and all lie in northeastern Anderson and northwestern Cherokee counties. All of the sites included in the study are within the Pineywoods region (see Chapter 2), but as a group these sites in the Upper Neches are the closest to the Post Oak Savannah and Blackland Prairie. I identify more than twenty sites relevant to the study in this area, which makes it the largest group of sites. However, only three sites have ceramic sherd collections large enough to be included in the detailed analysis (Figure 6.1). I will cover the remainder of the sites in the next chapter.



**Figure 6.1. Sites along the Upper Neches River**

**41AN21 - Emma Owens**

The Emma Owens site (41AN21), just south of the town of Frankston near Caddo Creek, is the only site in Anderson County included in the detailed ceramic analysis (Table 6.1). A.T. Jackson conducted the only professional investigations at the site in late 1931, and work consisted of a surface collection and the excavation of at least one burial. The exact extent of the site is unknown, but Jackson noted a fire pit feature and a midden deposit. The artifacts from these and the burial are now mixed, but notes indicate that a Patton Engraved vessel, a French clasp knife and a decorated elbow pipe were in association with the burial.

The component analysis form (CAF) and specimen inventory (SI) from TARK also note a flint drill, a mussel shell, and seven large conch shell beads that may have been associated with the burial. Other materials in the collection included an antler tool, a gunflint, and an unidentified arrow point, but some are currently missing from the collection. There is a slight difference in the number of ceramic sherds listed on the forms from TARK (n=189) and what is included in the detailed analysis (n=160), largely a result of excluding sherdlets. I also located an additional plain elbow pipe sherd in the materials.

**Table 6.1. Ceramic Wares and Types from the Emma Owens Site**

	Plain	Utility ware	Fine ware	Total
<b>Base</b>	6			6
<b>Body</b>	7	116	13	136
<b>Rim</b>		9	9	18

<b>Base</b>	46.2%			
<b>Body</b>	53.8%	92.8%	59.1%	
<b>Rim</b>		7.2%	40.9%	
<b>Total</b>	13	125	22	160

<b>Percentage</b>	
Plain	8.1%
Utility ware	78.1%
Fine ware	13.8%
Brushed*	76.2%
Wet Paste*	8.8%

<b>Ratios</b>	
Plain/Decorated	0.09
Brushed/Plain	8.62
Brushed/Wet Paste	8.62

<b>Ceramic Types</b>		
Bullard Brushed	3	13.0%
Killough Pinched	2	8.7%
LaRue Neck Banded	3	13.0%
Patton Engraved	15	65.2%
<b>Total Typed Sherds</b>	23	

More than three-quarters of the collection is utility ware, and the overwhelming majority of those are body sherds. There are a high percentage of rims among the fine wares (40.9%), however, which may indicate that a number of the plain and brushed body sherds are from fine ware vessels. Many of the decorated sherds have brushing in the decoration (76%), and there are few with wet paste decorations that do not include brushing (9%, n=13). Patton Engraved is the only fine ware type present, and it represents close to 70% of all the engraved sherds. Utility ware types make up a much smaller proportion of the assemblage and include Bullard Brushed, Killough Pinched, and LaRue Neck Banded.

There is only one sherd without grog inclusions in some proportion and this is the case for all types of wares (Table 6.2). Bone (4.9%) and hematite (6.6%) make up a relatively small part of the inclusions sample. The charred bone, along with charred organics (n=1) and crushed quartzite (n=1), do not occur in fine wares. The percentage of bone in plain sherds might be misleading due to small sample size. A rim sherd decorated with widely spaced engraved lines is the only example of sandy paste. This rim favors an effigy vessel (possibly Hood Engraved) and has a direct rim with a thick exterior lip.

**Table 6.2. Inclusions and Paste from the Emma Owens Site**

Inclusions	Plain	Utility ware	Fine ware	Total	Percent
Bone		1		1	0.8%
Bone-grog	1			1	0.8%
Grog	1	95	9	105	86.1%
Grog-bone		4		4	3.3%
Grog-hematite		6	2	8	6.6%
Grog-organics	1	1		2	1.6%
Grog-quartzite		1		1	0.8%
<b>Total sample</b>	3	108	11	122	

Table 6.2 (continued)

				<b>Total</b>	<b>Percent*</b>
Total with bone	1	5		6	4.9%
Total with grog	3	107	11	121	99.2%
Total with hematite		6	2	8	6.6%
<b>Total occurrences</b>	4	118	13		

Total with bone	33.3%	4.6%	
Total with grog	100.0%	99.1%	100.0%
Total with hematite		5.6%	18.2%

<b>Paste</b>	<b>Fine ware</b>	<b>Total</b>
Sandy	1	1

The fine ware bowls and carinated bowls are from Patton Engraved vessels, and the other carinated bowls are from sherds with parallel brushing (Table 6.3). All but one of the fine ware rims is direct or inverted, and the utility wares primarily have everted rims (86%).

Table 6.3. Ceramic Forms from the Emma Owens Site

<b>Vessel form</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>
Bowl		2	2
Carinated bowl	2	1	3
cf. Effigy vessel		1	1
<b>Total</b>	2	4	6

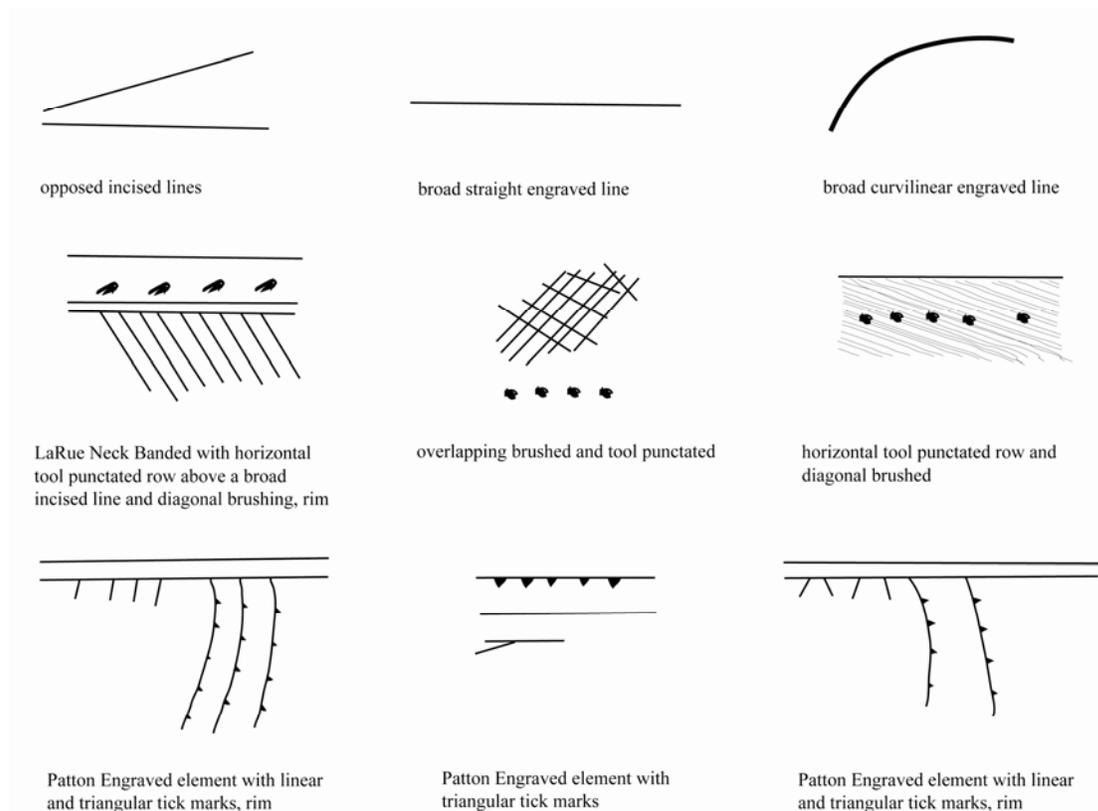
<b>Rim form-Lip form</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>
Direct-Flat		1	1
Direct-Flat and exterior thickened		1	1
Direct-Rounded	1	3	4
Everted-Flat	1		1
Everted-Rounded	5	1	6
Inverted-Rounded		3	3
-Rounded	2		2
<b>Total</b>	9	9	18

The Emma Owens site (41AN21) has a broad range of utility ware decorative classes (Table 6.4). The majority of the collection is body sherds with simple and parallel brushing. Two of these are from carinated bowls. There are two Bullard Brushed rims sherds, one with opposed and one with vertical brushing. I identified the Bullard Brushed body sherd as parallel brushed, but it is probably oriented vertically as well. It is highly likely that many of the other parallel brushed body sherds (n=58) are actually oriented vertically. The same is true for all of the collections.

**Table 6.4. Utility Ware Decorative Classes from the Emma Owens Site**

<b>Brushed</b>	<b>Body</b>	<b>Rim</b>	<b>Total</b>
Brushed	103	4	107
Brushed-Punctated	1	1	2
Appliquéd-Brushed	2	0	2
Neck banded-Brushed-Incised-Punctated	0	1	1
<b>Wet Paste, non-brushed</b>			
Incised	4	0	4
Punctated	2	1	3
Incised-Punctated	0	1	1
Appliquéd-Incised	1	0	1
Pinched	2	0	2
Neck banded	1	1	2
<b>Total</b>	116	9	125

Neck banding is the sole decoration on two of the LaRue Neck Banded sherds, but the third is more complex. It has a horizontal tool punctated row in the neck band above a broad incised line and diagonal brushing (Figure 6.2). This is the only case in the entire study of these four decorative classes together on a sherd.



**Figure 6.2. Decorated sherds from the Emma Owens Site**

Two rim sherds have triangular tick marks suspended from horizontal engraved lines and facing each other (Table 6.5). Different rim forms confirm that they are from separate vessels. This decorative element is indicative of the recently proposed Patton Engraved, *var. Fair* or *Freeman*. Unfortunately, as with many of the sherds, more of the decorative element is necessary to tell the difference. The sherds may even be from a Poynor Engraved, *var. Freeman* vessel. As indicated by the names, these types and varieties are closely related (see Chapter 5).

**Table 6.5. Fine Ware Decorations from the Emma Owens Site**

<b>Patton Engraved</b>	<b>Body</b>	<b>Rim</b>
horizontal engraved line with downward pointing triangular tick marks		1
horizontal engraved line with linear tick marks and curvilinear engraved lines with triangular tick marks		1
horizontal engraved line with linear tick marks and curvilinear engraved lines with triangular tick marks with white pigment		1
horizontal engraved line with linear tick marks and diagonal engraved lines with triangular tick marks		1
horizontal engraved lines with triangular tick marks facing each other		2
horizontal vertical and curvilinear engraved lines with triangular tick marks		1
diagonal engraved line with triangular tick marks	1	
horizontal engraved line with triangular tick marks and diagonal engraved lines	1	
parallel and opposed engraved lines one with triangular tick marks	1	
parallel curvilinear engraved lines with triangular tick marks	1	
parallel straight engraved lines one with large triangular tick marks	1	
straight engraved line with triangular tick marks	3	
<b>Not typed</b>		
curvilinear broad engraved line		1
widely spaced horizontal engraved lines		1
closely spaced curvilinear engraved lines 2+	1	
crosshatched engraved zone	1	
exterior red-slipped	2	
straight broad engraved line	1	
<b>Total</b>	<b>13</b>	<b>9</b>

Two other Patton Engraved rim sherds have curvilinear lines with triangular tick marks suspended from horizontal engraved lines with linear tick marks (Figure 6.2). This design is similar to Patton Engraved, *var. Patton*, and may in the future prove to be another variety of Patton Engraved. There are four examples of pink ware (Perttula et al. 2007) in fine and utility wares: a body sherd with a crosshatched engraved zone, a rim sherd with horizontal and overlapping brushing and two body sherds with horizontal and overlapping brushing.

The Emma Owens site (41AN21) is one of the few sites included in the detailed sherd analysis with a complete vessel in the collection. There is only one vessel, unfortunately, which makes it difficult to compare sherd versus vessel collection. The Patton Engraved vessel (Appendix 1) has two horizontal engraved lines on the rim with triangular tick marks that face each other, like the sherds mentioned above. Decoration on the body is the concentric circles motif repeated four times around the vessel. The concentric lines lack ticking, suggestive of Poynor Engraved, *var. Freeman*, but it is missing the bracket dividers.

Other ceramic finds in the collection include a plain pipe bowl sherd. The vessel and high percentage of Patton Engraved sherds, in addition to the presence of European trade goods, solidifies the Emma Owens site as dating to the Historic period.

#### **41CE39 - X41CE10**

LeRoy Johnson originally recorded 41CE39 as X41CE10 during the TASP Blackburn Crossing Reservoir survey in 1957 (Johnson 1961). Now inundated by Lake Palestine, the site was once located on a low bluff between the floodplain of the Neches River and Stone Chimney Creek. It was the largest site found during the TASP survey, and the majority of the artifacts come from a “midden soil zone” (Johnson 1961:231). Skinner and Anderson surveyed the area again between 1969 and 1970 while with SMU (Anderson 1972). The surface collection of ceramics remains at SMU, but reportedly the sherds include plain (n=63), brushed (n=56), nail punctated (n=4), incised (n=2), hatched incised (n=1), engraved (n=3), Poynor Engraved (n=1), and a pipe fragment.

I did not examine, and therefore do not include, the SMU collection. There are also discrepancies in the counts of sherds suggesting that in some cases Anderson combined the SMU collection with artifacts reported by the TASP (see Anderson 1972: Tables 4 and 13). Regardless, the composition of the SMU and TASP surface collections are comparable. During the course of this study, I located a couple dozen sherds stored under the original site designation of X41CE10. These, like the SMU collection, do not change the approximate make up of the collection. The small collection is included in my detailed analysis (Tables 6.6) and explains the difference between my count (n=235) and the count from the CAF (n=210) on file at TARL.

**Table 6.6. Ceramic Wares and Types from 41CE39**

	Plain	Utility ware	Fine ware	Total
<b>Base</b>	6			6
<b>Body</b>	105	104	8	217
<b>Rim</b>		6	6	12

<b>Base</b>	5.4%			
<b>Body</b>	94.6%	94.5%	57.1%	
<b>Rim</b>		5.5%	42.9%	
<b>Total</b>	111	110	14	235

<b>Percentage</b>		<b>Ratios</b>	
Plain	47.2%	Plain/Decorated	0.90
Utility ware	46.8%	Brushed/Plain	0.76
Fine ware	6.0%	Brushed/Wet Paste	3.11
Brushed*	67.7%		
Wet Paste	21.8%		

<b>Ceramic Types Present</b>		
cf. Maydelle Incised	3	25.0%
cf. Patton Engraved	1	8.3%

Table 6.6 (continued)

cf. Poynor Engraved	3	25.0%
LaRue Neck Banded	1	8.3%
Poynor Engraved	4	33.3%
<b>Total Typed Sherds</b>	12	

The plain and utility wares comprise 94% of the collection, resulting in few fine wares. Well over half of the decorated sherds have brushing (68%), and as the sole decoration, it occurs exclusively on body sherds. In other words, there are no brushed rims. Accordingly, the percentage of wet paste without brushing is higher than other sites in the upper Neches area, and in most of the sites in other areas. Rims with incising and punctations make up more than 80% of all utility ware rim sherds. The same decorative classes account for just 20% of all utility ware sherds.

Some of the sherds have eroded surfaces making the decorations, such as brushing, faint. There are also five examples of pink ware body sherds: one plain, one with opposed incised lines, one circular punctated, one brushed and one overlapping brushed. Poynor Engraved dominates the fine wares, and only one sherd compares favorably to Patton Engraved. The three rim sherds that favor Maydelle Incised have a triangular incised zone filled with tool punctated, but different forms and characteristics verify they are from separate vessels.

Like the Emma Owens site, the majority of sherds from 41CE39 have grog temper, though there are fewer with grog as the sole inclusion (Table 6.7). More than a quarter of all sherds have hematite inclusions, though it is less in the fine ware. This is a significant difference from the Emma Owens site.

**Table 6.7. Inclusions and Paste from 41CE39**

<b>Inclusions</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Bone-grog	1			1	0.5%
Bone-hematite-grog	1			1	0.5%
Grog	42	72	12	126	67.7%
Grog-bone	1	4		5	2.7%
Grog-hematite	18	28	1	47	25.3%
Grog-hematite-bone			1	1	0.5%
Grog-organics	1	2		3	1.6%
Hematite	1	1		2	1.1%
<b>Total sample</b>	65	107	14	186	

				<b>Total</b>	<b>Percent*</b>
Total with bone	3	4	1	8	4.3%
Total with grog	64	106	14	184	98.9%
Total with hematite	20	29	2	51	27.4%
<b>Total occurrences</b>	87	139	17		

Total with bone	4.6%	3.7%	7.1%
Total with grog	98.5%	99.1%	100.0%
Total with hematite	30.8%	27.1%	14.3%

<b>Paste</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Total</b>
Sandy	6	12	18
Silty		1	1

Bone occurs less frequently, though conversely it increases in the fine ware. There are three instances of charred organics, always in combination with grog. Eighteen in the sample, primarily plain and brushed sherds, have a sandy paste. The LaRue Neck Banded rim sherd also has sandy paste.

One distinctive sherd, part of a carinated or compound bowl with a scalloped lip, has a motif engraved on the interior of the rim that compares

favorably to Poynor Engraved (Table 6.8). Few decorations occur on the interior of Historic period Caddo ceramics, and in this study, I know of only one other case. A carinated bowl with diagonal engraved lines on the rim above horizontal brushing on the body also compares favorably to a Poynor Engraved vessel. The other sherds from carinated bowls are plain and one has a horizontal engraved line. Direct rims and rounded lips dominate the collection from 41CE39.

**Table 6.8. Ceramic Forms from 41CE39**

<b>Vessel form</b>	<b>Plain</b>	<b>Fine ware</b>	<b>Total</b>
Carinated bowl	1	2	3
Carinated or compound bowl with scalloped lip		1	1
Rim peaks		1	1
<b>Total</b>	1	4	5

<b>Rim form-Lip form</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>
Direct-Flat		1	1
Direct-Rounded	3	4	7
Everted-Rounded	1		1
Inverted-Rounded		1	1
-Flat	2		2
<b>Total</b>	6	6	12

Though brushing dominates the utility ware body sherds, there are no rims with brushed decorations (Table 6.9). Only incising, neck banding, and punctations appear on the small collection of rims.

**Table 6.9. Utility Ware Decorative Classes from 41CE39**

<b>Brushed</b>	<b>Body</b>	<b>Rim</b>	<b>Total</b>
Brushed	81		81
Brushed-Incised	2		2
<b>Wet Paste, non-brushed</b>			
Incised	10	2	12
Punctated	9		9
Incised-Punctated		3	3
Appliquéd	2		2
Neck banded		1	1
<b>Total</b>	104	6	110

Poynor Engraved are more numerous than Patton Engraved sherds (Table 6.10). One Poynor Engraved sherd has an element with diagonal lines and pendant triangles suspended from a horizontal line. Additionally, there are Poynor Engraved designs with hatching that are usually associated with triangular and scroll elements. The curvilinear engraved element favors Poynor Engraved, and is likely part of a panel divider and the concentric lines that form a negative oval. The predominance of Poynor Engraved (including cf. Poynor Engraved 88% of the fine wares), along with a lower percentage of brushing and no report of European trade goods, suggests the 41CE39 is earlier than most sites in the study.

**Table 6.10. Fine Ware Decorations from 41CE39**

<b>Poynor Engraved and cf. Poynor Engraved</b>	<b>Body</b>	<b>Rim</b>
engraved element with pendant triangles		1
hatched engraved element		3
curvilinear engraved element	1	

Table 6.10 (continued)

diagonal engraved lines above horizontal brushed	1	
parallel and opposed engraved lines	1	
<b>cf. Patton Engraved</b>		
	<b>Body</b>	<b>Rim</b>
engraved with triangular tick marks	1	
<b>Not typed</b>		
	<b>Body</b>	<b>Rim</b>
diagonal engraved lines		1
horizontal engraved line below lip		1
engraved element	2	
horizontal engraved line	1	
parallel engraved lines 3+	1	
<b>Total</b>	8	6

#### 41CE354 - Kah-hah-ko-wha

The Kah-hah-ko-wha site [the Caddo word for hawk], or Cherokee Tree Farm site, is approximately twelve acres of a “natural rise, saddle, and lower toe slope south of Flat Creek” (Perttula and Nelson 2007:41). Bo Nelson of Archeological and Environmental Consultants, LLC recorded the site in 2006 during a CRM survey. The collected materials ranged from an Archaic period grooved axe to Allen phase Caddo ceramics. The significance and scale of the site, in addition to the threat of inundation, led to further test excavations. These excavations focused on the Historic Caddo occupation areas and included approximately forty additional shovel tests, a series of 1 x 1 meter units and fine-screen columns, as well as ten backhoe trenches. They also scraped two large areas in order to search for buried archaeological deposits and features (for complete discussion see Perttula and Nelson 2007:43-48).

Radiocarbon dates are problematic for this period and rarely establish a short range of absolute dates (see Chapter 4; Perttula and Nelson 2007). A&E, LLC submitted six radiocarbon samples from the site, three from charred hickory nutshells and three from freshwater mussel shell valves or valve fragments. The calibrated age range at 2 sigma for the samples of nutshell barely extend into the dates of the site as suggested by established ceramic types and seriations. Dates for the mussel shell are even more problematic, and at 2 sigma are 150-460 years older than nutshell from similar archaeological contexts. The data clearly contradicts ceramic assemblages and the presence of European trade goods, which suggest a post 1650 A.D. occupation (Perttula and Nelson 2007:61-63).

Most importantly, the Kah-hah-ko-wha site (41CE354) is a settlement with well-preserved midden deposits and subsurface features. The investigations recovered a large amount of material culture from three different and discrete areas, and contrary to the widespread focus on cemeteries and larger civic-ceremonial centers, the focus was on domestic features. The recovered artifacts include a large sample of ceramic vessel sherds (Tables 6.11), pipe sherds, chipped and ground stone tools. There were also two gunflints and an iron fragment (probably part of a kettle handle), which the Caddo most likely obtained from Europeans. The well-preserved deposits also contained a diverse assemblage of domesticated and wild plant foods, as well as animal bones.

**Table 6.11. Ceramic Wares and Types from the Kah-hah-ko-wha Site**

	Plain	Utility ware	Fine ware	Total
<b>Base</b>	15			15
<b>Body</b>	72	396	46	514
<b>Rim</b>	7	20	12	39

<b>Base</b>	16.0%			
<b>Body</b>	76.6%	95.2%	79.3%	
<b>Rim</b>	7.4%	4.8%	20.7%	
<b>Total</b>	94	416	58	568

<b>Percentage</b>		<b>Ratios</b>	
Plain	16.5%	Plain/Decorated	0.20
Utility ware	73.2%	Brushed/Plain	4.16
Fine ware	10.2%	Brushed/Wet Paste	15.04
Brushed*	82.5%		
Wet Paste*	5.5%		

<b>Ceramic Types Present</b>		
Hume Engraved	4	10.5%
LaRue Neck Banded	1	2.6%
Patton Engraved	29	76.3%
Patton Engraved, var. Patton	1	2.6%
Poynor Engraved	3	7.9%
<b>Total Typed Sherds</b>	<b>38</b>	

Perttula analyzed the ceramic materials from the survey and excavations, and published the results in a detailed report (Perttula and Nelson 2007). The analysis focuses on the same ceramic attributes as in this study, making it easy to incorporate the findings. Therefore, I entered the information into a spreadsheet directly from the report. I did not include a small group of sherds from a brief surface collection in 2008, but the sample from the Kah-hah-ko-wha site (n=568)

is still the largest in the upper Neches area. The utility wares are approximately three-quarters of the sample. The small percentage of fine wares (10%) equals a substantial number in a large collection. Engraved types are primarily Patton Engraved, but Hume Engraved and Poynor engraved are also present.

Like other sites in the area, there are high percentages of grog inclusions across all wares at the Kah-hah-ko-wha site (Table 6.12). Crushed hematite is present in plain (11.6%) and utility wares (16%), but in smaller amounts in fine wares (6.7%). Bone also occurs in very small measure in the collection (2.7%), as well as charred organics (n=2). The sherds with sandy paste are generally from plain bodies, but there are also several rims and bases.

**Table 6.12. Inclusions and Paste from the Kah-hah-ko-wha Site**

<b>Inclusions</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Bone		2		2	0.8%
Bone-grog	2			2	0.8%
Grog	53	133	26	212	81.2%
Grog-bone	1		2	3	1.1%
Grog-hematite	7	25	2	34	13.0%
Grog-organics	1	1		2	0.8%
Hematite	1			1	0.4%
Hematite-grog		1		1	0.4%
None	4			4	1.5%
<b>Total sample</b>	69	162	30	261	
				<b>Total</b>	<b>Percent*</b>
Total with bone	3	2	2	7	2.7%
Total with grog	64	160	30	254	97.3%
Total with hematite	8	26	2	36	13.8%
<b>Total occurrences</b>	75	188	34		

Table 6.12 (continued)

Total with bone	4.3%	1.2%	6.7%
Total with grog	92.8%	98.8%	100.0%
Total with hematite	11.6%	16.0%	6.7%

Paste	Plain	Total
Sandy	17	17

Most of the sherds identified as belonging to bottles are fine wares (Table 6.13). Designs on these include a hatched engraved zone and crosshatched, curvilinear, and horizontal engraved lines. One of the two carinated bowl sherds is from a Patton Engraved vessel and has a horizontal line with triangular tick marks. The other fine ware carinated bowl sherd has decorations that include a horizontal engraved line with large hatched engraved triangles above horizontal and overlapping brushed.

Table 6.13. Ceramic Forms from the Kah-hah-ko-wha Site

Vessel form	Plain	Fine ware	Total
Bottle	3	6	9
Carinated bowl		2	1
<b>Total</b>	3	8	11

Rim form-Lip form	Plain	Utility ware	Fine ware	Total
Direct-Flat	3	1	1	5
Direct-Rounded	2	3	7	12
Everted-Flat and folded outward		1		1
Everted-Rounded	1	4		5
Everted-Rounded and folded outward		2		2
Inverted-Rounded	1		3	4
-Rounded		2		2
<b>Total</b>	7	13	11	31

There are also three plain body sherds from a bottle(s), and most of the plain rims are direct. The fine wares have predominantly direct rim forms as well, though there are three sherds with inverted rims. None of the utility ware or plain sherds has everted rims. This is much like the pattern of rim forms at the Emma Owens site.

A LaRue Neck Banded body sherd with vertical brushing is the only utility ware type present in the collection. Brushing occurs on the vast majority of the decorated sherds in the collection, and this includes 70% of the utility ware rims (Table 6.14). It occurs in conjunction with many other decorative techniques (appliquéd, incised, punctated...) and there are relatively few wet paste decorations without it (6%). Body sherds that have parallel, opposed, and overlapping brushed-incised decorations are also common.

**Table 6.14. Utility Ware Decorative Classes from the Kah-hah-ko-wha site**

<b>Brushed</b>	<b>Body</b>	<b>Rim</b>	<b>Total</b>
Brushed	334	13	347
Brushed-Incised	26		26
Brushed-Punctated	9	1	10
Brushed-Incised-Punctated	3		3
Appliquéd-Brushed	1		1
Appliquéd-Brushed-Punctated	2		2
Neck banded-Brushed	1		1
<b>Wet Paste, non-brushed</b>			
Incised	14	4	18
Punctated	2	1	3
Appliquéd	4	1	5
<b>Total</b>	<b>396</b>	<b>20</b>	<b>416</b>

The principal engraved type at the Kah-hah-ko-wha site is Patton Engraved, and it is “dominated by those with either triangular or linear tick

marks on horizontal (the most common element), diagonal, or curvilinear engraved lines on vessel rims” (Perttula and Nelson 2007:81). Almost half of the Patton Engraved decorations have curvilinear lines. For example, the Patton Engraved, *var. Patton* sherd has curvilinear lines (one with triangular tick marks) suspended from a horizontal line with linear tick marks. In all areas of the site, triangular tick marks are more common than linear tick marks on the Patton Engraved sherds (Table 6.15).

**Table 6.15. Fine Ware Type Decorations from the Kah-hah-ko-wha site**

<b>Patton Engraved</b>	<b>Body</b>	<b>Rim</b>
horizontal engraved line with linear tick marks and curvilinear engraved lines with triangular tick marks		1
horizontal engraved lines with linear tick marks		1
horizontal engraved lines with triangular tick marks	1	1
broad curvilinear engraved line	4	
broad curvilinear engraved lines	1	
broad horizontal engraved line with triangular tick marks	1	
broad widely spaced curvilinear engraved lines	3	
curvilinear engraved line	1	
curvilinear engraved lines with triangular tick marks	2	
engraved circular element	1	
engraved lines with linear tick marks	1	
engraved with linear tick mark	1	
engraved with triangular tick mark	1	
engraved with triangular tick marks	2	
horizontal and diagonal engraved lines with linear tick marks	2	
horizontal engraved line with linear tick mark	1	
horizontal engraved line with triangular tick marks	1	
parallel engraved lines with linear tick marks	1	
parallel engraved lines with triangular tick marks	1	
straight engraved line with triangular tick marks	2	

Table 6.15 (continued)

<b>Poynor-Patton Engraved</b>	<b>Body</b>	<b>Rim</b>
horizontal and opposed engraved lines		1
horizontal and curvilinear engraved lines		2
<b>Hume Engraved</b>		
horizontal engraved line and pendant triangles		3
broad engraved line and excised pendant triangles	1	
<b>Total</b>	29	9

The four Hume Engraved sherds are found in only one area of the site, and include rim and body sherds with large hatched or excised triangles suspended from horizontal lines. Perttula and Nelson (2007:81) also identify three rim sherds that belong to Poynor Engraved bowls. They classify these sherds as Poynor-Patton, a variety found most frequently in late Frankston and phase contexts, based on the decorations (Kleinschmidt 1982). Two of these sherds have white pigment rubbed into the broad horizontal engraved line with suspended curvilinear or opposed lines.

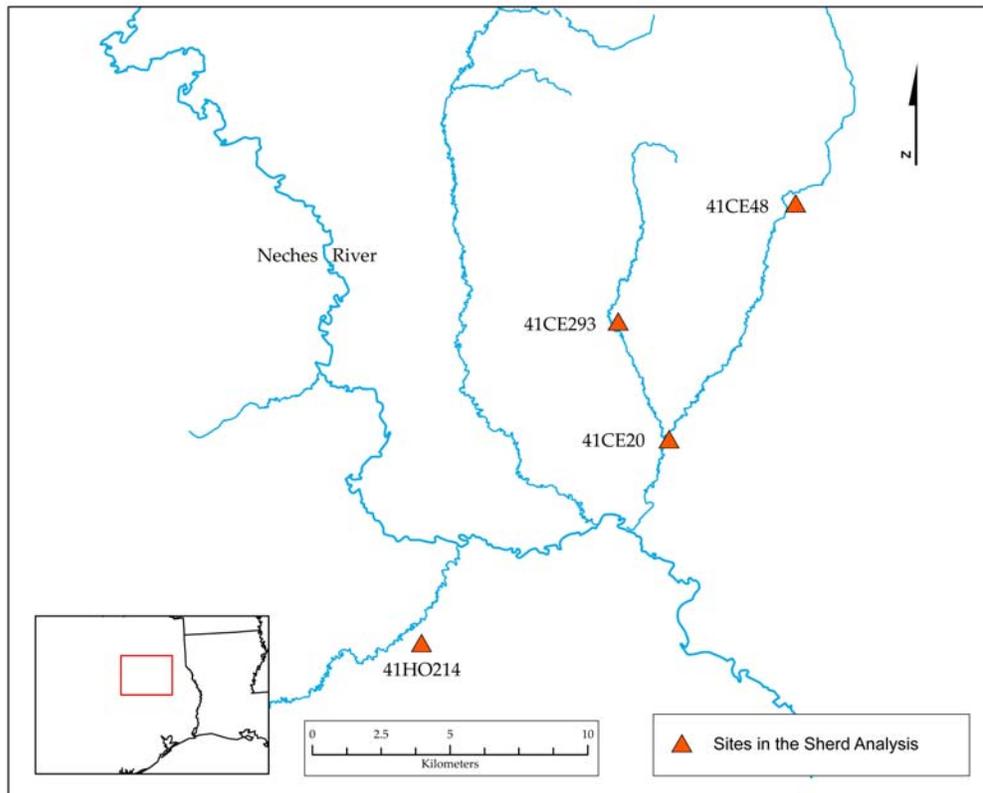
The recent report also contains a detailed discussion of ceramics not assigned to type (Table 6.16). This includes one body sherd with a distinctive red slip associated with fine ware vessels and two rim sherds with lip notching. The character of the ceramic collection, including the predominance of Patton Engraved, and European trade goods firmly places the site in the Historic period. According to Perttula and Nelson (2007:133), the Kah-hah-ko-wha site “is a ca. A.D. 1650-1700 Allen phase or early Historic Caddo component with well-preserved and intact archeological deposits with features.” Their report clearly demonstrates how controlled investigations in a domestic setting can lead to a better understanding of Caddo material practices and lifeways.

**Table 6.16. Other Fine Ware Decorations from the Kah-hah-ko-wha site**

<b>Not typed</b>	<b>Body</b>	<b>Rim</b>
diagonal engraved line		1
lip notched and broad horizontal engraved line below lip		1
lip notched and horizontal engraved lines		1
broad straight engraved line(s)	3	
closely spaced curvilinear engraved lines	1	
closely spaced parallel engraved lines	1	
crosshatched and horizontal engraved lines	1	
crosshatched engraved lines	1	
curvilinear engraved element	1	
curvilinear engraved lines 3+	1	
hatched engraved zone	1	
horizontal engraved line with large hatched engraved triangles above horizontal and overlapping brushed	1	
red slip	1	
straight engraved line	1	
widely spaced opposed engraved lines	1	
widely spaced parallel engraved lines	4	
<b>Total</b>	17	3

### **THE MIDDLE NECHES RIVER**

Archaeologists have long worked in areas just more than fifty kilometers south of the Upper Neches, around San Pedro and Bowles creeks (Figure 6.3). I identify fifteen sites relevant to this study in the area, but only four of these have collections large enough to be included in the sherds study. Presumably, some of these sites are near the location where the Spanish established the first mission in east Texas among the Hasinai Caddo, San Francisco de los Tejas (Chapter 3). Historical accounts place the mission approximately 8 km west of the banks of the Neches River, along San Pedro Creek, in the middle of the Nabadache village. Accounts also state that the Neche groups are just to the east of this area along the Neches River.



**Figure 6.3. Sites along the Middle Neches River**

**41CE20 - Wallace**

The Wallace site is located near the confluence of Bowles and White Oak creeks, near their junction with the Neches River. Locals discovered the site in 1930 after Bowles Creek overflowed and washed out human remains, along with two vessels (Jackson 1932). Two years later Jackson excavated a burial from the site, and apparently, he encountered midden deposits as well. Jackson notes that “no complete artifacts were found during the digging,” but it did contain human remains, ceramic vessel sherds, and two trade beads. Dee Ann Story and Jan Guy did an inventory in 1982 and there was a CAF completed the following year. Notably, there is only one simple black trade bead on the SI from TARL.

The collection from the Wallace site at TARL contains 256 sherds and a complete Poynor Engraved vessel. The vessel, placed on loan by R. F. Wallace in 1931, is a bottle from the disturbed burial found during the site's initial discovery. The other vessel from this burial, a crushed bowl, is not in the TARL collection. There is little provenience information for the sherds except that Jackson recovered all of them from an area around 10 square meters surrounding the burial.

Around 30% of the collection is plain sherds, including rims (n=2), bodies (n=64), and bases (n=7). More than 80% of the decorated sherds have brushing, and there are only nine wet paste sherds without brushing. Consequently, the Wallace site has a high brushed to wet paste ratio (Table 6.17). More than 70% of the identified fine ware types are Patton Engraved, but Poynor engraved is also present. One sherd has widely spaced parallel incised lines and a tool punctated zone that compares favorably to Maydelle Incised. Several Goose Creek Plain sandy paste sherds indicate a previous, much earlier occupation, but these are not included in the analysis or counts.

**Table 6.17. Ceramic Wares and Types from the Wallace Site**

	Plain	Utility ware	Fine ware	Total
<b>Base</b>	7			7
<b>Body</b>	64	147	19	230
<b>Rim</b>	2	12	5	19
<hr/>				
<b>Base</b>	9.6%			
<b>Body</b>	87.7%	92.5%	79.2%	
<b>Rim</b>	2.7%	7.5%	20.8%	
<b>Total</b>	73	159	24	256

Table 6.17 (continued)

Percentage		Ratios	
Plain	28.5%	Plain/Decorated	0.40
Utility ware	62.1%	Brushed/Plain	2.07
Fine ware	9.4%	Brushed/Wet Paste	16.78
Brushed*	82.5%		
Wet Paste*	4.9%		

Ceramic Types Present		
cf. Maydelle Incised	1	6.7%
LaRue Neck Banded	3	20.0%
Patton Engraved	8	53.3%
Poynor Engraved	3	20.0%
<b>Total Typed Sherds</b>	15	

All but four sherds, more than 98% of the collection, have some measure of grog inclusions (Table 6.18). Bone, found alone and in various combinations with other inclusions, is found exclusively in plain and utility wares. The overall proportion of bone (14.4%) is higher than the sites in the Upper Neches. Hematite occurs in similar proportions and is consistent across ware types. There are also inclusions of charred organics, always in combination with grog, in 2% of the sample.

Table 6.18. Inclusions and Paste from the Wallace Site

Inclusions	Plain	Utility ware	Fine ware	Total	Percent
Bone	1	1		2	0.8%
Bone-grog	3	8		11	4.4%
Bone-grog-hematite		1		1	0.4%
Bone-hematite		2		2	0.8%
Grog	52	112	21	185	73.4%
Grog-bone	5	11		16	6.3%
Grog-bone-hematite	1	3		4	1.6%

Table 6.18 (continued)

Grog-hematite	9	14	3	26	10.3%
Grog-organics		5		5	2.0%
<b>Total sample</b>	71	157	24	252	

				<b>Total</b>	<b>Percent*</b>
Total with bone	10	26		36	14.3%
Total with grog	70	154	24	248	98.4%
Total with hematite	10	20	3	33	13.1%
<b>Total occurrences</b>	90	200	27		

Total with bone	14.1%	16.6%	
Total with grog	98.6%	98.1%	100.0%
Total with hematite	14.1%	12.7%	12.5%

<b>Paste</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>
Sandy	2	27	4	33
Silty	2			2

One plain rim is from a globular bowl, and plain body sherds come from carinated bowls (n=2) and bottles (n=2). Fine ware makes up the remainder of the identified vessel forms (Table 6.19). The Poynor Engraved rim, a sherd section consisting of two sherds, is an engraved carinated bowl with an inverted piecrust rim and rounded lip. The Poynor Engraved body sherd with a hatched engraved element is also from a carinated bowl; the other two carinated bowls have horizontal engraved lines. Both of the Patton Engraved rim sherds have direct rims with rounded lips.

**Table 6.19. Ceramic Forms from the Wallace Site**

<b>Vessel form</b>	<b>Plain</b>	<b>Fine ware</b>	<b>Total</b>
Bottle	2	1	3
Carinated bowl	2	3	5
Carinated bowl and pie crust rim		1	1
Globular bowl	1	1	2
<b>Total</b>	5	6	11

<b>Rim form-Lip form</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>
Direct-Flat		1		1
Direct-Rounded	1	3	2	6
Everted-Flat		1		1
Everted-Rounded	1	6		7
Inverted-Rounded and folded outward			1	1
-Rounded		1	2	3
<b>Total</b>	2	12	5	19

Only 7% of the collection are rims, this includes plain (n=2), utility wares (n=12), and fine wares (n=5). Only two utility ware rim sherds do not have brushing included in the decoration (Table 6.20), and one is from a LaRue Neck Banded vessel. This vessel with neck banding has an everted rim and flat lip. Other utility wares with everted rims have horizontal brushing and punctations (cane and other tools, sometimes in rows) on or below the lip. Only one of the utility ware rims with a direct rim has punctations, the others are decorated with brushing and incising.

**Table 6.20. Utility Ware Decorative Classes from the Wallace Site**

<b>Brushed</b>	<b>Body</b>	<b>Rim</b>	<b>Total</b>
Brushed	125	4	129
Brushed-Incised	7	1	8
Brushed-Punctated	5	5	10
Appliquéd-Brushed-Punctated	3		3

Table 6.20 (continued)

<b>Wet Paste, non-brushed</b>			
Incised	3		3
Punctated	1		1
Incised-Punctated	1	1	2
<hr/>			
Neck banded	2	1	3
<b>Total</b>	147	12	159

Most of the Patton Engraved sherds have triangular tick marks on horizontal and curvilinear lines (Table 6.21). There is one Patton Engraved rim with linear tick marks attached to horizontal and curvilinear engraved lines (i.e. Patton Engraved, *var. Patton*). Another interesting example has excised zones in the shape of triangular and linear tick marks attached to horizontal lines and facing each other. The decoration on two fine ware rims not assigned to type is a horizontal line. Additional fine wares include hatched and scroll elements, and sherds decorated with horizontal, parallel, and opposed engraved lines.

**Table 6.21. Fine Ware Decorations from the Wallace Site**

<b>Patton Engraved</b>	<b>Body</b>	<b>Rim</b>
horizontal and curvilinear engraved lines with linear tick marks		1
horizontal engraved lines with excised linear and triangular zones		1
curvilinear engraved lines one with triangular tick marks	1	
curvilinear engraved lines with triangular tick marks	1	
horizontal engraved line with triangular tick marks	3	
parallel straight engraved lines one with triangular tick marks	1	
<hr/>		
<b>Poynor Engraved</b>	<b>Body</b>	<b>Rim</b>
engraved element		1
hatched engraved element	1	
horizontal and vertical engraved lines	1	

Table 6.21 (continued)

<b>Not typed</b>	<b>Body</b>	<b>Rim</b>
horizontal engraved line		2
broad widely spaced curvilinear engraved lines	2	
closely spaced parallel engraved lines	1	
engraved line	1	
engraved scroll element	1	
horizontal engraved line	1	
horizontal engraved line above horizontal brushed	1	
horizontal engraved lines	1	
opposed engraved lines	1	
parallel engraved lines	1	
parallel straight engraved lines	1	
<b>Total</b>	19	5

#### **41CE48 - Bowles Springs**

Around 13 kilometers from the Neches River, Bowles Springs is the northern and western-most site in the Middle Neches group. The multi-component site, recorded by Kegley and Witter in 1969, is located around five kilometers northwest of the town of Alto on a level terrace near a spring and Bowles Creek. The landowner reportedly discovered a burial and has a collection that contains ceramic vessels and pipes, projectile points, an English gunflint, and Patton Engraved ceramics. Bill Grammar also donated a small collection from the site.

The artifacts stored at UT, and available for analysis, are from the surface collection by Kegley and Witter and the Grammar collection. In addition to ceramics, it includes dart points that predate the Caddo occupation of the site and an English gunflint from the historic period. There are also ground stone tools and another possible gunflint. The total ceramic collection from the Bowles

Springs site located at TARL consists of over three hundred sherds. However, there are a significant amount of sherdlets that are not included (n=65), most of these are plain.

Around 25% of the collection used for analysis is plain sherds, but three-quarters of the decorated sherds have brushing (Table 6.22). Less than 3% of plain and utility wares are rim sherds, while rim sherds represent 13.6% of the fine ware. The only fine ware type represented at the site is Patton Engraved.

**Table 6.22. Ceramic Wares and Types from the Bowles Springs Site**

	Plain	Utility ware	Fine ware	Total
<b>Base</b>	2			2
<b>Body</b>	58	167	19	244
<b>Rim</b>	1	5	3	9

<b>Base</b>	3.3%			
<b>Body</b>	95.1%	97.1%	86.4%	
<b>Rim</b>	1.6%	2.9%	13.6%	
<b>Total</b>	61	172	22	255

<b>Percentage</b>		<b>Ratios</b>	
Plain	23.9%	Plain/Decorated	0.31
Utility ware	67.5%	Brushed/Plain	2.43
Fine ware	8.6%	Brushed/Wet Paste	6.17
Brushed*	76.3%		
Wet Paste*	12.4%		

<b>Ceramic Types Present</b>		
LaRue Neck Banded	1	12.5%
Patton Engraved	7	87.5%
<b>Total Typed Sherds</b>	8	

Grog occurs in all of the fine wares, most frequently as the sole inclusion (Table 6.23). Although the overall amount of grog in the collection is comparable

to other sites, the amount of grog decreases in plain sherds (86.9%) and in utility ware (81.2%). Fine ware, as is the case with most sites in the middle Neches area, has less bone inclusions than the other wares. The overall percentage of bone in wares (27.7%) is comparable to sites in the area, but more than the sites in the upper Neches.

The amount of hematite in use as an inclusion appears to increase from plain to utility ware and then fine ware, a potential alternative to bone. Simple, parallel, and overlapping body sherds make up the bulk of the sandy paste sherds, and a straight incised line decorates both of the silty paste sherds. A small percentage of sherds in the sample (5.9%) do not have visible signs of inclusions.

**Table 6.23. Inclusions and Paste from the Bowles Springs Site**

Inclusions	Plain	Utility ware	Fine ware	Total	Percent
Bone	3	17		20	7.9%
Bone-grog	12	11	1	24	9.5%
Bone-grog-hematite	1	1		2	0.8%
Bone-hematite	1	2		3	1.2%
Grog	28	89	13	130	51.4%
Grog-bone	4	11	2	17	6.7%
Grog-bone-hematite	1	2		3	1.2%
Grog-hematite	7	23	6	36	14.2%
Hematite		2		2	0.8%
Hematite-bone-grog		1		1	0.4%
None	4	11		15	5.9%
<b>Total sample</b>	61	170	22	253	
				<b>Total</b>	<b>Percent*</b>
Total with bone	22	45	3	70	27.7%
Total with grog	53	138	22	213	84.2%
Total with hematite	10	31	6	47	18.6%
<b>Total occurrences</b>	85	214	31		

Table 6.23 (continued)

Total with bone	36.1%	26.5%	13.6%
Total with grog	86.9%	81.2%	100.0%
Total with hematite	16.4%	18.2%	27.3%

Paste	Plain	Utility ware	Fine ware	Total
Sandy	18	33	2	53
Silty		2		2

One carinated bowl body sherd is plain and the other has an engraved line (Table 6.24). The only everted rims occur on a plain and LaRue Neck Banded vessels. All of the lip forms are rounded, and one horizontal brushed rim is folded outward. A utility ware vessel with a large tool punctated row below the lip and through horizontal brushing has a direct rim and rounded lip. The same is true of two fine ware sherds, one from a Patton Engraved vessel and the other with widely spaced horizontal engraved lines.

Table 6.24. Ceramic Forms from the Bowles Springs Site

Vessel form	Plain	Fine ware	Total
Carinated bowl		1	1
cf. Carinated bowl	1		1
<b>Total</b>	1	1	2

Rim form-Lip form	Plain	Utility ware	Fine ware	Total
Direct-Rounded		1	2	3
Everted-Rounded	1	1		2
Inverted-Rounded			1	1
-Rounded		2		2
-Rounded and folded outward		1		1
<b>Total</b>	1	5	3	9

Brushed ceramics are almost exclusively body sherds, and there are few rims in total (Table 6.25). Wet paste sherds without brushing are well

represented, primarily by multiple parallel incised lines, but there are also curvilinear, straight and opposed lines. There are also body sherds with single punctations (fingernail, linear tool), and one with punctations in a row.

**Table 6.25. Utility Ware Decorative Classes from the Bowles Springs Site**

<b>Brushed</b>	<b>Body</b>	<b>Rim</b>	<b>Total</b>
Brushed	143	2	145
Brushed-Incised	1		1
Brushed-Punctated	1	1	2
<b>Wet Paste, non-brushed</b>			
Incised	17	1	18
Punctated	5		5
Neck banded		1	1
<b>Total</b>	167	5	172

Triangular tick marks are associated with all of the Patton Engraved sherds (Table 6.26). One example, the only inverted rim, has horizontal and diagonal engraved lines with triangular tick marks and white kaolin clay pigment rubbed into the engraved lines. There is also an engraved element, straight, and opposed engraved lines with triangular tick marks. The majority of the fine wares are probably from Patton Engraved vessels, including some of the sherds without triangular tick marks. This is not true of the sherds with the horizontal and crosshatched lines or the curvilinear and opposed engraved element.

**Table 6.26. Fine Ware Decorations from the Bowles Springs Site**

<b>Patton Engraved</b>	<b>Body</b>	<b>Rim</b>
horizontal and diagonal engraved lines with triangular tick marks with white pigment		1
horizontal engraved line below lip with downward pointing triangular tick marks		1
engraved element with triangular tick marks	1	
engraved with straight rows of triangular tick marks	1	
opposed engraved lines with triangular tick marks	1	
straight engraved line with triangular tick marks	2	
<b>Not typed</b>	<b>Body</b>	<b>Rim</b>
widely spaced horizontal engraved lines		1
closely spaced straight engraved lines 2	1	
curvilinear and opposed engraved element	1	
curvilinear engraved line(s)	2	
horizontal and crosshatched engraved lines	1	
parallel engraved lines 2-3+	4	
straight engraved line	5	
<b>Total</b>	19	3

**41CE293 - Brooks Lindsey**

The Brooks Lindsey site is located on the east side of White Oak Creek near the confluence of the Holiday Branch. The site was on an old terrace at the base of an upland slope, and like 41CE48, near a spring (Notes on file at TARL). After plowing, individuals collected artifacts from the surface and dug at several areas in January and February of 1986. Jan Guy and Dee Ann Story visited and recorded the site a month later, but there were never any controlled excavations.

The artifacts stored at TARL include the non-controlled surface collection by Guy and Story as well as some of the artifacts recovered by locals. I examined

all of the materials, including collections donated by individuals on at least three separate occasions.

Non-vessel ceramics include two plain pipes in the TARL collection and a sketch from an elbow pipe kept by the collector. There are also unconfirmed reports of a red and white trade bead located during the digging as well as burials from an area near the Lindsey site. Ceramic materials from the various collections equal close to six hundred sherds, but Poynor Engraved is the only fine ware type identified from the site (Table 6.27). One rim sherd decorated with a large crosshatched engraved zone favors the newly recognized type King Engraved. Notably, the Lindsey site is the namesake for the newly established utility ware type Lindsey Grooved. There are more Lindsey Grooved sherds, including rim (n=9) and body (n=27) sherds, than any other type. LaRue Neck Banded is also common.

**Table 6.27. Ceramic Wares and Types from the Lindsey Site**

	Plain	Utility ware	Fine ware	Total
<b>Base</b>	10			10
<b>Body</b>	45	479	13	537
<b>Rim</b>	5	23	4	32

<b>Base</b>	16.7%			
<b>Body</b>	75.0%	95.4%	76.5%	
<b>Rim</b>	8.3%	4.6%	23.5%	
<b>Total</b>	60	502	17	579

<b>Percentage</b>	
Plain	10.4%
Utility ware	86.7%
Fine ware	2.9%
Brushed*	86.7%
Wet Paste*	10.0%

<b>Ratios</b>	
Plain/Decorated	0.12
Brushed/Plain	7.50
Brushed/Wet Paste	8.65

Table 6.27 (continued)

<b>Ceramic Types Present</b>		
cf. Poynor Engraved	2	3.8%
King Engraved	1	1.9%
LaRue Neck Banded	10	19.2%
Lindsey Grooved	36	69.2%
Poynor Engraved	2	3.8%
Poynor Engraved, var. Blackburn	1	1.9%
<b>Total Typed Sherds</b>	<b>52</b>	

The Lindsey site has the largest sample size of vessel sherds (n=579) in the area around the Middle Neches River. The collection is primarily utility ware (87%), and there are few fine ware sherds considering the sample size. To illustrate my point, consider the Nabadache Azul collection (see below). It has less than half the total number of sherds, but the number of fine ware sherds matches almost exactly that of the Lindsey site. This may be due to selective sampling of the collections before donation to TARL. The lack of fine ware may also indicate the assemblage is not from mortuary contexts.

There is a high percentage of utility ware and brushing among the decorated sherds (86.7%), which is consistent with other sites in the area. However, only 20% of the utility ware rims have brushing. Wet paste decorations without brushing, like most of the Lindsey Grooved sherds, make up 10% of the collection.

Grog is the dominant inclusion in all wares, and there are few examples in the sample without it (Table 6.28). Hematite occurs in significant amounts in the collection (49.1%), but almost exclusively in conjunction with other inclusions (primarily grog). Hematite is most prevalent in fine ware (60%), while bone is more prevalent among the plain sherds (15.4%). Charred organics are present in

plain and utility wares in minor amounts (1.5%). The Lindsey site also has the highest percentage (60%) of sherds with a sandy paste across all ware types.

**Table 6.28. Inclusions and Paste from the Lindsey Site**

<b>Inclusions</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Bone	1	1		2	0.7%
Grog	19	99	6	124	46.4%
Grog-bone	3	5		8	3.0%
Grog-bone-hematite	1			1	0.4%
Grog-hematite	13	102	8	123	46.1%
Grog-hematite-bone	1	1	1	3	1.1%
Grog-organics		2		2	0.7%
Grog-organics-hematite		1		1	0.4%
Hematite		1		1	0.4%
Hematite-bone		1		1	0.4%
Hematite-organics	1			1	0.4%
<b>Total sample</b>	<b>39</b>	<b>213</b>	<b>15</b>	<b>267</b>	

	<b>Total</b>	<b>Percent*</b>
Total with bone	6	5.6%
Total with grog	37	98.1%
Total with hematite	16	49.1%
<b>Total occurrences</b>	<b>59</b>	<b>324</b>

Total with bone	15.4%	3.8%	6.7%
Total with grog	94.9%	98.6%	100.0%
Total with hematite	41.0%	49.8%	60.0%

<b>Paste</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>
Sandy	21	127	13	161

The decoration on two engraved carinated bowls is horizontal lines; the other carinated bowl has horizontal and diagonal engraved lines (Table 6.29). I identify the two plain carinated bowls from body sherds broken along the point of carination, and one plain rim has a scalloped lip. There is also a small lug

handle attached to a Lindsey Grooved rim sherd. Besides a slight preference for everted rim forms among the utility wares, there are no clear trends in the rim and lip forms.

**Table 6.29. Ceramic Forms from the Lindsey Site**

<b>Vessel form</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>
Carinated bowl	2		3	5
Lug handle		1		1
Scalloped lip	1			1
<b>Total</b>	3	1	3	7

<b>Rim form-Lip form</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>
Direct-Rounded	1	5	1	7
Direct-Rounded and folded outward		1		1
Everted-Flat		1		1
Everted-Rounded		8		8
Inverted-Rounded			1	1
-Flat	1			1
-Rounded	2	2		4
-Rounded and folded outward	1	1	1	3
<b>Total</b>	5	18	3	26

The most interesting characteristic of this site is the large amount of Lindsey Grooved sherds (Table 6.30). No other site, that I am aware of, has such a great quantity of this type. Where orientation can be determined, all of the sherds have horizontal grooves. I identified the remainder as parallel grooved. Approximately one-quarter of the Lindsey Grooved sherds contain brushing in the decoration, there are also several with additional decorative classes. This includes three Lindsey Grooved rims and a body sherd with large circular punctated rows and two body sherds with parallel incised lines. Five of the LaRue Neck Banded sherds, including two rims, also have circular punctations.

**Table 6.30. Utility Ware Decorative Classes from the Lindsey Site**

<b>Brushed</b>	<b>Body</b>	<b>Rim</b>	<b>Total</b>
Brushed	420	3	423
Brushed-Incised	10		10
Brushed-Punctated	5	2	7
Grooved-Brushed	7	2	9
Grooved-Brushed-Punctated	1		1
<b>Wet Paste, non-brushed</b>			
Incised	2	1	3
Punctated	4	4	8
Incised-Punctated	3	2	5
Grooved	16	4	20
Grooved-Incised	2		2
Grooved-Punctated	1	3	4
Neck banded	5		5
Neck banded-Punctated	3	2	5
<b>Total</b>	<b>479</b>	<b>23</b>	<b>502</b>

Several Poynor Engraved sherds are present at the Lindsey site (Table 6.31). The decoration on one of the rim sherds (hatched panel with a divider) indicates it is from a Poynor Engraved, *var. Blackburn* vessel. Other Poynor decorations include another hatched panel element, a horizontal and vertical engraved element, an interlocking scroll, and an excised triangular zone. One rim sherd appears to be from a King Engraved vessel. It has a horizontal line below the lip attached to a crosshatched engraved zone (n=1) on the rim panel.

**Table 6.31. Fine Ware Decorations from the Lindsey Site**

<b>Poynor Engraved and cf. Poynor Engraved</b>	<b>Body</b>	<b>Rim</b>
hatched engraved panel element with divider		1
horizontal and vertical engraved element		1
engraved interlocking scroll	1	
excised triangular zone	1	
hatched engraved panel element	1	
<b>King Engraved</b>		<b>Rim</b>
crosshatched engraved zone		1
<b>Not typed</b>	<b>Body</b>	<b>Rim</b>
lip notched above horizontal engraved line		1
broad straight engraved line	1	
curvilinear engraved lines	1	
engraved rectangular panel element	1	
engraved with row of hatched triangles	1	
horizontal and diagonal engraved lines	1	
horizontal engraved lines	2	
straight engraved line	1	
straight engraved line and excised zone	1	
widely spaced curvilinear engraved lines	1	
<b>Total</b>	13	4

A fine ware rim sherd not assigned to type has lip notching above a horizontal line (n=1). Decorations on the remaining engraved body sherds are a mix of simple geometric lines, in addition to decorative elements such as hatched pendant triangles, an excised zone, and a rectangular panel. The hatched triangles are possibly from Hume Engraved, and the latter might be from a Poynor Engraved vessel.

#### **41HO214 - Nabedache Azul**

A brief survey by Galan and McMakin (Galan 2003) on a tract of land acquired by the Texas Parks and Wildlife Department resumed under the

direction of C-Dimensions in 2004 (Cooper and Cooper 2005). They re-located 41HO211 (see Chapter 7) and located several other sites including the Nabadache Azul site (41HO214). During the C-Dimensions investigations, they recovered pieces of a brass tinkler and an isolated find near the Nabadache Azul site that appeared to be an eighteenth century French clasp knife.

Following the survey, A&E, LLC conducted more intensive testing in the summer of 2005. Archaeologists used a combination of testing, intensive metal detecting searches, controlled excavation of units and fine-screen columns from each unit. Their detailed report demonstrates that the Nabadache Blanco (41HO211) and the Nabadache Azul (41HO214) sites were part of a late 17<sup>th</sup>-18<sup>th</sup> century Nabadache village known from historical sources (Perttula and Nelson 2006:xi). Presumably, this is the same Nabadache village associated with either Mission San Francisco de los Tejas [1690] or with Mission Nuestro Padre San Francisco de Tejas [1716], or with both.

A&E, LLC submitted two radiocarbon samples from the Nabadache Azul (41HO214) site, one from charred hickory nutshells and another from organic inclusions in a Patton Engraved sherd. The former has a 2 sigma age range of A.D. 1660-1950 and the latter has a 2 sigma age range of A.D. 1460-1650. The dates are problematic (see above), but they do leave open the possibility that the site was occupied to some extent in the early as well as the later Allen phase (Perttula and Nelson 2006:52).

Perttula and Nelson make a note of an extensive part of the site, around 1000 square meters, where European trade goods are relatively abundant. They recovered domestic and ornamental materials such as eighteen glass trade beads, a possible Spanish button, tin-glazed majolica, possible French cast iron kettle fragments, a rolled piece of brass from a possible tinkler, hand wrought nails,

iron knife blade fragments, and a Type 2 French iron case knife (Perttula and Nelson 2006:91-101). Perttula and Nelson also found a large amount of gun and gun-related parts, several of which are definitely diagnostic. The parts include three gunflints, lead balls and sprue, a possible iron gun barrel fragment, a goose-neck style iron gun cock for a French musket, and a brass butt plate finial engraved with parallel lines and scrolls. Perttula (2006:97) has identified the butt plate finial as “part of what Hamilton (1968) refers to as a Type D butt plate made by the French between ca. 1730-1760.”

Nabedache Azul is the only site in Houston County with a sample of decorated sherds (n=172) large enough to be included in the detailed ceramic analysis (Table 6.32). Perttula and Nelson (2006:61-79) reported on the ceramics in detail, and their analysis has been used here. Therefore, my discussion is brief.

**Table 6.32. Ceramic Wares and Types from the Nabedache Azul Site**

	Plain	Utility ware	Fine ware	Total
<b>Base</b>	2			2
<b>Body</b>	51	148	13	212
<b>Rim</b>	2	8	3	13
<hr/>				
<b>Base</b>	3.6%			
<b>Body</b>	92.7%	94.9%	81.3%	
<b>Rim</b>	3.6%	5.1%	18.8%	
<b>Total</b>	55	156	16	227

<b>Percentage</b>		<b>Ratios</b>	
Plain	24.2%	Plain/Decorated	0.32
Utility ware	68.7%	Brushed/Plain	2.38
Fine ware	7.0%	Brushed/Wet Paste	5.24
Brushed*	76.2%		
Wet Paste*	14.5%		

Table 6.32 (continued)

<b>Ceramic Types Present</b>		
cf. Maydelle Incised	1	5.3%
LaRue Neck Banded	5	26.3%
Maydelle Incised	1	5.3%
Patton Engraved	12	63.2%
<b>Total Typed Sherds</b>	19	

Some of the tables differ slightly from the reported information due to minor difference in classification (Table 6.33; Perttula and Nelson 2006, Table 3). For example, in terms of temper they combine the category of inclusions with that of paste. Therefore, they classify a sherd with grog inclusions and sandy paste as 'grog-sandy paste'. I classify the two separately. This results in minor differences in the counts of our analyses.

**Table 6.33. Inclusions and Paste from the Nabedache Azul Site**

<b>Inclusions</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Bone	8	15	1	24	10.9%
Bone-grog	1	8	1	10	4.5%
Bone-grog-organics		1		1	0.5%
Bone-hematite		2		2	0.9%
Bone-organics	1			1	0.5%
Grog	32	109	11	152	68.8%
Grog-bone	2	10	1	13	5.9%
Grog-bone-hematite	1	1		2	0.9%
Grog-hematite	1	7		8	3.6%
Grog-organics	3	3	2	8	3.6%
<b>Total sample</b>	49	156	16	221	

Table 6.33 (continued)

				<b>Total</b>	<b>Percent*</b>
Total with bone	13	37	3	53	24.0%
Total with grog	40	139	15	194	87.8%
Total with hematite	2	10		12	5.4%
<b>Total occurrences</b>	55	186	18		

Total with bone	26.5%	23.7%	18.8%
Total with grog	81.6%	89.1%	93.8%
Total with hematite	4.1%	6.4%	

<b>Paste</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>
Sandy	14	13	6	33

The inclusions in vessel sherds at the Nabedache Azul site are primarily grog (87.8%), followed by considerable amounts of bone (24%). Most frequently, grog occurs alone (without other inclusions) and fine ware contains more grog than the other wares. The percentage of bone decreases from fine ware to utility ware, and is lowest in plain sherds. The proportions of bone across wares appear much like the Bowles Springs site (see above). There are also minor amounts of hematite (5.4%), but it does not occur in fine wares. Charred organics are present, in combination with other inclusions, in a small percentage (4.5%) of the sample as well.

Perttula and Nelson (2006) discuss ceramic forms in their report, but no specific identifications of vessel forms are present in the sample. All of the fine wares have direct rims with either rounded or flat lips (Table 6.34). The composition of utility wares is similar, but it includes everted rims folded outward as well.

**Table 6.34. Ceramic Forms from the Nabadache Azul Site**

<b>Rim form-Lip form</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>
Direct-Flat	1	2	1	4
Direct-Rounded	1	3	2	6
Everted-Rounded and folded outward		2		2
-Rounded		1		1
<b>Total</b>	<b>2</b>	<b>8</b>	<b>3</b>	<b>13</b>

Around 84% of the utility wares have brushing in the design, including five rims (Table 6.35). Three rims have brushing as the sole decoration and two rims have punctated elements as well. Decorations on additional utility ware rims include horizontal and diagonal incised lines (n=1) and neck banded (n=2). The latter, along with three neck banded body sherds, are from LaRue Neck Banded vessels.

**Table 6.35. Utility Ware Decorative Classes from the Nabadache Azul Site**

<b>Brushed</b>	<b>Body</b>	<b>Rim</b>	<b>Total</b>
Brushed	98	3	101
Brushed-Incised	23		23
Brushed-Punctated	2	2	4
Appliquéd-Brushed	3		3

<b>Wet Paste, non-brushed</b>			
Incised	12	1	13
Punctated	6		6
Appliquéd-Punctated	1		1

Neck banded	3	2	5
<b>Total</b>	<b>148</b>	<b>8</b>	<b>156</b>

Patton Engraved (n=12) is the only fine ware type identified in the collection (Table 6.36). The decoration on these sherds is primarily parallel

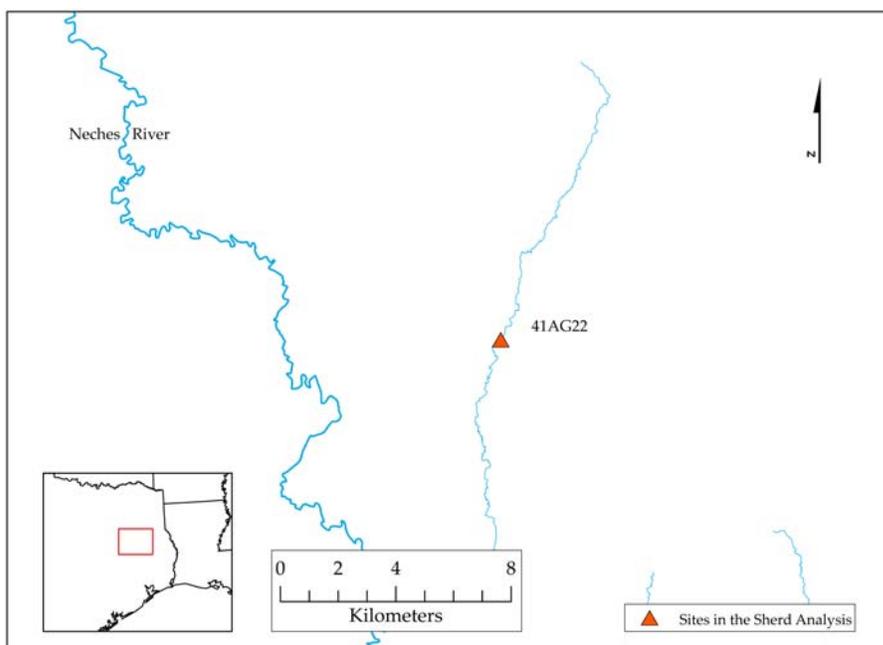
engraved lines, or horizontal lines around the rim, with tick marks (Perttula and Nelson 2006, Figure 42). There is also an engraved slanted scroll element with triangular tick marks. Notably, there are more Patton Engraved sherds with linear tick marks (n=7) than triangular tick marks (n=4). The final Patton Engraved body sherd has parallel engraved lines with alternating linear and triangular tick marks. Perttula and Nelson (2006) discuss the remaining fine ware and utility ware decorations in their report.

**Table 6.36. Fine Ware Decorations from the Nabadache Azul Site**

<b>Patton Engraved</b>	<b>Body</b>	<b>Rim</b>
horizontal engraved line with linear tick marks		2
engraved slanted scroll with triangular tick marks	1	
engraved with linear tick marks	1	
parallel engraved lines with linear and triangular tick marks	1	
parallel engraved lines with linear tick marks	4	
parallel engraved lines with triangular tick marks	2	
straight engraved line with linear tick marks	1	
<b>Not typed</b>	<b>Body</b>	<b>Rim</b>
horizontal engraved line		1
engraved scroll element	1	
curvilinear engraved line	1	
hatched engraved zone	1	
<b>Total</b>	13	3

### **THE LOWER NECHES RIVER**

The site, 41AG22, lies almost fifty kilometers southeast of the sites on San Pedro Creek. One of the southern-most sites, it is the only one in the study from the lower Neches (Figure 6.4). It is unclear what associations this site has to groups mentioned in the historic record.



**Figure 6.4 Sites along the Lower Neches River**

#### **41AG22**

G.E. Arnold recorded 41AG22, about six miles southwest of Lufkin on Jack Creek, during the WPA surveys in 1939. According to the site survey report, it is a village with three small mounds around a meter in height and from 18 to 23 meters in diameter. Several people excavated into the largest mound, but there is no documentation of the finds. Fifteen years before Arnold's visit, the landowner located a skeleton, gun, and trade beads while plowing. Arnold did not have access to these artifacts because the landowner gave them to a schoolteacher.

Arnold collected all of the artifacts used in this analysis, but since there are no records of excavations, I presume they are from a surface collection. The number of ceramic sherds on the SI from TARL (n=249) differs from the total

below because of several sherds sections and the exclusion of four Goose Creek Plain sandy paste sherds.

The small collection of sherds from 41AG22 is primarily utility ware (Table 6.37). Only seven fine ware sherds exist for 41AG22, but at least three compare favorably to the Patton Engraved. This is the only ceramic type identified at the site.

**Table 6.37. Ceramic Wares and Types from 41AG22**

	Plain	Utility ware	Fine ware	Total
<b>Base</b>	3	1		4
<b>Body</b>	20	146	4	170
<b>Rim</b>	2	9	3	14

<b>Base</b>	12.0%	0.6%		
<b>Body</b>	80.0%	93.6%	57.1%	
<b>Rim</b>	8.0%	5.8%	42.9%	
<b>Total</b>	25	156	7	188

<b>Percentage</b>		<b>Ratios</b>	
Plain	13.3%	Plain/Decorated	0.15
Utility ware	83.0%	Brushed/Plain	5.92
Fine ware	3.7%	Brushed/Wet Paste	18.50
Brushed*	90.8%		
Wet Paste*	4.9%		

<b>Ceramic Types Present</b>		
cf. Patton Engraved	1	33.3%
Patton Engraved	2	66.7%
<b>Total Typed Sherds</b>	3	

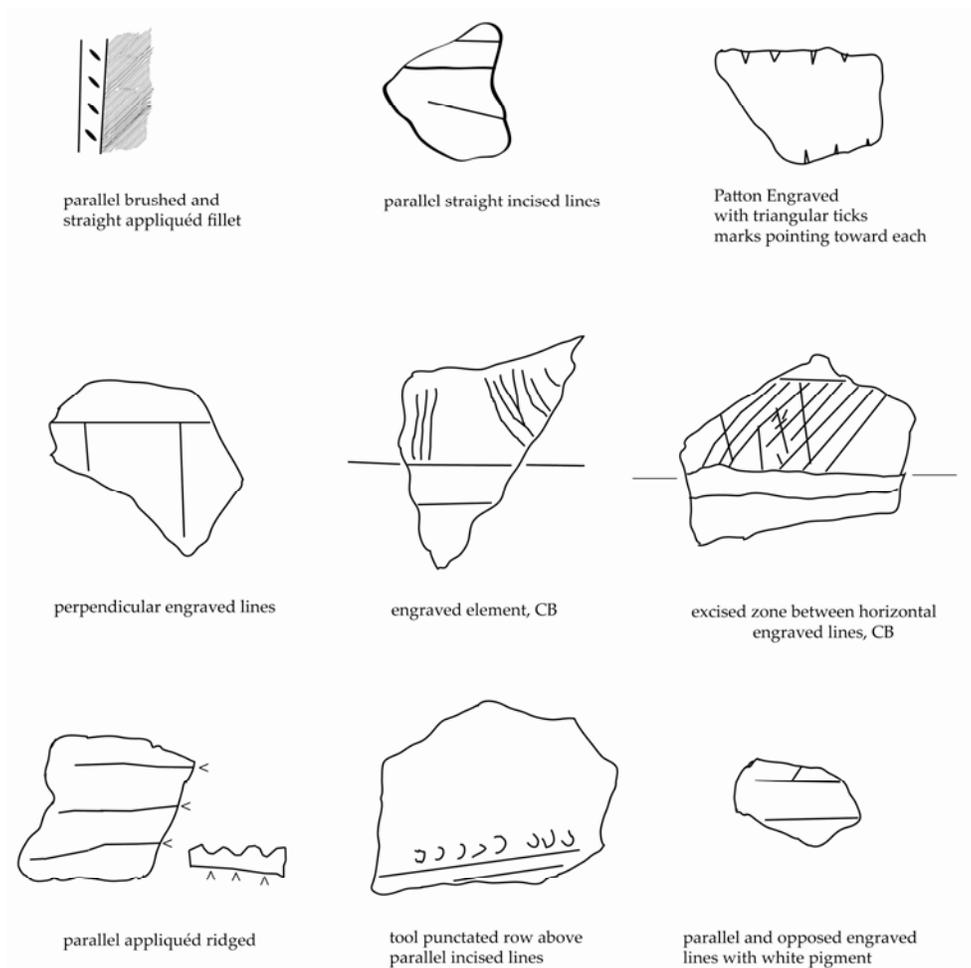
Almost 98% of all sherds in the collection from 41AG22 have grog inclusions (Table 6.38). In fact, only three plain sherds out of nearly 200 sampled sherds have inclusions that do not include grog. The use of bone is greater in

plain sherds and absent in the small sample of fine ware. Conversely, hematite is greater in fine ware and significantly less in plain and utility wares.

**Table 6.38. Inclusions and Paste from 41AG22**

<b>Inclusions</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Bone	1			1	0.5%
Bone-grog	1	6		7	3.7%
Bone-hematite	2			2	1.1%
Grog	18	121	3	142	75.5%
Grog-bone	1	4		5	2.7%
Grog-hematite	2	23	3	28	14.9%
Grog-organics		2		2	1.1%
None			1	1	0.5%
<b>Total sample</b>	25	156	7	188	
				<b>Total</b>	<b>Percent*</b>
Total with bone	5	10		15	8.0%
Total with grog	22	156	6	184	97.9%
Total with hematite	4	23	3	30	16.0%
<b>Total occurrences</b>	31	189	9		
Total with bone	16.1%	5.3%			
Total with grog	71.0%	82.5%	66.7%		
Total with hematite	12.9%	12.2%	33.3%		
<b>Paste</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	
Sandy	3	20	3	26	
Silty	1	1		2	

Carinated bowls and simple bowls are the most common vessel form at 41AG22, and one vessel sherd has prominent rim peaks (Figure 6.5; Table 6.39). The rim with peaks has a direct rounded lip and the decorations include a horizontal and overlapping brushed element. Several rims are everted with rounded and flat lips, but direct rim forms still make up the majority.



**Figure 6.5. Decorated sherds from 41AG22**

More than 90% of sherds have brushing as the sole decoration, but it is also present with other decorative classes (Table 6.40). Incising, punctations, and appliqué appear without brushing, but there are no clear preferences in the non-brushed wet paste group of sherds. A couple of the utility ware sherds have organic residue that would be ideal for residue analysis.

**Table 6.39. Ceramic Forms from 41AG22**

Vessel form	Plain	Utility ware	Fine ware	Total
Bowl	2			2
cf. Bowl		1		1
Carinated bowl	1	1	1	3
Rim peaks		1		1
<b>Total</b>	3	3	1	7

Rim form-Lip form	Plain	Utility ware	Fine ware	Total
Direct-Rounded	1	3	3	7
Direct-Thinned		1		1
Everted-Flat		1		1
Everted-Rounded	1	2		3
-Rounded		2		2
<b>Total</b>	2	9	3	14

**Table 6.40. Utility Ware Decorative Classes from 41AG22**

Brushed	Body	Rim	Base	Total
Brushed	135	7	1	143
Brushed-Incised	1			1
Brushed-Punctated	2	1		3
Appliquéd-Brushed-Punctated	1			1

Wet Paste, non-brushed	Body	Rim	Base	Total
Incised	2			2
Punctated	2	1		3
Incised-Punctated	2			2
Appliquéd	1			1
<b>Total</b>	146	9	1	156

Fine ware makes up a small fraction of the assemblage from 41AG22 (Table 6.41). The Patton Engraved vessel sherds include two rims and one body.

One of the rim sherds has a triangular tick marks facing each other. This decoration and the lack of a divider suggest it favors the type Patton Engraved, *var. Fair* or *Freeman*. Another Patton Engraved rim sherd has a horizontal line with triangular ticking.

**Table 6.41. Fine Ware Decorations from 41AG22**

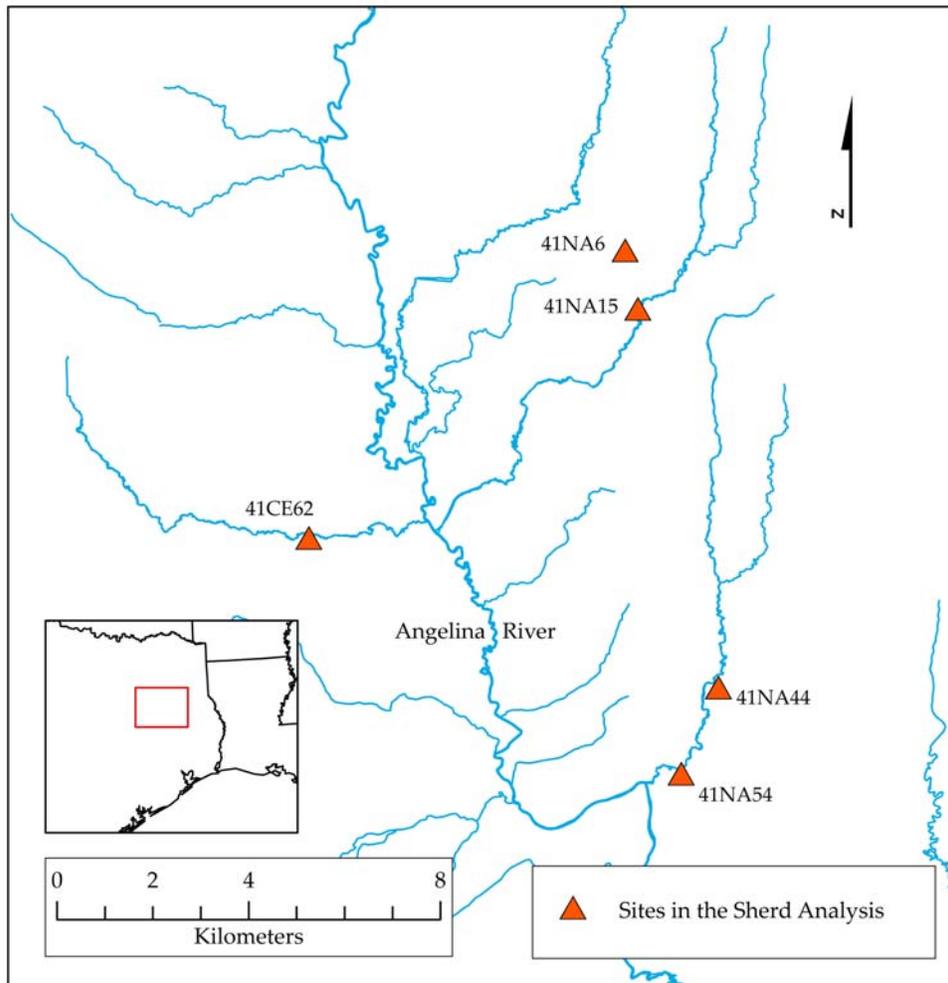
<b>Patton Engraved and cf. Patton Engraved</b>	<b>Body</b>	<b>Rim</b>
engraved with triangular ticks marks facing each other		1
horizontal engraved line with triangular tick marks		1
parallel straight engraved lines with triangular tick marks with white pigment	1	
<b>Not typed</b>		
perpendicular engraved lines		1
engraved element	1	
excised zone between horizontal engraved lines	1	
parallel and opposed engraved lines with white pigment	1	
<b>Total</b>	<b>4</b>	<b>3</b>

The only other engraved rim sherd has perpendicular engraved lines. One body sherd is from a carinated bowl and has an unidentified engraved element on the rim panel and horizontal lines on the body.

#### **THE MIDDLE ANGELINA RIVER**

I identified sites around 20 kilometers east and slightly north of the areas around San Pedro and Bowles creeks. Sites are near minor waterways in parts of central eastern Cherokee and central western Nacogdoches counties (i.e. Beans Creek, King Creek, and Legg Creek), and not directly on the Angelina River. There are 16 sites identified in these areas along the Middle Angelina River, but only five sites have enough sherds for the detailed analysis (Figure 6.6). The proposed site of Mission Concepción is one of the 16 sites, but at this point only a

small assemblage of ceramics have been collected (see Chapter 7). Still, this recent discovery suggests some of the sites along the Middle Angelina River are associated with the Hainai Caddo.



**Figure 6.6. Sites along the Middle Angelina River**

### **41CE62 - Murphy**

The Murphy site is around three miles southeast of Linwood on a terrace just above the Beans Creek floodplain near the confluence with the Angelina River. Kegley and Witter (Notes on file at TARL) recorded the site, but there is

little information on archaeological activity at the site. There are no reports of European trade goods, but Patton Engraved is present.

There are two inventories of artifacts in the site files at TARL. Kegley completed the first inventory in 1970, which documents the Bill Grammar collection. Artifacts on the inventory include over one hundred sherds, a utilized flake, and a pipe fragment. The second inventory appears to be from a subsequent surface collection by Kegley and Witter, and among other things it includes sherds (n=141) and a pipe fragment. I was able to locate the former collection, but the whereabouts of the latter are still unclear. Fortunately, the basic decorative elements for the Kegley and Witter surface collection appear on the TARL inventory and so both collections are included in the following analysis (Table 6.42).

I recorded detailed information on the decorations, inclusions, paste, and other attributes from the Grammar collection. In terms of the Kegley and Witter surface collection, I rely on the SI for decorative classes and assume they were all body sherds. There is only one rim sherd in the small sample (n=5) of fine wares, which are all from the Grammar collection. It is a direct or standing rim with a flat lip and engraved horizontal lines. In my opinion, it is likely from an elbow pipe. The small thickness of the sherd (4.6 mm) supports this conclusion. I was unable to determine any vessel forms from the sherds in the collection.

**Table 6.42. Ceramic Wares and Types from the Murphy Site**

	Plain	Utility ware	Fine ware	Total
<b>Base</b>	2			2
<b>Body</b>	126	143	4	273
<b>Rim</b>			1	1

<b>Base</b>	1.6%			
<b>Body</b>	98.4%	100.0%	80.0%	
<b>Rim</b>			20.0%	
<b>Total</b>	128	143	5	276

<b>Percentage</b>		<b>Ratios</b>	
Plain	46.4%	Plain/Decorated	0.86
Utility ware	51.8%	Brushed/Plain	1.05
Fine ware	1.8%	Brushed/Wet Paste	14.89
Brushed*	90.5%		
Wet Paste*	6.1%		

<b>Ceramic Types Present</b>		
Patton Engraved	1	100.0%

Grog is the primary inclusion in the collection, and the sole inclusion used for fine wares (Table 6.43). More than a quarter of the sample has bone inclusions, and it occurs only in plain (27.8%) and utility wares (30.3%). Hematite is present in small measure in plain (5.6%) and utility wares (7.9%) as well. One sherd contains organics, and there are three instances of sherds without inclusions. There are few examples of sherds with sandy paste, but it does occur in every ware.

**Table 6.43. Inclusions and Paste from the Murphy Site**

<b>Inclusions</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Bone	1	2		3	2.2%
Bone-grog	7	7		14	10.4%
Bone-grog-hematite	1	1		2	1.5%
Bone-hematite	1	2		3	2.2%
Grog	37	47	5	89	65.9%
Grog-bone	5	9		14	10.4%
Grog-bone-hematite		1		1	0.7%
Grog-bone-organics		1		1	0.7%
Grog-hematite	1	2		3	2.2%
Grog-organics		2		2	1.5%
None	1	2		3	2.2%
<b>Total sample</b>	<b>54</b>	<b>76</b>	<b>5</b>	<b>135</b>	

	<b>Total</b>	<b>Percent*</b>
Total with bone	15	23
Total with grog	51	70
Total with hematite	3	6
<b>Total occurrences</b>	<b>69</b>	<b>99</b>

Total with bone	27.8%	30.3%
Total with grog	94.4%	92.1%
Total with hematite	5.6%	7.9%

Due to its size and condition, there is less variation in the materials from the Murphy site. For example, sherds that are plain and brushed (as the sole decoration) make up around 95% of the entire collection. The percentage of plain sherds is also higher than most collections, resulting in a low brushed to plain ratio. Brushing is present on 91% of the decorated sherds, but there are no rims among the utility ware. Only three utility ware decorative classes appear at the Murphy site. Brushed is the principal decorative class (n=134), but there is also incised (n=8) and punctated (n=1). There is one Patton Engraved body sherd with

a line and triangular tick marks (Table 6.44). The only other fine wares, besides the one rim, are decorated with a straight engraved line (n=2) and opposed engraved lines (n=1).

**Table 6.44. Fine Ware Decorations from the Murphy Site**

<b>Patton Engraved</b>	<b>Body</b>	<b>Rim</b>
engraved line with triangular tick marks	1	
<b>Not typed</b>		
horizontal engraved lines		1
straight engraved line	2	
opposed engraved lines	1	
<b>Total</b>	<b>4</b>	<b>1</b>

#### **41NA6 - Dorsey**

After surveying parts of Nacogdoches County in 1940, G. E. Arnold filed a site survey report for the Dorsey site. The Dorsey site is three-quarters of a mile northwest of Douglass set on two small rises in the bottomlands between a spring branch and a small creek. Arnold collected artifacts from the surface in two small areas, and suggests that the area may represent a habitation area with two houses.

As far as I know, excavations have never taken place at the Dorsey site. In addition, the Arnold collection has never resulted in a publication beyond the site survey report and the CAF. The bulk of Arnold's surface collection is sherds, and though he notes bone fragments, none are present in the collection at TARL. A lack of lithic debitage may also indicate a collecting bias (Notes on file at TARL). I collected a small sample (n=9) of sherds from the surface while visiting

the site with locals and professionals in 2007. I use these as well as the Arnold collection in the detailed analysis (Table 6.45).

**Table 6.45. Ceramic Wares and Types from the Dorsey Site**

	Plain	Utility ware	Fine ware	Total
<b>Base</b>	58	2		60
<b>Body</b>	263	601	49	913
<b>Rim</b>	1	14	7	22

<b>Base</b>	18.0%	0.3%		
<b>Body</b>	81.7%	97.4%	87.5%	
<b>Rim</b>	0.3%	2.3%	12.5%	
<b>Total</b>	322	617	56	995

Percentage		Ratios	
Plain	32.4%	Plain/Decorated	0.48
Utility ware	62.0%	Brushed/Plain	1.75
Fine ware	5.6%	Brushed/Wet Paste	9.91
Brushed*	84.0%		
Wet Paste*	8.5%		

Ceramic Types Present		
cf. Poynor Engraved	2	13.3%
Lindsey Grooved	1	6.7%
Patton Engraved	10	66.7%
Spradley Brushed-Incised	2	13.3%
<b>Total Typed Sherds</b>	15	

The Dorsey site contains the biggest collection of vessel sherds (n=995) in the Middle Angelina River area. The large sample of decorated sherds (n=673) contains a high percentage of brushing (84%). More than half of the rims in the collection come from utility wares, and 64% of these have diagonal, horizontal, and vertical brushing as the sole decoration. Patton engraved is the principal fine

ware type, but there are few fine ware rims (n=7). Two sherds compare favorably to Poynor Engraved vessels, but there is also a Lindsey Grooved body sherd and two Spradley Brushed-Incised body sherds decorated with parallel brushing and overlapping parallel incised lines. There is also a considerable amount of wet paste decorations without brushing, including five rim sherds. Decorations on these consist of cross-hatching, diagonal and horizontal incised lines, as well as tool punctated rows.

Grog inclusions again dominate the collection, occurring in 92.8% of the sherds (Table 6.46). Almost half of the sherds have crushed hematite inclusions, more so in fine ware than other wares. The overall percentage of bone is only 14.4%, but it occurs in many of the inclusion categories. In other words, it occurs alongside several other inclusions and in different proportions. Organics also occur in small measure (2.2%).

**Table 6.46. Inclusions and Paste from the Dorsey Site**

<b>Inclusions</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Bone	2	2		4	2.2%
Bone-grog	1		1	2	1.1%
Bone-grog-hematite		1		1	0.6%
Bone-hematite	4	2	1	7	3.9%
Bone-organics	1			1	0.6%
Grog	27	52	7	86	47.5%
Grog-bone	2	3		5	2.8%
Grog-bone-hematite	2		1	3	1.7%
Grog-hematite	16	41	8	65	35.9%
Grog-hematite-bone		3		3	1.7%
Grog-hematite-organics		1		1	0.6%
Grog-organics	1	1		2	1.1%
Hematite		1		1	0.6%
<b>Total sample</b>	<b>56</b>	<b>107</b>	<b>18</b>	<b>181</b>	

Table 6.46 (continued)

				<b>Total</b>	<b>Percent*</b>
Total with bone	12	11	3	26	14.4%
Total with grog	49	102	17	168	92.8%
Total with hematite	22	49	10	81	44.8%
<b>Total occurrences</b>	83	162	30		

Total with bone	21.4%	10.3%	16.7%
Total with grog	87.5%	95.3%	94.4%
Total with hematite	39.3%	45.8%	55.6%

<b>Paste</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>
Sandy	7	16	6	29

I identified several bowls and carinated bowls in the collection, and at least two bottles as well (Table 6.47). The bottle sherds have no decoration, and all of the bowls are from fine ware with engraved elements on the rim and diagonal or horizontal brushing on the body. The higher percentage of fine ware rims, compared to other wares, again indicates that some of the plain and brushed body sherds are from engraved vessels. The inverted rims occur on small Patton Engraved sherds with triangular tick marks on a horizontal and a curvilinear line.

Table 6.47. Ceramic Forms from the Dorsey Site

<b>Vessel form</b>	<b>Plain</b>	<b>Fine ware</b>	<b>Total</b>
Bottle	2		2
Bowl		1	1
Carinated bowl		4	4
cf. Redwine mode lip		1	1
<b>Total</b>	2	6	8

Table 6.47 (continued)

<b>Rim form-Lip form</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>
Direct-Flat	3	1	4
Direct-Rounded	4	1	5
Direct-Rounded and folded outward		1	1
Everted-Rounded	1		1
Everted-Rounded and folded outward	1		1
Inverted-Rounded		2	2
-Rounded	2	2	4
<b>Total</b>	11	7	18

The overwhelming majority of the collection consists of body sherds with brushing as the sole decoration (n=521), this includes half of all utility ware rim sherds (Table 6.48). Two rim sherds have a tool punctated row below the lip above horizontal brushing. Crosshatched lines (n=1), diagonal incised lines (n=1), and tool punctated rows (n=2) occur on rims sherds as well.

Brushed utility ware body sherds have various decorative elements. These include decorations with brushing such as tool punctations row through parallel brushing (n=12), parallel brushing with straight appliquéd fillets (n=3), nodes (n=1), and ridges (n=1). Some of the wet paste (non-brushed) decorations consist of appliquéd ridges (n=2), closely spaced crosshatched incised lines (n=1), parallel incised lines (n=17), pinched rows (n=10), and tool punctations alone (n=4) and in rows (n=6). There is also a triangular incised zone filled with circular tool punctations.

**Table 6.48. Utility Ware Decorative Classes from the Dorsey Site**

<b>Brushed</b>	<b>Body</b>	<b>Rim</b>	<b>Base</b>	<b>Total</b>
Brushed	521	7	2	530
Brushed-Incised	11			11
Brushed-Punctated	12	2		14
Appliquéd-Brushed	2			2
Appliquéd-Brushed-Punctated	3			3
<b>Wet Paste, non-brushed</b>				
Incised	26	3		29
Punctated	10	2		12
Incised-Punctated	2			2
Appliquéd	2			2
Appliquéd-Punctated	1			1
Pinched	10			10
Grooved	1			1
<b>Total</b>	601	14	2	617

One distinct fine ware sherd has a lip that compares favorably to the Redwine or mode, a lip form that is folded outward (Walters 2010). On the middle of the rim, there are discontinuous horizontal engraved lines that are part of a larger element. A punctated row is just below the lip, on the upper part of the rim, but it is not visible when viewing the vessel from above.

There are no reports of European trade goods from the Dorsey site, but Patton Engraved is the principal fine ware (Table 6.49). It occurs with tick marks on curvilinear, horizontal, and straight engraved lines. The fine wares, including the Patton Engraved sherds, have triangular (n=9) and linear (n=2) tick marks.

**Table 6.49. Fine Ware Decorations from the Dorsey Site**

<b>Patton Engraved</b>	<b>Body</b>	<b>Rim</b>
curvilinear engraved line with triangular tick marks		1
horizontal engraved line with downward pointing triangular tick marks		1
horizontal engraved line with triangular tick mark		1
curvilinear engraved line with triangular tick mark	1	
curvilinear engraved line with triangular tick marks	1	
straight engraved line with linear tick marks	2	
straight engraved line with triangular tick marks	1	
straight engraved lines with triangular tick marks	2	
<b>cf. Poynor Engraved</b>	<b>Body</b>	
hatched engraved element	1	
hatched engraved triangular element and diagonal brushed	1	
<b>Not typed</b>	<b>Body</b>	<b>Rim</b>
horizontal engraved line below lip		2
tool punctated row above engraved element		1
vertical engraved lines		1
closely spaced parallel engraved lines	1	
crosshatched engraved element above diagonal brushed	1	
crosshatched engraved lines	1	
crosshatched engraved triangular element	1	
curvilinear engraved line	5	
diagonal engraved lines	2	
engraved element above horizontal brushed	1	
engraved hooked arm element	1	
engraved lines and parallel brushed	1	
hatched engraved triangular element	1	
opposed engraved element	1	
opposed engraved element with triangular tick marks	1	
opposed engraved lines	7	
opposed engraved lines above horizontal brushed	1	
parallel and opposed engraved lines	4	
parallel engraved lines	2	
straight engraved line	7	
widely spaced opposed engraved lines	1	
widely spaced parallel engraved lines	1	
<b>Total</b>	<b>49</b>	<b>7</b>

Other complex decorative elements appear on sherds from the Dorsey site such as hatched engraved elements, a crosshatched triangular element, a hooked arm element, and an opposed element. There is also a sherd decorated with an opposed engraved element and triangular tick marks that is unlikely from a Patton Engraved vessel. Less complex engraved decorations include crosshatching (n=1), curvilinear (n=5), horizontal (n=1), straight (n=7), opposed (n=10), and parallel (n=4) lines.

#### **41NA15 - J.T. King**

The J.T. King site is located on the west side of King Creek around a kilometer west of the town of Douglass. The site is on an alluvial terrace, situated on the northern route of *El Camino Real de los Tejas* in western Nacogdoches County. The King site is about 5 km east of the Camino Real's northern crossing of the Angelina River on modern State Highway 21.

According to the records at TARL, there was a tenant on the King farm, C.F. Sandlin, when A.T. Jackson first visited the site in 1931. Jackson recorded the site and reported a burial, three vessels and trade beads had been found while plowing the site sometime in the 1920s (Notes on file at TARL). During his own work, Jackson excavated one burial with associated ceramic vessels, as well as Historic Caddo ceramic vessel and pipe sherds. Subsequently landowners left the area in pasture and have since kept it protected.

Work resumed some 75 years later, when Tom Middlebrook relocated the site and did minor testing in 2006 (see Chapter 4). He completed more work, including shovel tests, a surface collection from multiple areas, and six 1 x 1 meters units in May of 2008 (Middlebrook 2008). Middlebrook and I, along with others, worked at the site in December of the same year. We excavated several

small units, located 10 cultural features, and recovered a substantial sample of ceramic vessel sherds, including Patton Engraved. We took soil samples and submitted them, along with ceramic sherds, for thermoluminescence dating. There was also a geophysical survey completed as part of the investigations (Middlebrook 2009). Since then, there have been additional professional and non-professional investigations at the site and surveys in the area. A National Park Service Matching Grant Program related to *El Camino Real de los Tejas* supports some of the work (Perttula et al. 2011; Walker and Perttula 2011).

I did not find any photographs or drawings for the vessels and beads found during the site's first visit in the 1920s, but Jackson reports finding a trade bead in his excavations. More recent testing recovered a copper or brass tinkler fragment (Middlebrook 2008). The excavations later that same year produced a white glass bead, and one of the excavated features contained a lead ball from a flintlock musket. There are also six glass beads in TARL's collection, including ten small pink oval halves (total, n=5) and a larger white oval bead. It is unclear if they are from Jackson's investigations in 1931 or from the landowner.

A much larger collection of ceramics now exists for the King site (over 1,000 decorated vessel sherds), but my sample contains substantially less (n=222). Therefore, the results presented here are imperfect, and in some cases differ in important ways. There is at least one upcoming publication that will present the results from the most recent investigations at the King site (Walker and Perttula 2011). In it, Perttula includes an analogous detailed ceramic analysis of some the recently acquired large collections.

I discuss the results from my ceramic study (Table 6.50-6.55), which includes materials from Jackson's work (n=196) and a small collection provided by Middlebrook (n=27). However, I cite additional ceramics data and results

from the upcoming report when appropriate (counts are included in parentheses in the tables below).

**Table 6.50. Ceramic Wares and Types from the J. T. King Site**

	Plain	Utility ware	Fine ware	Total
<b>Base</b>	4 (43)			4 (43)
<b>Body</b>	35 (525)	125 (957)	39 (122)	199 (1,604)
<b>Rim</b>	1 (6)	13 (33)	5 (8)	19 (47)

<b>Base</b>	10.0%			
<b>Body</b>	87.5%	90.6%	88.6%	
<b>Rim</b>	2.5%	9.4%	11.4%	
<b>Total</b>	40 (574)	138 (990)	44 (130)	222 (1,694)

<b>Percentage</b>	
Plain	18.0% (33.9%)
Utility ware	62.2% (58.4%)
Fine ware	19.8% (7.7%)
Brushed*	69.8% (78.7%)
Wet Paste*	7.7% (9.8%)

<b>Ratios</b>	
Plain/Decorated	0.22 (0.51)
Brushed/Plain	3.18 (1.53)
Brushed/Wet Paste	9.07 (8.01)

<b>Ceramic Types Present</b>		
cf. Patton Engraved	1	3.3%
cf. Poynor Engraved	2	6.7%
King Engraved	(7)	(11.5%)
LaRue Neck Banded	1	3.3%
Lindsey Grooved	3 (5)	10% (8.2%)
Patton Engraved	20 (42)	66.7% (68.9%)
Poynor Engraved	1 (2)	3.3% (3.3%)
Spradley Brushed-Incised	2 (5)	6.7% (8.2%)
<b>Total Typed Sherds</b>	<b>30 (61)</b>	

Plain sherds make up 18% of my entire sample and there is only one plain rim (5.2% of all rims). This is very different from the Perttula sample, where 33.8% of the collection is plain sherds and 12.8% of all the rims are plain. The

latter suggests that plain vessels may be a significant part of the collection at the King site. The rate of brushing among the decorated wares is also higher in the Perttula sample (78.7%) than in mine (69.8%). In both cases, the majority of all sherds are body sherds with parallel brushing. Finally, the percentage of fine ware is noticeably higher in my sample.

The differences in the two data sets may be the result of different collection strategies. At least part, if not all, of the Jackson collection is associated with the excavated burial. Ceramics collections in mortuary contexts frequently include larger proportions of fine ware. Recently excavated materials are from several units and testing across the site, including domestic features associated with a Caddo structure.

The results from my study regarding inclusions compare nicely to those from the upcoming study (Table 6.51; Walker and Perttula 2011). In my sample, grog is the dominant inclusion (90.5%), followed by bone (20.3%) and hematite (17.6%). The collection from the King (41NA15) site also has one of the highest rates (5.4%) of charred organic matter in use as an inclusion. Bone occurs in the greatest rates in fine ware, while hematite is the highest in utility ware. Although the inclusions are comparable, there is a significant difference in the frequency of sandy paste from the two collections. Sandy paste sherds are more prevalent in the recent sample (25%), and make up a very small portion of my sample (5.4%). Reasons for the difference are unclear, though they may be idiosyncratic.

**Table 6.51. Inclusions and Paste from the J. T. King Site**

Inclusions	Plain	Utility ware	Fine ware	Total	Percent
Bone	1	0	2	3	4.1%
Bone-grog	0	3	0	3	4.1%
Bone-hematite	0	0	1	1	1.4%

Table 6.51 (continued)

Bone-organics	0	1	0	1	1.4%
Grog	9	22	12	43	58.1%
Grog-bone	1	1	4	6	8.1%
Grog-hematite	2	8	1	11	14.9%
Grog-hematite-bone	0	1	0	1	1.4%
Grog-organics	1	2	0	3	4.1%
None	1	0	1	2	2.7%
<b>Total sample</b>	15	38	21	74	

				<b>Total</b>	<b>Percent*</b>
Total with bone	2	6	7	15	20.3%
Total with grog	13	37	17	67	90.5%
Total with hematite	2	9	2	13	17.6%
<b>Total occurrences</b>	17	52	26		

Total with bone	13.3%	15.8%	33.3%
Total with grog	86.7%	97.4%	81.0%
Total with hematite	13.3%	23.7%	9.5%

<b>Paste</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>
Sandy	1	1	2	4

I identify vessel forms such as bottles (n=2) and carinated bowls (n=4) at the King site, but utility ware jars are certainly part of the collection (Table 6.52). Most of the fine ware carinated bowls in my sample have engraved elements on the rim with horizontal brushing on the body. The decoration on one bottle is a crosshatched engraved zone, much like a hatched ladder element. The other bottle sherd is decorated with a unique engraved element. Bottles with crosshatched engraved designs occur in the recent sample as well.

Two-thirds of the utility wares in my sample have direct rims, as do all of the fine wares. The remainder of the utility ware has everted rims. Most of the

lips forms are rounded; two of these are folded outward. There are also flat lips on fine and utility ware rims.

**Table 6.52. Ceramic Forms from the J. T. King Site**

Vessel form	Utility ware	Fine ware	Total
Bottle		2	2
Carinated bowl	1	3	4
<b>Total</b>	1	5	6

Rim form-Lip form	Plain	Utility ware	Fine ware	Total
Direct-Flat		2	1	3
Direct-Rounded		4	1	5
Direct-Rounded and folded outward			1	1
Everted-Rounded	1	2		3
Everted-Rounded and folded outward		1		1
-Rounded			1	1
<b>Total</b>	1	9	4	14

Among the utility ware sherds in my sample, 88.4% have brushing in the decoration, almost identical to the more recent collection (88.9%). Almost 62% of my sample of the rims has brushing in the decoration (Table 6.53). The rate of brushing on utility ware rims in the recent collection is considerably less (42%). All of these rims have horizontal brushing marks, but one sherd in the recent sample has horizontal and diagonal brushing as well as punctations on the rim.

**Table 6.53. Utility Ware Decorative Classes from the J. T. King Site**

Brushed	Body	Rim	Total
Brushed	107 (847)	4 (8)	111 (855)
Brushed-Incised	4 (12)		4 (12)
Brushed-Punctated	1 (3)	4 (5)	5 (8)
Brushed-Incised-Punctated	1		1
Appliquéd-Brushed	1 (4)	(1)	1 (5)
Appliquéd-Brushed-Punctated	2		2

Table 6.53 (continued)

<b>Wet Paste, non-brushed</b>			
Incised	3 (66)	2 (1)	5 (67)
Punctated	1 (9)	2 (13)	3 (22)
Incised-Punctated	(2)	1 (1)	1 (3)
Appliquéd	(10)	(1)	(11)
Pinched	1 (2)		1 (2)
<hr/>			
Grooved	3 (2)	(3)	3 (5)
<hr/>			
Neck banded-Incised	1		1
<b>Total</b>	125 (957)	13 (33)	138 (990)

Brushing occurs on the rim and the body of sherds, alone, or in combination with incised, punctated, and appliquéd. Parallel brushing with overlapping parallel incised lines is present on the Spradley Brushed-Incised sherds (n=2) in my sample. There are also Lindsey Grooved (n=3) body sherds, and the example of LaRue Neck Banded (n=1) has parallel neck banded rows that are each outlined by a straight incised line. In the recent sample, Spradley Brushed-Incised (n=5) and Lindsey Grooved (n=5) are present, but LaRue Neck Banded is not.

As noted, the character of the collection analyzed by Perttula is similar in terms of utility wares. All of the decorative classes in the more recent sample occur in my sample, for the most part in similar proportions. Two classes of minor constituents appear in my sample, and not in the more recent sample. These are a sherd with a brushed-incised-punctated element and two sherds with parallel brushing and straight appliquéd fillets. Another notable difference is the large number of rim sherds in the recent sample with punctations as the sole

decoration. These punctations occur on in a single row below the vessel lip or in multiple rows from the top to the bottom of the rim (Walker and Perttula 2011).

Patton Engraved is the predominant type and makes up a large percentage of all the fine ware in my sample (Table 6.54). Decorations on Patton Engraved sherds are predominantly curvilinear, horizontal, opposed, parallel, and straight engraved lines with triangular tick marks. Patton Engraved rims and body sherds also have horizontal lines with triangular tick marks. One sherd has an engraved element consisting of a horizontal line with triangular tick marks and diagonal and opposed lines suspended from it. The only tick marks in my sample are triangular-shaped, but linear tick marks on parallel lines occur in one case from the more recent sample. The latter sample also has a curvilinear engraved element with triangular and oval tick marks as well.

**Table 6.54. Sample of Fine Ware Type Decorations from the J. T. King Site**

<b>Patton Engraved and cf. Patton Engraved</b>	<b>Body</b>	<b>Rim</b>
horizontal engraved lines with triangular tick marks		2 (3)
horizontal engraved lines one with triangular tick marks		(1)
curvilinear engraved element with triangular and oval tick marks	(1)	
curvilinear engraved line with triangular tick mark	2 (4)	
curvilinear engraved lines one with triangular tick marks	1	
engraved element with triangular tick marks	1	
horizontal engraved line with triangular tick marks	3	
opposed engraved lines one with triangular tick marks	(3)	
opposed engraved lines with triangular tick marks	1	
parallel engraved lines one with linear tick marks	(1)	
parallel engraved lines one with triangular tick marks	2 (1)	
parallel engraved lines with triangular tick marks	4 (3)	
rectilinear engraved lines with triangular tick marks	(1)	
straight engraved line with triangular tick marks	2 (22)	

Table 6.54 (continued)

straight engraved line with triangular tick marks and excised bracket	(1)	
straight and diagonal engraved lines with triangular tick marks	(1)	
widely spaced parallel engraved line with triangular tick marks	3	
<b>Poynor Engraved and cf. Poynor Engraved</b>		
	<b>Body</b>	<b>Rim</b>
crosshatched engraved divider element	(1)	1
crosshatched engraved element and divider		1
crosshatched engraved divider element and horizontal brushed	1	
hatched engraved arching divider	(1)	
<b>King Engraved</b>		
circular crosshatched zone and opposed lines	(1)	
crosshatched brackets and horizontal and vertical lines	(1)	
crosshatched engraved zone	(4)	
crosshatched zone and parallel lines	(1)	
<b>Total</b>	20 (47)	4 (4)

Like the utility ware, the fine ware from my sample is comparable to the recent sample. The most common fine ware forms are Patton Engraved bowls and carinated bowls (Walker and Perttula 2011). Almost a third (32.3%) of all the fine ware is from Patton Engraved vessels, as are half of the engraved rim sherds. The Patton Engraved designs are primarily curvilinear, diagonal, opposed, parallel, rectilinear, and straight engraved lines with triangular tick marks. Five sherds have horizontal engraved lines with triangular tick marks that are consistent with Patton Engraved, *var. Allen*.

At least five sherds from the different samples appear to be from Poynor Engraved vessels. Two Poynor Engraved body sherds from the recent sample have either hatched or cross-hatched hourglass-shaped panel divider or bracket elements (cf. Poynor Engraved, *var. Hood* or *var. Freeman*) (Walker and Perttula

2011, Figure V c-d). Additional Poynor Engraved decorations from my sample include a rim and body sherds (n=2) with divider elements. One of the two crosshatched dividers is large and may be better described as a zone. The other sherd that compares favorably to Poynor Engraved has horizontal and perpendicular lines with a crosshatched zone attached to it, in addition to what appears to be part of a hatched divider. There is also a carinated bowl engraved with a scroll element on the rim with triangular tick marks and horizontal brushing on the body that may be from a Poynor Engraved vessel as well.

The King site is the type-site for the recently named fine ware type King Engraved (Chapter 4). While several body sherds with crosshatched engraved zones resembling this new type are in my sample (Table 6.55), only the recent sample has sherds classified as King Engraved. They make up 5.4% of the recent fine ware sample, and decorations include “crosshatched engraved zones, either in panels, panel dividers, or in large bands apparently oriented in several directions on the rim panel” (Walker and Perttula 2011, Figure V a-b, e).

**Table 6.55. Sample of Fine Ware Decorations from the J. T. King Site**

<b>Not typed</b>	<b>Body</b>	<b>Rim</b>
horizontal and vertical engraved lines		1
crosshatched engraved triangular element and diagonal brushed	1	
crosshatched engraved zone	3	
curvilinear and opposed engraved lines	1	
curvilinear engraved line	1	
curvilinear excised line	1	
engraved element	1	
engraved element with white pigment	1	
engraved line	1	
engraved scroll element	1	
engraved scroll element with triangular tick marks above horizontal brushed	1	

Table 6.55 (continued)

hatched engraved triangular element	1	
large hatched triangle and straight engraved line with triangular tick marks	1	
opposed engraved lines	2	
parallel engraved lines	1	
straight engraved line	2	
<b>Total</b>	20	2

Other distinctive body sherds that are present in the recent sample may be from Hume Engraved, and Hume Engraved, *var. Allen* vessels. Decorations on these sherds include large engraved triangles, generally pendant from a line, and zig-zag lines. One sherd is from a Taylor Engraved carinated bowl with a portion of a hooked arm scroll and an excised bracket element (Walker and Perttula 2011). Finally, horizontal engraved lines on rims are present in both samples in the King collection, as are geometric designs such as curvilinear, opposed, parallel, and straight lines.

#### **41NA44 - Chayah**

The Chayah site (41NA44) was located on Legg Creek during a survey by Thomas Mayhew in 1972. Legg Creek begins in western Nacogdoches County, just west of Bayou Loco, and runs southward over 10 kilometers before joining the Angelina River. In its upper reaches, Legg Creek is intermittent but it is more permanent nearer the Angelina River. The Mayhews recorded several sites in the Legg Creek area, but only two are included in the detailed analysis.

Several years later, the first SFASU Archeological Field School took place at the site in order to provide a comparison to the Deshazo site on nearby Bayou Loco in “a different type of drainage and setting.” Their six weeks of excavations, led by Corbin, “revealed a primary occupation area and two subsidiary

occupation areas on three low, sandy rises on a small portion of the flood plain of Legg Creek" (Corbin et al. 1978:1). Like many of other sites, the Chayah site is on a small alluvial terrace near the confluence of two permanent water sources. In this case, it is Legg Creek and a small permanent tributary.

During Corbin's investigations in 1976, he tested four areas (A, B, C, and D) in and around the site. They excavated 1-meter test units in each of the areas and more thoroughly in Areas A, B, and C. Most of the artifacts originate from Area A, the area of most intense excavation, but the higher artifact totals also relate to the concentrated midden in the area. Excavations at the site revealed little in the way of cultural features, but the occupation areas are likely associated with house structures. Corbin and others published the details of excavations and finds in the first of a series of occasional papers, *Papers in Anthropology*, published by SFASU (Corbin et al. 1978).

Corbin interpreted the Chayah site "as a late prehistoric Caddoan occupation site typical of the dispersed, small, single-to few-family type habitation pattern as expressed in ethnohistorical accounts" (Corbin et al. 1978:118). I suppose the reason for the prehistoric classification is the absence of European trade goods. I believe, however, that the high percentage of brushed utility wares and Patton Engraved among the fine wares might mean the site dates to the Historic Caddo period. During the excavations, they passed the entire matrix thru ¼" mesh screen. Some of it was water screened, but trade beads (one of the most commonly found European trade goods from Historic Caddo sites) can easily pass through this size of screen.

I reanalyzed in detail the entire collection of ceramic vessel sherds (n=2,485) from the Chayah site, the largest sample in the Legg Creek area (Table 6.56). The ceramic vessel sherds are in various conditions, large and small, well

preserved and eroded. There are a large number of plain rim (n=23), body (n=602), and base (n=4) sherds not included. Other ceramic materials are not included in the detailed analysis, such as a clay coil fragment and three sherds from effigy vessels.

**Table 6.56. Ceramic Wares and Types from the Chayah Site**

	Plain	Utility ware	Fine ware	Total
<b>Base</b>	49	4	0	53
<b>Body</b>	575	1,460	207	2,242
<b>Rim</b>	49	123	18	190
<b>Base</b>	7.3%	0.3%	0.0%	
<b>Body</b>	85.4%	92.0%	92.0%	
<b>Rim</b>	7.3%	7.8%	8.0%	
<b>Total</b>	673	1,587	225	2,485

<b>Percentage</b>		<b>Ratio</b>	
Plain	27.1%	Plain/Decorated	0.37
Utility ware	63.9%	Brushed/Plain	1.85
Fine ware	9.1%	Brushed/Wet Paste	3.62
Brushed*	68.9%		
Wet Paste*	19.0%		

<b>Ceramic Types Present</b>		
cf. Hume Engraved	1	1.7%
cf. Keno Trailed	1	1.7%
cf. Patton Engraved	1	1.7%
cf. Poynor Engraved	1	1.7%
LaRue Neck Banded	2	3.3%
Lindsey Grooved	15	25.0%
Patton Engraved	24	40.0%
Poynor Engraved	6	10.0%
Poynor or Patton Engraved, var. Freeman	1	1.7%
Poynor-Patton Engraved	1	1.7%
Spradley Brushed-Incised	7	11.7%
<b>Total Typed Sherds</b>	60	

Plain body sherds make up 27.1% of the collection, and this includes a considerable number of rims (n=49). This suggests that plain vessels were in common use at the site. The number of rims may be even larger if some of the plain rim sherdlets are also from plain vessels. Utility ware makes up around 64% of the collection including a large sample of rims (n=110). Among these are the utility ware types LaRue Neck Banded, Lindsey Grooved, and Spradley Brushed-Incised. Fine ware types are also well represented (n=36), and include sherds that favor Hume Engraved, Keno Trailed, Patton Engraved, and Poynor Engraved. King Engraved is likely present as well.

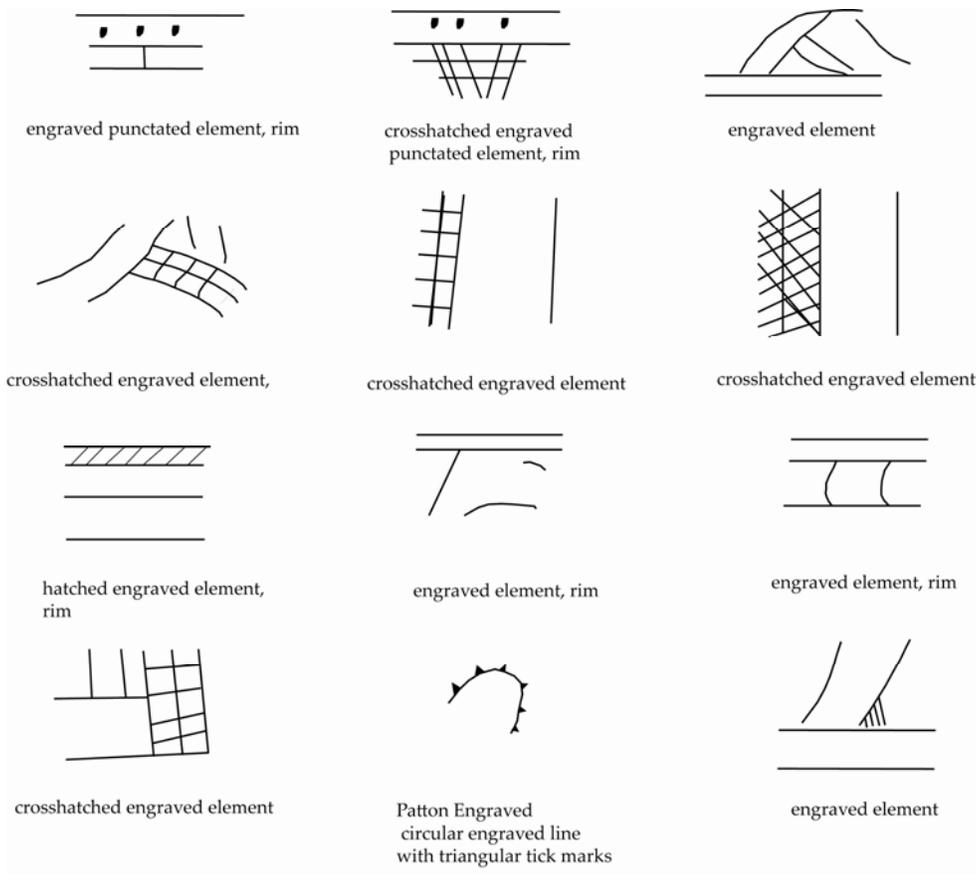
Grog is the most popular inclusion in the sample of sherds from the Chayah site (Table 6.57). It occurs as the sole inclusion in 42.7% of all sherds and 72% of the time in combination with other inclusions. Around one-half of the utility ware has grog inclusions, which increases in the plain (61.4%) and the fine ware (68.7%). The proportions of bone and hematite are consistent across the different wares. The two each make up around 25% of the utility ware. The percentage of bone is just slightly higher in plain sherds and slightly lower in the fine ware. Organics also occur in minor amounts of all of the wares.

Sandy paste is common at the Chayah site, and occurs in substantial amounts of plain (38%), utility (26%) and fine (55%) wares. These sherds are obviously not Woodland Period sandy paste pottery (i.e. Goose Creek Plain), but the rate is much higher than other sites in the study. It is unclear why the rate of sandy paste is so high.

**Table 6.57. Inclusions and Paste from the Chayah Site**

<b>Inclusions</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Bone	14	86	9	109	14.6%
Bone-grog	14	16	3	33	4.4%
Bone-grog-hematite		2	1	3	0.4%
Bone-grog-organics		2		2	0.3%
Bone-hematite	2	38	1	41	5.5%
Bone-hematite-grog	1	1		2	0.3%
Bone-hematite-organics		1		1	0.1%
Bone-organics		1	1	2	0.3%
Grog	67	180	72	319	42.7%
Grog-bone	9	20	6	35	4.7%
Grog-bone-hematite		1		1	0.1%
Grog-hematite	22	96	21	139	18.6%
Grog-hematite-bone	1			1	0.1%
Grog-organics	1	1		2	0.3%
Hematite	5	15	2	22	2.9%
Hematite-bone		2		2	0.3%
Hematite-grog	1			1	0.1%
Hematite-organics		1	1	2	0.3%
None	7	21	2	30	4.0%
<b>Total sample</b>	<b>144</b>	<b>484</b>	<b>119</b>	<b>747</b>	
				<b>Total</b>	<b>Percent*</b>
Total with bone	41	170	21	232	31.1%
Total with grog	116	319	103	538	72.0%
Total with hematite	32	157	26	215	28.8%
Total with organics	1	6	2	9	1.2%
<b>Total occurrences</b>	<b>189</b>	<b>646</b>	<b>150</b>		
Total with bone	28.5%	35.1%	17.6%		
Total with grog	80.6%	65.9%	86.6%		
Total with hematite	22.2%	32.4%	21.8%		
Total with organics	0.0%	0.0%	0.0%		
<b>Paste</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	
Sandy	55	128	66	249	

A large number of bottles (n=17) and carinated bowls (n=17) are present in the collection (Table 6.58). Although I did not identify bowls without a carination, I presume many of the fine ware is from medium to large bowls. In terms of engraved types, bottles have Poynor Engraved elements (n=2) and one sherd has wide parallel engraved lines that compare favorably to Keno Trailed. Interestingly, no fine ware types identified in the sample appear to be from carinated bowls. Distinctive engraved elements occur on at least six bottles and two carinated bowls (Figure 6.7). Horizontal lines in combination with diagonal (n=2) and vertical (n=2) engraved lines are frequently on carinated bowls. Horizontal (n=1) and parallel (n=3) engraved lines also occur on bottles.



**Figure 6.7. Decorated sherds from the Chayah Site**

Over 80% of the fine ware has direct rim forms, but there are similar amounts of direct and everted rims among the utility ware. The majority of lip forms are rounded or rounded and folded outward (78%). Lips forms can also be flat or flat and folded outward, and in one case thinned.

**Table 6.58. Ceramic Forms from the Chayah Site**

Vessel form	Plain	Utility ware	Fine ware	Total
Bottle	3		14	17
Bowl	1			1
Carinated bowl	3	2	12	17
<b>Total</b>	7	2	26	35

Rim form-Lip form	Plain	Utility ware	Fine ware	Total
Direct-Flat		3	2	5
Direct-Flat and folded outward	1	1		2
Direct-Rounded	7	19	5	31
Direct-Rounded and folded outward			2	2
Everted-Flat		4		4
Everted-Rounded	1	15	2	18
Everted-Thinned		1		1
Inverted-Rounded		1		1
-Flat		3		3
-Flat and folded outward		1		1
-Folded outward		4		4
-Rounded	1	5	6	12
-Rounded and folded outward	1	3	0	4
<b>Total</b>	11	60	17	88

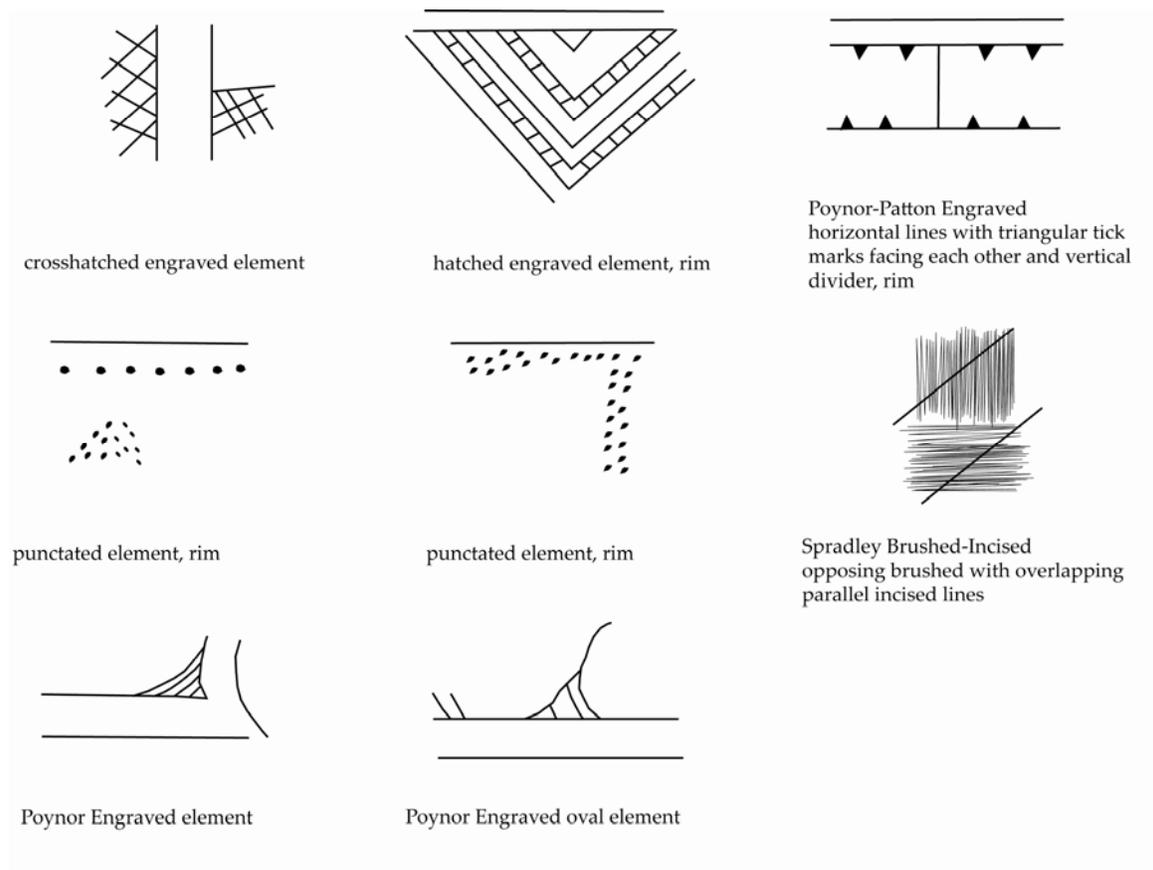
There is a large collection of utility ware at the Chayah site (n=1,587), the majority of which has brushing in the decoration (78%). Again, the largest group of these is parallel brushed body sherds with brushing as the sole decoration (Table 6.59). Among the utility ware rims, horizontal brushing occurs on many of the sherds as the sole decoration (n=22) and with tool punctated rows (n=22).

Diagonal and vertical brushing occurs on rims with tool punctated rows as well. In fact, punctations are the only decorative class that occurs on the rims in combination with brushing (n=29). The punctations are nearly all in rows below or near the lip with diagonal, horizontal, and vertical brushing, and occur above and through the brushing.

**Table 6.59. Utility Ware Decorative Classes from the Chayah Site**

<b>Brushed</b>	<b>Body</b>	<b>Rim</b>	<b>Base</b>	<b>Total</b>
Brushed	991	24	3	1,018
Brushed-Incised	105			105
Brushed-Punctated	61	29		90
Brushed-Incised-Punctated	2			2
Appliquéd-Brushed	1			1
Appliquéd-Brushed-Punctated	25			25
Grooved-Brushed	1			1
<b>Wet Paste, non-brushed</b>				
Incised	111	18	1	130
Punctated	84	39		123
Incised-Punctated	24	10		34
Appliquéd	12			12
Appliquéd-Punctated	8	1		9
Appliquéd-Incised-Punctated	1			1
Pinched	19			19
Pinched-Incised	1			1
Grooved	12	1		13
Grooved-Punctated		1		1
Neck banded	2			2
<b>Total</b>	1,460	123	4	1,587

Rims with punctations are the largest group of utility ware sherds without brushing from the Chayah site. Like those above, the tool punctations run in horizontal rows below the lip. Two rim sherds use a field of punctations to form a design on the vessel (Figure 6.8). It is clear that the point of the punctations is to form a larger decorative element. Punctations also occur inside incised zones of various shapes on rim sherds.



**Figure 6.8. Other Decorated sherds from the Chayah Site**

Incised sherds make up the largest group of wet paste decorations without brushing. The sherds with incising as the sole decoration primarily have crosshatched, diagonal, horizontal, and vertical incised lines that occur on the

rims (n=18). Incised decorations on body sherds are crosshatched, opposed, parallel, and straight incised lines. There are more than 30 examples of appliquéd fillets, the majority of which are associated with some form of brushing. Appliquéd decorations show up in combination with incising and punctations, primarily on body sherds. Only one rim, with a tool punctated row and appliquéd node below the lip, exists with this combination of decorative classes.

The pinched sherds occur in rows that are straight, parallel, or opposed to each other. One of the pinched sherds also has parallel incised lines. The majority of the Lindsey Grooved body sherds have either parallel or curvilinear grooves. The rims have horizontal grooves, one with punctations. Parallel brushing with overlapping parallel incised lines is the dominant decorative element associated with Spradley Brushed-Incised sherds. This is the design on all but one of them, which has opposed brushing with the overlapping lines. There are also two LaRue Neck Banded body sherds.

Decorations on Patton Engraved rim (n=2) and body (n= 23) sherds are primarily circular, curvilinear, horizontal, parallel, and straight engraved lines with triangular tick marks (Table 6.60). The collection has several examples of curvilinear engraved lines with linear tick marks as well. The Chayah site also has several sherds decorated with engraved lines with oval tick marks. In most cases, I consider these a variation of Patton Engraved elements because the only substantial difference in the decorative element is the shape of the tick marks. The elements' overall design, including the geometric lines from which the oval tick marks are suspended and the shapes they form are consistent with Patton Engraved. There is only one example at Chayah, a rim sherd with oval tick marks suspended from a single curvilinear engraved line, which does not favor a

Patton Engraved vessel. Other fine ware sherds with oval tick marks occur at the Henry M., Deshazo, and McElroy sites (see below).

**Table 6.60. Fine Ware Type Decorations from the Chayah Site**

<b>Patton Engraved and cf. Patton Engraved</b>	<b>Body</b>	<b>Rim</b>
horizontal engraved line with downward pointing triangular tick marks		1
horizontal engraved line with triangular tick marks		1
circular engraved line with triangular tick marks	2	
curvilinear engraved lines 2+ with linear tick marks	2	
curvilinear engraved lines with linear tick marks	3	
curvilinear engraved lines with triangular tick marks	3	
engraved with row of triangular tick marks	4	
parallel engraved lines 3+ with oval tick marks	1	
parallel engraved lines 3+ with triangular tick marks	1	
parallel engraved lines 5+ with oval tick marks	1	
parallel engraved lines with triangular tick marks	1	
straight engraved line with triangular tick marks	4	
straight engraved line with oval tick mark	1	

<b>Poynor Engraved and cf. Poynor Engraved</b>	<b>Body</b>	<b>Rim</b>
horizontal tool punctated row above crosshatched engraved divider element		1
engraved element	3	
engraved scroll element	1	
hatched engraved element	2	
opposed engraved lines	1	

<b>Poynor-Patton Engraved</b>	<b>Body</b>	<b>Rim</b>
horizontal engraved lines with triangular tick marks facing each other and vertical divider		1
horizontal and diagonal engraved lines with triangular tick marks and hatched triangular element	1	

Table 6.60 (continued)

<b>cf. Hume Engraved</b>	<b>Body</b>	<b>Rim</b>
horizontal engraved line with large excised triangles		1
<hr/>		
<b>cf. Keno Trailed</b>	<b>Body</b>	<b>Rim</b>
parallel trailed engraved lines	1	
<b>Total</b>	32	5

As noted above, Poynor Engraved sherds are present at the Chayah site, these include scroll and hatched elements. One rim has a large crosshatched zone that appears to be a large divider below a horizontal punctated row, a rare combination of decorative classes. This rim sherd looks very similar to others found in the study area that compare favorably to the type Poynor Engraved. There are also two Poynor-Patton Engraved elements (Kleinschmidt 1982, Figure 20). The rim has triangular tick marks facing each other and a vertical divider indicative of Poynor Engraved, *var. Freeman*. Finally, among the utility ware is an interesting brushed incised element that simulates other engraved vessels with dividers.

Fine ware sherds that I cannot assign to type are prevalent at the Chayah site (n=188). Many of the rims have complex engraved designs that are difficult to describe. Besides those already mentioned, there are rims engraved with hatched and crosshatched elements. At least two rims have horizontal tool punctated rows above complex engraved elements (Figure 6.7). Other rim decorations use diagonal, horizontal and vertical engraved lines (Table 6.61).

**Table 6.61. Other Fine Ware Decorations from the Chayah Site**

<b>Not typed</b>	<b>Body</b>	<b>Rim</b>
curvilinear engraved line with oval tick mark		1
diagonal engraved line		2
diagonal engraved lines		1
engraved and punctated element		1
engraved element	17	2
hatched engraved element	2	2
horizontal and vertical engraved lines		1
horizontal engraved line with hatched pendant triangles		1
horizontal tool punctated row above engraved element		2
closely spaced curvilinear engraved lines	1	
closely spaced parallel engraved lines	4	
crosshatched engraved element	10	
crosshatched engraved triangular zone	1	
crosshatched engraved zone	6	
crosshatched engraved zone above horizontal brushed	1	
curvilinear engraved line	5	
curvilinear engraved lines	3	
curvilinear engraved lines 2+	2	
curvilinear engraved lines 3+	1	
engraved element above horizontal brushed	2	
engraved element with linear tick marks	1	
engraved line with triangular tick marks	1	
engraved triangular element	1	
excised triangular zone	1	
hatched engraved zone	1	
horizontal and diagonal engraved lines	1	
horizontal and diagonal engraved lines above horizontal brushed	1	
horizontal and vertical engraved lines above horizontal brushed	2	
horizontal engraved line	2	
opposed engraved lines	19	
parallel and opposed engraved lines	1	
parallel engraved lines	15	

Table 6.61 (continued)

parallel engraved lines and excised triangular element	1	
parallel engraved lines one with triangular tick marks	1	
parallel engraved lines with triangular tick marks	3	
parallel trailed engraved lines	1	
straight engraved line	63	
straight engraved line with triangular tick marks	5	
<b>Total</b>	175	13

A large number of the engraved body sherds have simple straight (n=63) and parallel (n=15) lines, but there are many complex designs as well. For example, numerous decorations have complicated crosshatched engraved elements (Figure 6.7). Angles on these crossing lines are both large (and small) and nearly equal (creating 90-degree angles). They occur in conjunction with horizontal, opposing and various other geometric lines forming decorative elements. Several of these crosshatched decorations look much like the type King Engraved, but it is unclear if they do because they may also be from Poynor Engraved elements.

Opposed engraved lines are well represented, and most often consist of a series of straight and curvilinear engraved lines that oppose each other. Many of them likely relate to engraved elements on other sherds, perhaps some are even from the same vessel. Triangular zones and elements, both engraved and excised, are also present.

#### **41NA54 - Cecil Parks**

Like the Chayah site, Thomas Mayhew located the Cecil Parks site (41NA54) in 1972 (Chapter 4). During the survey, he collected artifacts from the surface of the site and later donated the collection to TARL. The only publication

is a small, unpublished report by Janice Mayhew in the TARL sites files that focuses on the ceramics. I analyzed the entire collection of ceramics (Table 6.62), which includes over 200 vessel sherds and an engraved pipe fragment. There is no collection or reports of European trade goods.

The decorated vessel sherds (n=189) are primarily from brushed utility ware vessels (84.7%). Unfortunately, there are only eight utility ware rims and no fine ware rims in the collection. The only types I identified are from Spradley Brushed-Incised and Killough Pinched utility ware vessels; there are no fine ware types present.

**Table 6.62. Ceramic Wares and Types from the Cecil Parks Site**

	Plain	Utility ware	Fine ware	Total
<b>Base</b>	3			3
<b>Body</b>	44	170	11	225
<b>Rim</b>	1	8		9

<b>Base</b>	6.3%			
<b>Body</b>	91.7%	95.5%	100.0%	
<b>Rim</b>	2.1%	4.5%		
<b>Total</b>	48	178	11	237

<b>Percentage</b>		<b>Ratios</b>	
Plain	20.3%	Plain/Decorated	0.25
Utility ware	75.1%	Brushed/Plain	3.33
Fine ware	4.6%	Brushed/Wet Paste	8.89
Brushed*	84.7%		
Wet Paste*	9.5%		

<b>Ceramic Types Present</b>		
Killough Pinched	1	25.0%
Spradley Brushed-Incised	3	75.0%
<b>Total Typed Sherds</b>	<b>4</b>	

The majority of all sherds have grog inclusions (88.1%). Bone occurs in about one quarter of all the sherds, and hematite is present in 14.3% of sherds. The percentage of bone and hematite in the utility ware is lower than both the plain and the fine ware sherds, presumably because of the preference for grog (Table 6.63). Sandy paste, like grog, occurs more frequently in the utility ware.

**Table 6.63. Inclusions and Paste from the Cecil Parks Site**

<b>Inclusions</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Bone	1	5	1	7	8.3%
Bone-grog	1	6		7	8.3%
Bone-hematite	1	1		2	2.4%
Grog	6	44	1	51	60.7%
Grog-bone	3	3		6	7.1%
Grog-hematite	1	7	1	9	10.7%
Grog-hematite-organics	1			1	1.2%
None	1			1	1.2%
<b>Total sample</b>	<b>15</b>	<b>66</b>	<b>3</b>	<b>84</b>	
				<b>Total</b>	<b>Percent*</b>
Total with bone	6	15	1	22	26.2%
Total with grog	12	60	2	74	88.1%
Total with hematite	3	8	1	12	14.3%
<b>Total occurrences</b>	<b>21</b>	<b>83</b>	<b>4</b>		
Total with bone	40.0%	22.7%	33.3%		
Total with grog	80.0%	90.9%	66.7%		
Total with hematite	20.0%	12.1%	33.3%		
<b>Paste</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Total</b>		
Sandy	1	8	9		

There are at least two carinated bowls, one plain and the other with an incomplete engraved element (Table 6.64). The bottle sherd has an engraved curvilinear line. The utility ware rims have only one example of a direct rim. It is from a vessel with vertical brushed-incised lines and a rounded lip. The remaining rims are everted and from vessels that contain horizontal brushing on the rim (n=3). The other two everted rims have tool punctuations below the lip. The direct rim and flat lip are from a plain vessel.

**Table 6.64. Ceramic Forms from the Cecil Parks Site**

<b>Vessel form</b>	<b>Plain</b>	<b>Fine ware</b>	<b>Total</b>
Bottle		1	1
Carinated bowl	1	1	2
<b>Total</b>	1	2	3

<b>Rim form-Lip form</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Total</b>
Direct-Flat	1		1
Direct-Rounded		1	1
Everted-Rounded		3	3
-Rounded		1	1
<b>Total</b>	1	5	6

Sherds with brushing in the decoration dominate the collection of utility ware from the Cecil Parks site (90%). Most of these are body (n=133) and rim (n=3) sherds with brushing as the sole decoration (Table 6.65). Body sherds include parallel, opposed, overlapping, and vertical brushing. Brushing occurs on 75% of the rims, and it is always oriented horizontally, at times with tool punctuations. Parallel brushing also occurs with tool punctuated rows and incised lines. The sample of wet paste, non-brushed, sherds is small (n=4). Besides the

two examples of Killough Pinched, there are two sherds with an appliquéd fillet over brushing. One has brushing parallel to the appliquéd fillet, the other has brushing diagonal to the appliquéd fillet.

**Table 6.65. Utility Ware Decorative Classes from the Cecil Parks Site**

<b>Brushed</b>	<b>Body</b>	<b>Rim</b>	<b>Total</b>
Brushed	133	3	136
Brushed-Incised	15	1	16
Brushed-Punctated	4	2	6
Appliquéd-Brushed-Punctated	2		2
<b>Wet Paste, non-brushed</b>			
Incised	11		11
Punctated	2	2	4
Incised-Punctated	1		1
Pinched	2		2
<b>Total</b>	170	8	178

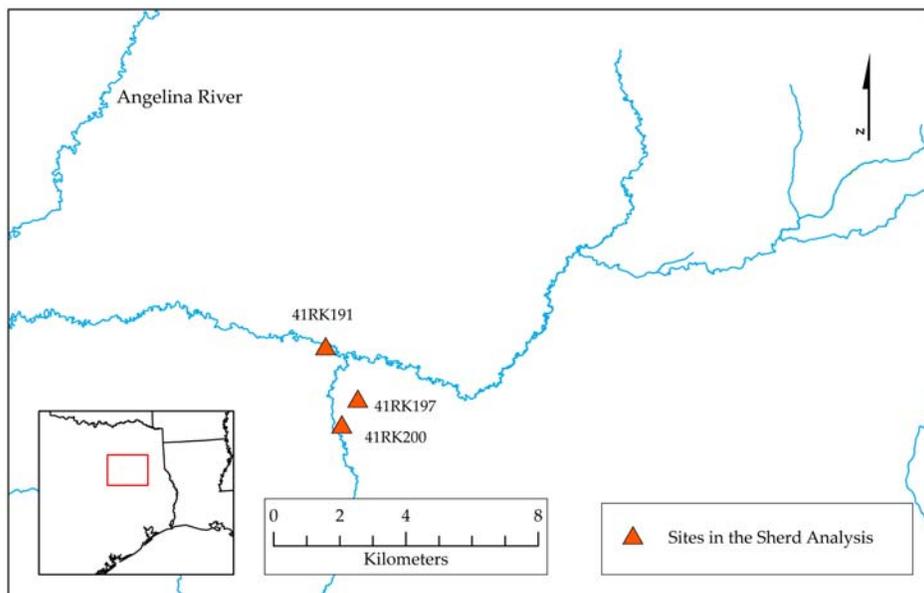
There are only 11 fine ware sherds, and none of them is a rim. Six have decorations with a single straight incised line, and one with a curvilinear line (Table 6.66). Parallel and opposed engraved lines, along with the two decorative elements, are the only other fine ware examples. The engraved elements both have horizontal and vertical engraved lines and one forms a scroll element.

**Table 6.66. Fine Ware Decorations from the Cecil Parks Site**

<b>Not Typed</b>	<b>Body</b>
closely spaced parallel engraved lines	1
curvilinear engraved line	1
engraved element	1
engraved horizontal and vertical scroll element	1
opposed engraved lines	1
straight engraved line	6
<b>Total</b>	11

## THE EAST FORK OF THE ANGELINA RIVER

This group of sites is exclusively in southern Rusk County, north and east of the sites in the areas around the Middle Angelina River (Figure 6.9). Two of the five sites identified in this area do not have enough sherds to be included in the detailed analysis, but both have European trade goods. Bill Young of Corsicana, a Texas Historical Commission Steward, recorded the other three sites including the site of Mission Nasonis. According to Espinosa, Mission Nasonis is associated with the Nasoni group (Tous 1930:23-24), as the name indicates, and although most regional archaeologists are aware of the site only limited investigations have taken place and little has been published. The discovery of these sites on the east fork of the Angelina River, now known to be the area occupied by the Nasoni Caddo, provides an important reference point in the study of the Historic Hasinai Caddo.



**Figure 6.9. Sites along the East Fork of the Angelina River**

**41RK191-Heaton #1**

A SMU survey for the proposed Ponta Reservoir identified the site #X-RK101 in 1968. Bill Young relocated the site in the mid-1970s, and later recorded the site with TARL. The Heaton #1 site, or 41RK191, sits on a two-tiered terrace several miles north of the town of Cushing. For more than 15 years, Bill Young intermittently collected artifacts from the surface, eroding out of the slope of a terrace and exposed by gophers. The surface collection consists of Archaic dart points, ground stone tools, and historic ironstone. In addition, there is a substantial collection of Historic Caddo vessel sherds (Table 6.67). Bill Young generously made the collection, along with the Heaton #2 and Mission Nasonis collections (see below), available for detailed analysis.

**Table 6.67. Ceramic Wares and Types from Heaton #1**

	Plain	Utility ware	Fine ware	Total
<b>Base</b>	2			2
<b>Body</b>	127	209	11	347
<b>Rim</b>	5	10	1	16

<b>Base</b>	1.5%			
<b>Body</b>	94.8%	95.4%	91.7%	
<b>Rim</b>	3.7%	4.6%	8.3%	
<b>Total</b>	134	219	12	365

<b>Percentage</b>	
Plain	36.7%
Utility ware	60.0%
Fine ware	3.3%
Brushed*	79.2%
Wet Paste*	15.6%

<b>Ratios</b>	
Plain/Decorated	0.58
Brushed/Plain	1.37
Brushed/Wet Paste	5.08

Table 6.67 (continued)

<b>Ceramic Types Present</b>		
cf. Spradley Brushed-Incised	1	16.7%
LaRue Neck Banded	1	16.7%
Patton Engraved	4	66.7%
<b>Total Typed Sherds</b>	<b>6</b>	

Plain (36.7%) and utility ware (60%) sherds dominate the collection from Heaton #1. There are five plain rims suggesting plain vessels were in common use. I identified one of the sherds as being from a bottle; the others are probably from bowls and carinated bowls. Half of the utility ware rims have horizontal brushing as the sole decoration (n=5). Two utility ware rims have horizontal brushing in combination with other decorations, such as punctations and incised lines. Other utility ware rims have a horizontal tool punctated row just below the lip (n=1) or horizontal incised lines (n=1).

Unfortunately, due to time restraints I did not record detailed information from the Heaton #1 collection related to inclusions, oxidation condition, surface treatment, or thickness. The only exception is a Patton Engraved body sherd with grog inclusions. Young notes that the inclusions include a fair amount of bone and grog and minor amounts of sand, but there is no complete analysis (Notes on file at TARL).

Body sherds with parallel brushing as the sole decoration dominate the utility wares, and make up almost 82% of sherds with brushing (Table 6.68). Seventy percent of the utility ware rims have horizontal brushing, five as the sole decoration and one with a horizontal tool punctated row pushed through the brushing. The other brushed rim has a single tool punctate above a diagonal incised line and horizontal brushing.

**Table 6.68. Utility Ware Decorative Classes from Heaton #1**

<b>Brushed</b>	<b>Body</b>	<b>Rim</b>	<b>Total</b>
Brushed	169	5	174
Brushed-Incised	2		2
Brushed-Punctated	5	1	6
Brushed-Incised-Punctated		1	1
<b>Wet Paste, non-brushed</b>			
Incised	27	1	28
Punctated	4	1	5
Incised-Punctated	2		2
Neck banded		1	1
<b>Total</b>	209	10	219

The utility ware without brushing are predominantly decorated with a single incised line or parallel incised lines. There are also examples of crosshatched incised lines and incised lines in conjunction with punctations. Recognized types in the utility ware from Heaton #1 include a body sherd with parallel brushing and overlapping parallel incised lines that compares favorably to Spradley Brushed-Incised. Another rim sherd has horizontal neck bands indicative of LaRue Neck Banded.

The only fine ware type present in the Heaton #1 collection is Patton Engraved (Table 6.69). They are all body sherds, likely from bowls and carinated bowls, and decorated with curvilinear engraved lines and triangular tick marks. The only carinated bowl I can positively identify is from a fine ware vessel engraved with a horizontal line.

**Table 6.69. Fine Ware Decorations from the Heaton #1 Site**

<b>Patton Engraved</b>	<b>Body</b>	<b>Rim</b>
curvilinear engraved lines one with triangular tick marks	2	
engraved with triangular tick marks	2	
<b>Not typed</b>		
horizontal engraved lines		1
curvilinear and opposed engraved lines	1	
horizontal engraved line	1	
parallel engraved lines	2	
red slip	1	
straight engraved line	2	
<b>Total</b>	<b>11</b>	<b>1</b>

Other engraved decorations on the fine ware include curvilinear and opposed lines, parallel lines, and a straight line. There is one body sherd decorated with a red slip associated with fine ware vessels. The collection of Patton Engraved sherds, along with the relatively high percentage of brushing (79.2%), is enough to justify including the site in the detailed analysis. Add to that the site's proximity to Mission Nasonis, and this collection becomes even more interesting.

**41RK197 - Heaton #2**

Similar to Heaton #1, the Heaton #2 site is very likely associated with Mission Nasonis. Bill Young located Heaton #2 as well, and recorded this site after the landowner cleared the area in 1971. The site is located on another terrace a couple of kilometers southeast of Heaton #1, not far from Dill Creek. The collection of artifacts is a result of Young occasionally collecting from the surface of the site for many years.

The lithic artifacts, unlike the Heaton #1 site, provide no evidence of earlier occupations. There are no lithic tools and less than 10 lithic flakes. The collection of ceramic vessel sherds, however, documents a probable Historic Caddo occupation (Table 6.70). Like Heaton #1, I was regrettably unable to get detailed information for Heaton #2 on inclusions, oxidation condition, surface treatment, or thickness. In the notes on file at TARL, Young lists the inclusions for at least 25 decorated sherds and found only two that contained bone.

**Table 6.70. Ceramic Wares and Types from the Heaton #2 Site**

	Plain	Utility ware	Fine ware	Total
<b>Body</b>	76	103	19	198
<b>Rim</b>	3	5	4	12

<b>Body</b>	96.2%	95.4%	82.6%	
<b>Rim</b>	3.8%	4.6%	17.4%	
<b>Total</b>	79	108	23	210

<b>Percentage</b>		<b>Ratios</b>	
Plain	37.6%	Plain/Decorated	0.60
Utility ware	51.4%	Brushed/Plain	1.15
Fine ware	11.0%	Brushed/Wet Paste	5.35
Brushed*	69.5%		
Wet Paste*	13.0%		

<b>Ceramic Types Present</b>		
cf. Poynor Engraved	1	5.0%
Patton Engraved	19	95.0%
<b>Total Typed Sherds</b>	20	

The percentage of fine and utility wares at Heaton #2 is slightly different compared to Heaton #1. Plain and wet paste sherds are comparable, but there is a higher percentage of fine ware (11%) and less utility ware (51.4%) in the Heaton

#2 collection. The percentage of brushed among the decorated sherds is also slightly lower at Heaton #1 (69.5%) than at Heaton #2 (79.2%). On the other hand, each of the ratios at the two sites is nearly identical.

Unlike many other sites, there is only one rim with brushing included in the decoration (Table 6.71). Of course, the sample of utility ware rims is small (n=5). Additional utility ware rim decorations include lines diagonal to the rim and opposed to each other (n=2), sometimes referred to as hatched designs. The remaining utility ware rims (n=2) have tool punctated rows.

**Table 6.71. Utility Ware Decorative Classes from the Heaton #2 Site**

	<b>Body</b>	<b>Rim</b>	<b>Total</b>
Brushed	85	1	86
Brushed-Incised	2		2
Brushed-Punctated	3		3
<hr/>			
Incised	7	2	9
Punctated	4	2	6
Incised-Punctated	2		2
<b>Total</b>	103	5	108

Like most sites in this study, the majority of the utility ware body sherds have parallel brushing as the sole decoration. Opposed and overlapping brushing on body sherds occur as the sole decoration as well. Body sherds with brushing in addition to other decorative classes (incised and punctated) are relatively uncommon (n=5). Non-brushed decorative classes, mainly parallel and curvilinear incised lines, tend to show up more frequently. There are also body sherds with tool punctations, some in rows, and others with punctations as the only decoration.

As noted, there is a larger percentage of fine ware in the Heaton #2 collection (Table 6.72). This includes many more Patton Engraved sherds (n=19) and at least one sherd that compares favorably to Poynor Engraved. Rims make up 17.4% of the fine ware sample, suggesting engraved vessels were frequently in use at the site. All but one of the Patton Engraved sherds have triangular tick marks on curvilinear, horizontal, opposed, and parallel lines. The exception is a rim that has a horizontal line with linear tick marks, and an additional diagonal line without ticking, suspended from it.

**Table 6.72. Fine Ware Decorations from the Heaton #2 Site**

<b>Patton Engraved</b>	<b>Body</b>	<b>Rim</b>
horizontal and diagonal engraved lines with linear tick marks on horizontal line		1
horizontal engraved line with triangular tick marks		2
curvilinear and opposed engraved lines one with triangular tick marks	1	
curvilinear engraved lines one with triangular tick marks	1	
engraved line with linear tick marks	2	
engraved line with triangular tick marks	11	
parallel engraved lines one with triangular tick marks	1	
<b>cf. Poynor Engraved</b>		
engraved negative oval element	1	
<b>Not Typed</b>		
horizontal engraved lines		1
crosshatched engraved element	1	
straight engraved line	1	
<b>Total</b>	19	4

The decoration on the single body sherd that favors Poynor Engraved is a negative oval element. A sherd decorated with a crosshatched engraved panel or

zone is among the non-typed fine ware. Along with the crosshatched element, the sherd might have a triangle as well.

#### **41RK200 - Mission San José de los Nasonis**

As noted in Chapter 4, until recently Mission San José de los Nasonis [1716] was one of only two positively identified missions in east Texas making it an invaluable addition to this study. Bill Young found Mission Nasonis in the Angelina River basin close to 25 years ago (Perttula et al. 2009). Young discovered the site, surrounded on three sides by the floodplain of a small creek, after the landowner cleared the area of timber. Young's subsequent efforts recovered an extensive collection of Caddo and European materials and included a systematic surface collection, limited testing, and metal detector survey.

After collecting materials from the surface in various parts of the site, Young partitioned the site into four areas (A, B, C, and D). Most of the artifacts are associated with one of these four areas, though there is also a sample of finds without provenience. During intensive metal detector surveys, Young:

[D]efined four specific concentrations of European metal goods over a 3.8 acre part of Areas A and C, and these concentrations, along with aboriginal ceramic artifacts, occur in an open area (mission courtyard or plaza?) with few noticeable artifacts. These concentrations of metal goods probably represent of at least four or five mission structures (Perttula et al. 2009).

The large collection of metal artifacts include gun parts (i.e. butt plates, frizzens, trigger guards), iron knives, lead bullets and shot, hand-wrought nails, horse trappings, iron awls, and a Spanish spur (see Figures 4.2-4.3). Besides metals, European trade goods from Young's investigations include glass trade beads, bottle glass and European ceramics. Among the latter are black luster

ware, majolica, olive jars, and porcelain (see Figure 4.5). European and Native-made gunflints, a substantial number of arrow points (Table 8.3), and lithic debris were recovered from the site.

Beginning in the late 1980s, Jim Corbin of Stephen F. Austin State University (SFASU) and Kathleen Gilmore of the University of North Texas conducted additional investigations at Mission Nasonis. During the course of excavations, Corbin excavated 3 backhoe trenches and around 10 units. They collected close to 1,000 ceramic vessel sherds, lithics, European trade goods and other materials from their excavations. This includes two pipes, one with Patton Engraved decorations. This collection has yet to be published or analyzed.

As part of this study, I was able to analyze in detail the materials from all of the investigations. Therefore, I treat the materials from Bill Young's private collection and from Corbin's excavations together. I do not discuss the large collections of ceramic materials (n=9,305), or other artifacts, from Mission Nasonis in terms of the different collections. The sherds are in good overall condition and sufficient in size. In this large collection, I only ruled out 19 sherdlets.

Plain rim (n=89) and body (n=6,556) sherds make up almost three-quarters of the collection (Table 6.73). Plain rims comprise 45.1% of all rims, which suggests that plain vessels were in common use at the site. The percentage of brushing among decorated sherds is consistent with Heaton #2 and only slightly lower than Heaton #1. The result is a higher plain to decorated ratio and a lower brushed to plain ratio than the other two sites in the area. Although fine ware makes up a relatively small portion of the overall collection (3.8%), it is still a substantial sample of engraved sherds (n=353). Many of these are rims (n=60), which attests to the popularity of fine ware.

**Table 6.73. Ceramic Wares and Types from the Mission Nasonis Site**

	Plain	Utility ware	Fine ware	Total
<b>Base</b>	84			84
<b>Body</b>	6,556	2,175	293	9,024
<b>Rim</b>	89	48	60	197

<b>Base</b>	1.2%			
<b>Body</b>	97.4%	97.8%	83.0%	
<b>Rim</b>	1.3%	2.2%	17.0%	
<b>Total</b>	6,729	2,223	353	9,305

<b>Percentage</b>		<b>Ratios</b>	
Plain	72.3%	Plain/Decorated	2.61
Utility ware	23.9%	Brushed/Plain	0.25
Fine ware	3.8%	Brushed/Wet Paste	3.16
Brushed*	65.6%		
Wet Paste*	20.8%		

<b>Ceramic Types Present</b>		
cf. Patton Engraved	3	3.6%
cf. Simms Engraved	1	1.2%
King Engraved	3	3.6%
LaRue Neck Banded	2	2.4%
Patton Engraved	73	88.0%
Spradley Brushed-Incised	1	1.2%
<b>Total Typed Sherds</b>	83	

The primary inclusion in the Mission Nasonis collection is bone (Table 6.74). It occurs in almost 70% of all the sherds in the sample, most frequently (42%) as the sole inclusion. However, it is also present in conjunction with grog, hematite, and organics. Bone and grog occur in equal proportions in the fine ware, but bone is present more often in the plain and utility wares. Hematite occurs in 12.6% of the sample. The inclusions of hematite appear more frequently in plain and utility ware, and less so in the fine ware. The collection from Mission

Nasonis also has one of the higher rates (2.8%) of organic matter in use as an inclusion. Sand is present in the paste of plain (12%), utility (10%), and fine (7%) wares. These rates of sandy paste are higher than most sites in this study and distributed across the different wares and decorations at Mission Nasonis.

**Table 6.74. Inclusions and Paste from the Mission Nasonis Site**

<b>Inclusions</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Bone	55	113	29	197	42.0%
Bone-grog	16	24	2	42	9.0%
Bone-grog-hematite		1		1	0.2%
Bone-grog-organics		2		2	0.4%
Bone-hematite	15	26	2	43	9.2%
Bone-organics	3	1	2	6	1.3%
Grog	43	49	31	123	26.2%
Grog-bone	13	17	6	36	7.7%
Grog-hematite	5	4	2	11	2.3%
Grog-hematite-bone		1		1	0.2%
Grog-organics	4			4	0.9%
Grog-organics-hematite	1			1	0.2%
Hematite	1		1	2	0.4%
<b>Total sample</b>	156	238	75	469	

	<b>Total</b>	<b>Percent*</b>
Total with bone	328	69.9%
Total with grog	221	47.1%
Total with hematite	59	12.6%
Total with organics	13	2.8%
<b>Total occurrences</b>	214	318

Total with bone	65.4%	77.7%	54.7%
Total with grog	52.6%	41.2%	54.7%
Total with hematite	14.1%	13.4%	6.7%
Total with organics	5.1%	1.3%	2.7%

<b>Paste</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>
Sandy	19	24	5	48

Fine ware carinated bowls are the most common vessel form identified at Mission Nasonis (Table 6.75). For half of these, the only decoration is a single horizontal engraved line. The other carinated bowl sherds are decorated with horizontal and vertical engraved lines that might be a divider, with opposed engraved lines, and with a Patton Engraved element with triangular tick marks. There is one plain bottle and two fine ware bottles. Decorations on one of the latter include a red slip and a curvilinear engraved line. Two body sherds from the other fine ware bottle have multiple closely and widely spaced horizontal lines. The only identified bowl sherds are from a small plain vessel and a fine ware vessel with a horizontal line. One distinct body sherd has a plate form with a flat base and abrupt edge. Notably, this is the only instance of this vessel form in the collections of sherds and vessels. It has a decorative element that compares favorably to Simms Engraved.

Seventy percent of the rims are direct; this includes all but one of the sampled Patton Engraved sherds. Besides the everted Patton Engraved rim, the only other everted fine ware rim has lip notching and horizontal engraved lines. Fine ware also includes one distinct short rim from a bowl with horizontal engraved lines. Lip forms are primarily rounded, and there is only one example of a flat or rounded and folded outward lip.

**Table 6.75. Ceramic Forms from the Mission Nasonis Site**

<b>Vessel form</b>	<b>Plain</b>	<b>Fine ware</b>	<b>Total</b>
Bottle	1	2	3
Bowl	1	1	2
Carinated bowl		6	6
Plate		1	1
<b>Total</b>	2	8	12

Table 6.75 (continued)

<b>Rim form-Lip form</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>
Direct-Flat		1		1
Direct-Rounded	1	7	14	22
Direct-Rounded and folded outward			3	3
Everted-Rounded	1	3	2	6
-Rounded		2	3	5
<b>Total</b>	<b>2</b>	<b>13</b>	<b>20</b>	<b>37</b>

Body sherds with parallel brushing make up the largest part of the sample (n=1,535), and close to another 100 sherds have only overlapping and opposed brushing (Table 6.76). Thirty-five percent of the utility ware rims have brushing as the sole decoration. Most of these are horizontal brushed, but there are also diagonal and vertical brushed rims. The only decorative technique to occur on the rim with brushing is tool punctated rows.

Table 6.76. Utility Ware Decorative Classes from the Mission Nasonis Site

<b>Brushed</b>	<b>Body</b>	<b>Rim</b>	<b>Base</b>	<b>Total</b>
Brushed	1,629	17		1,646
Brushed-Incised	28			28
Brushed-Punctated	10	2		12
Appliquéd-Brushed	1			1
Appliquéd-Brushed-Punctated	1			1
<b>Wet Paste, non-brushed</b>				
Incised	364	17		381
Punctated	103	7		110
Incised-Punctated	29	2		31
Appliquéd	5			5
Appliquéd-Incised	1			1
Appliquéd-Punctated	4			4
Lip notched-Incised		1		1

Table 6.176 (continued)

Neck banded		2		2
<b>Total</b>	2,174	48	1	2,223

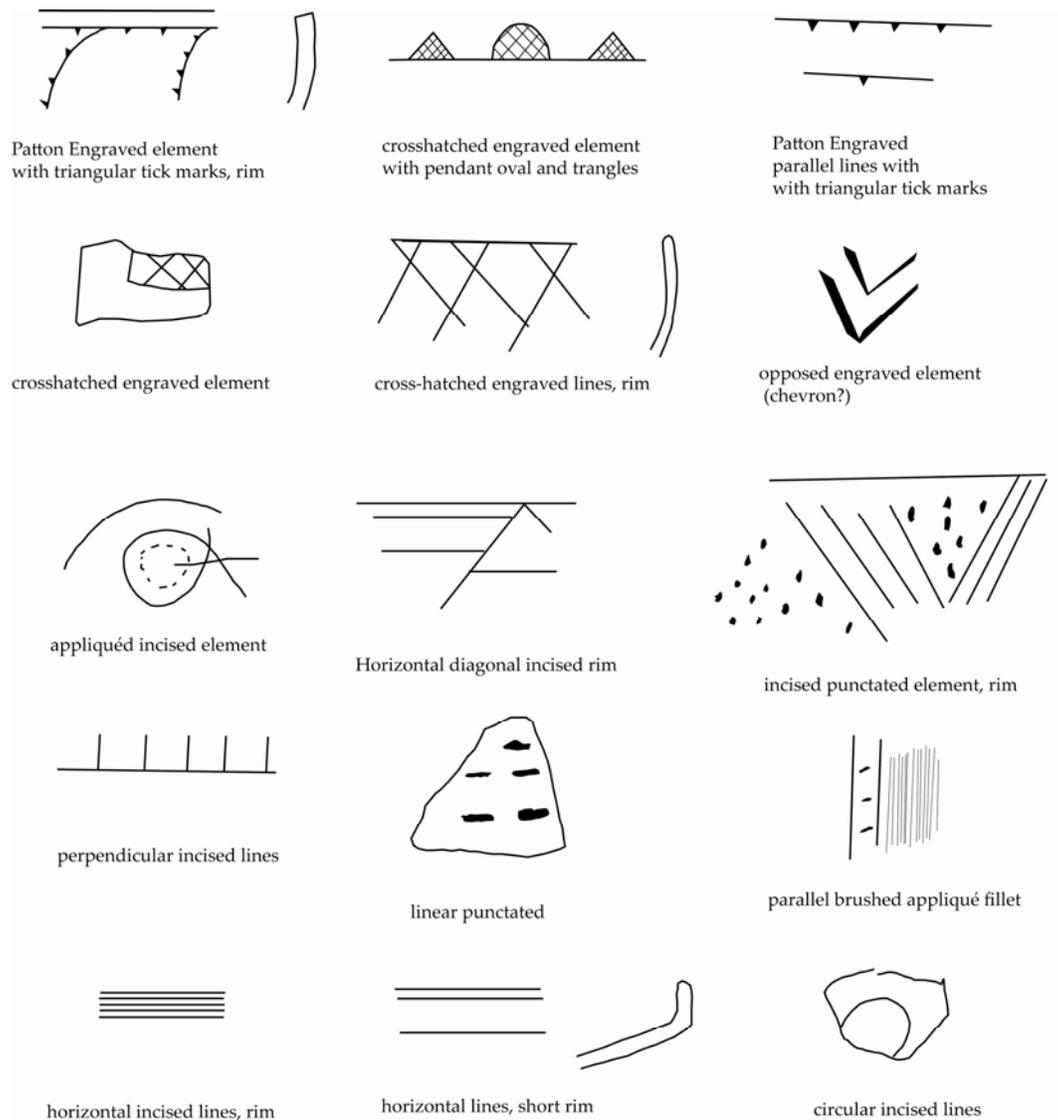
Most of the body sherds with brushing and incising have parallel lines. Others have parallel brushing with overlapping (or intersecting) incised lines, much like Spradley Brushed-Incised. One utility ware body sherd is from a Spradley Brushed-Incised vessel, and has parallel brushing with overlapping parallel incised lines. Two rims sherds are from LaRue Neck Banded vessels.

Although brushing is popular among the decorated sherds (65%), there is a high percentage of sherds without brushing as well (20.8%). Most of these wet paste sherds without brushing (n=533) have incised decorations such as crosshatched, opposed, parallel, and straight incised lines. Around 35% of the utility ware rims are incised, and decorations on these are predominantly diagonal and horizontal incised lines. Incising also occurs on many of the body sherds in combination with appliqué, lip notching, punctations, and brushing.

There are a substantial number of sherds with punctations as the sole decoration. This includes almost 15% of the utility ware rims. Cane and other tools, in addition to fingernails, form the majority of the punctations. They occur alone and in random groups, or in rows, on the lip, rim and body. There are four examples each of body sherds with appliquéd fillets and nodes. These appliquéd decorations show up with parallel brushing as well (Figure 6.10).

Sherds that favor Patton Engraved make up more than 90% of the identified types at the Mission Nasonis site (Table 6.77). Patton Engraved sherds are also more than 20% of all the fine ware. Examples of the type are predominantly simple curvilinear, straight, and parallel lines, many oriented

horizontally, with triangular tick marks. At least 10 rims have horizontal lines with triangular tick marks; the two sherds with multiple horizontal lines and ticking are probably from Patton Engraved, *var. Allen* vessels. A rim sherd with a ticked horizontal line, and an additional curvilinear line, is likely from a Patton Engraved, *var. Patton* vessel. Another sherd with a ticked horizontal line and a crosshatched zone may be related to King Engraved.

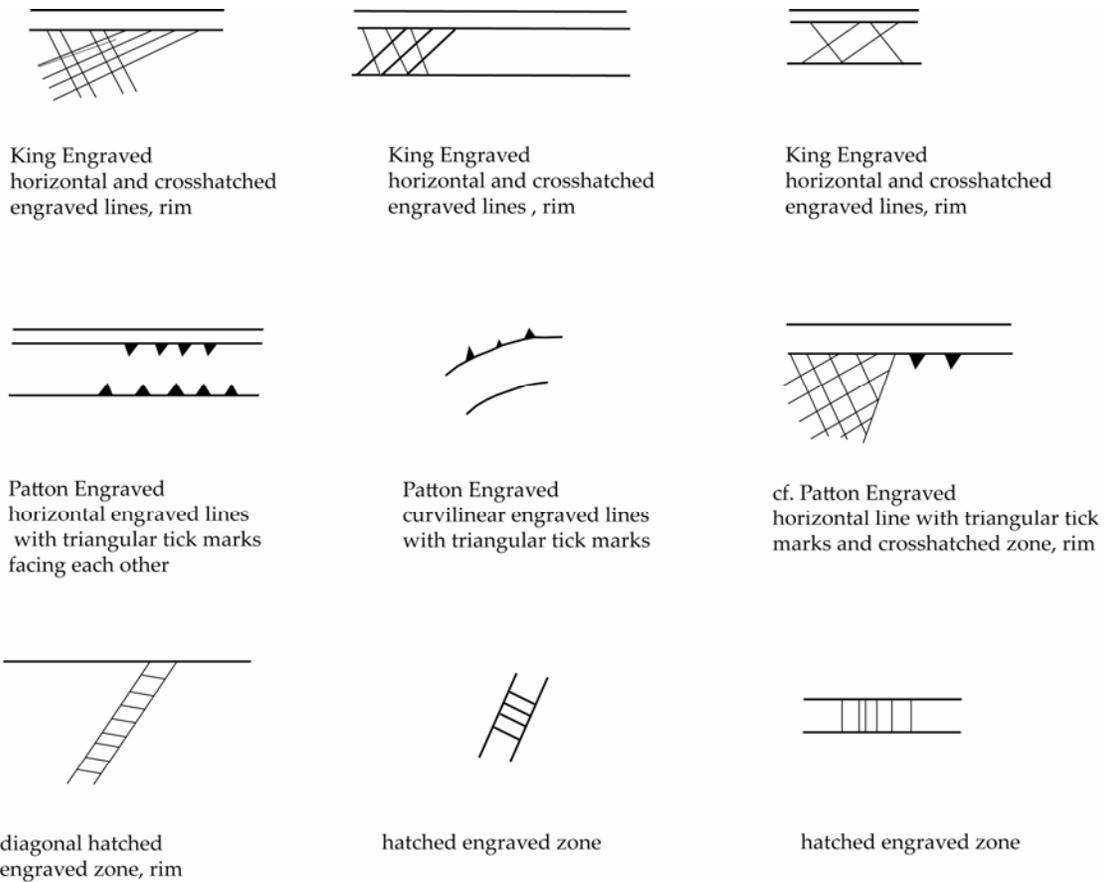


**Figure 6.10. Decorated sherds from the Mission Nasonis Site**

There are also many examples of Patton Engraved body (n=10) and rim (n=3) sherds with linear tick marks attached to curvilinear, horizontal, and straight engraved lines. Both types of ticking occur with crosshatched engraved zones as well.

At least one body sherd has triangular tick marks facing each other and attached to parallel lines (i.e. Patton Engraved, *var. Fair* or *Freeman*). Several additional sherds probably have similar motifs. A sherd decorated with multiple curvilinear engraved lines, one with triangular tick marks, is likely from a vessel with the concentric circle motif. One body sherd also has a circle with triangular tick marks. Like the previously mentioned sherds, these are likely from Patton Engraved, *var. Fair* or *Freeman* vessel(s).

I recognize three rims as King Engraved, but other sherds may be from King Engraved vessels as well. All three rims have crosshatched engraved elements or zones that appear in the rim panel (Figure 6.11). The crosshatching on these does not fill the entire panel, only significant sections. Conservatively, I do not identify any King Engraved body sherds even though there are a large number with crosshatched engraved zones (n=31). Around half of these are likely from King Engraved vessels, but many are small and I consider the assessment of decorations inconclusive.



**Figure 6.11. Other Decorated Sherds from the Mission Nasonis Site**

**Table 6.77. Fine Ware Type Decorations from the Mission Nasonis Site**

<b>Patton Engraved and cf. Patton Engraved</b>	<b>Body</b>	<b>Rim</b>
horizontal and curvilinear engraved lines with triangular tick marks		2
horizontal engraved line with downward pointing triangular tick marks		3
horizontal engraved line with linear tick marks		3
horizontal engraved line with triangular tick marks		2
horizontal engraved line with triangular tick marks and crosshatched zone		1
horizontal engraved lines with linear tick marks and crosshatched zone		1
horizontal engraved lines with triangular tick marks		2
horizontal engraved lines with triangular tick marks facing each other		1
curvilinear engraved line with linear tick marks	2	
curvilinear engraved line with triangular tick marks	5	

Table 6.77 (continued)

curvilinear engraved lines one with triangular tick marks	2	
curvilinear engraved lines with triangular tick marks	3	
engraved circle with triangular tick marks	1	
engraved element with triangular tick marks	2	
engraved line with triangular tick marks	6	
engraved with row of triangular tick marks	1	
opposed engraved lines with triangular tick marks	1	
parallel engraved lines one with triangular tick marks	3	
parallel engraved lines with triangular tick marks	1	
parallel straight engraved lines one with triangular tick marks	1	
parallel straight engraved lines with triangular tick marks facing each other	1	
parallel straight engraved lines with triangular tick marks	3	
straight engraved line with linear tick marks	2	
straight engraved line with triangular tick marks	21	
straight engraved lines with linear tick marks	6	
<b>King Engraved</b>		
	<b>Body</b>	<b>Rim</b>
crosshatched engraved element		3
<b>cf. Simms Engraved</b>		
	<b>Body</b>	<b>Rim</b>
engraved element		1
<b>Total</b>	61	19

Circular, curvilinear, opposed, parallel, straight, and rectilinear engraved lines make up the majority of the body sherds that are not typed (Table 6.78). In many cases, the sherds are large enough to establish the orientation of these lines. This includes diagonal, horizontal, and vertical lines, on both rim and body sherds. The simple geometric lines and orientations occur in combination to produce complex designs as well. Sherds engraved with parallel and opposed lines or horizontal and curvilinear lines are typical examples. Opposed engraved lines on both rim and body sherds also form more complex elements.

A rim sherd with horizontal and vertical lines is likely part of a divider motif. Most of the rim and body sherds decorated with hatched engraved zones

are identical to the ladder motif, and many are oriented horizontally. One rim sherd has a diagonal hatched zone similar to the ladder motif. There is also an interesting triangular element with opposed hatching and an engraved ladder motif on a body sherd.

**Table 6.78. Other Fine Ware Decorations from the Mission Nasonis Site**

<b>Not typed</b>	<b>Body</b>	<b>Rim</b>
crosshatched engraved lines	6	3
crosshatched engraved zone	31	1
diagonal hatched engraved zone		1
diagonal engraved lines		2
engraved circle	1	1
engraved element	1	1
engraved panel element		1
hatched engraved zone	3	4
horizontal and curvilinear engraved lines		2
horizontal and diagonal engraved lines		4
horizontal and vertical engraved lines	1	2
horizontal engraved line	1	7
horizontal engraved line below lip		4
horizontal engraved lines		1
lip notched and horizontal engraved lines		1
opposed engraved lines	18	3
tool punctated row above horizontal engraved line		1
vertical engraved line		1
vertical engraved lines		1
closely spaced curvilinear engraved lines	3	
crosshatched engraved element	3	
crosshatched engraved triangle	1	
curvilinear engraved element	2	
curvilinear engraved line	13	
curvilinear engraved line and red slip	1	
curvilinear engraved lines	2	
curvilinear engraved lines 5+	1	
curvilinear engraved lines with intersecting line	1	
engraved lines	1	
engraved oval element	1	

Table 6.78 (continued)

engraved with linear tick marks	1	
hatched engraved triangular element	1	
horizontal engraved line above vertical brushed	1	
opposed engraved element	1	
parallel and opposed engraved lines	2	
parallel engraved lines	67	
parallel engraved lines with excised zone	1	
parallel straight engraved lines	2	
perpendicular engraved lines	1	
rectilinear engraved lines	1	
straight engraved line	62	
vertical engraved zone	1	
<b>Total</b>	232	41

The crosshatched engraved element on one body sherd is a straight line with large crosshatched pendant triangles and ovals (Figure 6.10). Another engraved element is unidentifiable in terms of type, but has complex engraved designs that favor hatched ovals. Other engraved zones are associated with curvilinear, diagonal, hatched, parallel, and excised lines.

Punctations appear in rows and zones with engraved lines and elements only 43 times in this study. The combination appears at eight other sites, primarily in the Bayou Loco area, and more than 80% of them come from the Deshazo site (see below). One rim sherd from Mission Nasonis has this distinct combination of decorative techniques, punctations in a row above a horizontal engraved line.

### **THE BAYOU LOCO**

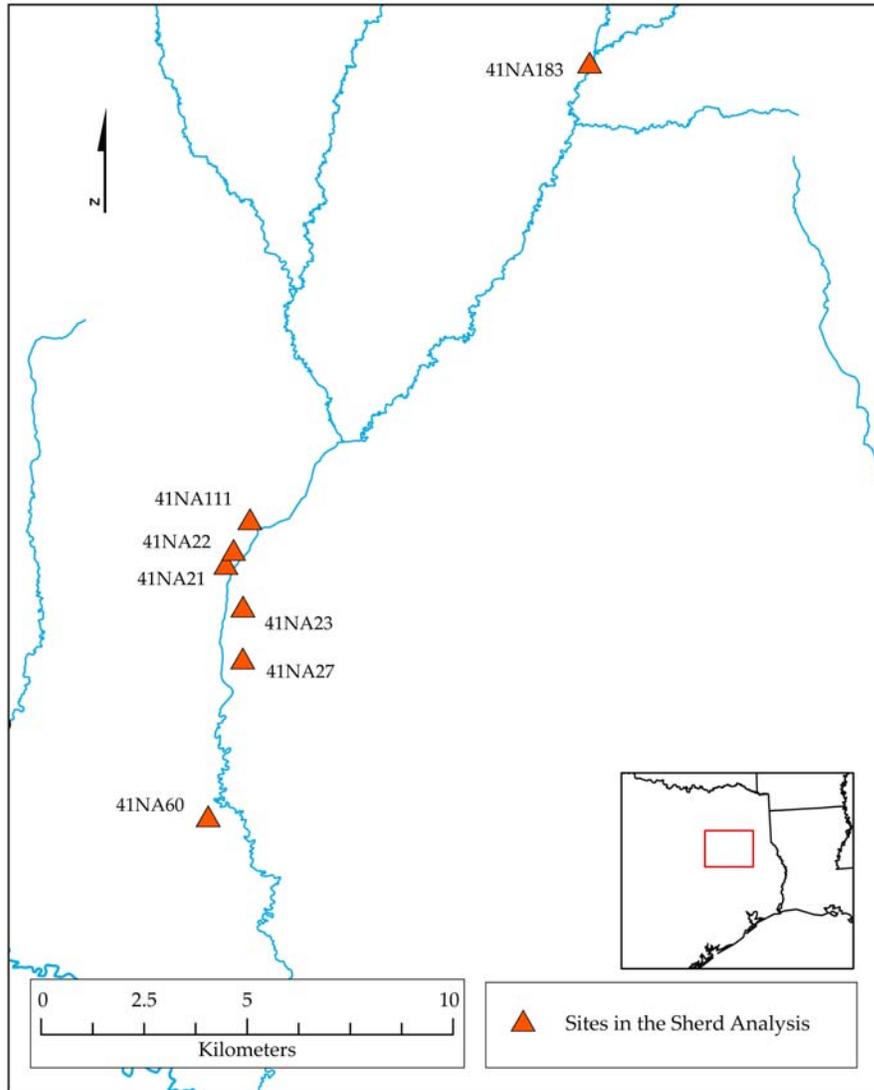
Bayou Loco is a perennial stream and well-entrenched drainage system in west central Nacogdoches County (Prewitt et al. 1972). The sluggish and meandering stream flows roughly southward to its confluence with the Angelina

River. As Creel notes, “of considerable importance are the small alluvial fans of very fertile, fine sandy loam that have been formed by the creeks flowing from the uplands toward Bayou Loco” (Creel 1982a:17). These alluvial fans, like others in the area, form when streams overflow their banks during heavy rains. As noted above, Historic Caddo groups in the area frequently occupied these economically productive bottomlands, alluvial fans, or the areas very near them (see Chapter 2).

Beginning in the mid-eighteenth century, historic records document the activities around Bayou Loco and the village area referred to as ‘El Loco.’ Prewitt notes that “there were 2 main villages of the Hainai Tribe of the Hasinai Confederacy – one on the east bank of the Angelina River and one on Bayou Loco” (Prewitt 1975:16). The Spanish established Mission Nuestra Señora de la Purísima Concepción in 1716 around a league and a half (6.3 km) east of the Angelina River at the principal village of the Hainai, then the head of the allied Hasinai groups. Less than 15 years later, the Spanish closed the mission. It appears that many of the Hainai stayed in the area, until they essentially abandoned the village between 1767 and 1779. The village on Bayou Loco, on the other hand, “was not abandoned until 1828. It appears that sometime after 1767 El Loco became the gathering point for remnants of the various Hasinai tribes” (Prewitt 1975:16).

In the early 1970s, work done in advance of the construction of the Bayou Loco Reservoir, now Lake Nacogdoches, located numerous sites in the area. After the initial survey assessment by the Texas Archeological Salvage Project (Prewitt et al. 1972), professional and avocational archaeologists conducted additional investigations at many of these sites. I identified 13 sites in the Bayou Loco area that are relevant to this study (Figure 6.12). The collections on average

are larger than any other area. Consequently, there are more sites (n=7) included in the detailed sherd analysis than any other area in the study.



**Figure 6.12. Sites along the Bayou Loco**

Detailed reports exist for the extensive excavations that occurred at three of these sites (Kenmotsu 1992; Perttula et al. 2010; Story et al. 1982, 1995), and other sites have received little or no attention post-excavation. I relied on the

reports for various information, and do not repeat their conclusions here. However, I did reanalyze the majority of the ceramic collections from these sites.

#### **41NA21 - Mayhew**

The Mayhew site, 41NA21, sits on a small knoll along the western banks of Bayou Loco surrounded on three sides by marsh and bog. Archaeologists named the Mayhew site for the avocational archaeologist noted repeatedly in this study (see Chapter 4). Thomas Mayhew, along with the help of his wife Janice, located and worked on many sites in the area. This is especially true around Bayou Loco and throughout Nacogdoches County.

The TASP recorded the Mayhew site during the survey for the proposed Bayou Loco Reservoir in 1972. Three years later, under the direction of Elton Prewitt, the TASP conducted extensive excavations at the site. Nancy Kenmotsu (1992) later reviewed the field notes and analyzed the collection in a detailed publication. Together, their work established the Mayhew site as an important example of an Allen phase “farmstead of a single or extended family of the Hasinai Caddo, occupied between A.D. 1700 and 1750” (Kenmotsu 1992:167).

The TASP excavated more than 50 adjoining 2 x 2 meter units, around 20% of the site, in one large block (Kenmotsu 1992; Prewitt 1975). The site area, now inundated by Lake Nacogdoches, was limited to around 30 meters in diameter. The main component at the Mayhew site is from a Historic Caddo occupation, but there is also evidence for smaller, earlier occupation. There are three Gary dart points, 22 sandy paste sherds, and ground stone artifacts documenting the Early Ceramic component. The small inventory of materials and lack of associated features suggest this component is adequately separate from the Allen phase occupation (Kenmotsu 1992).

It is necessary to consider the condition of the collection that resulted from excavations at the Mayhew site (see Kenmotsu 1992:138). More than 20,000 ceramic artifacts, primarily vessel sherds, dominate the collection. However, many of these pieces (more than 30%) are very small, approximately thumbnail-size or less. As Kenmotsu notes (1992:140), one of the most distinguishing characteristics of the artifact assemblage is the “near absence of sherds more than 3 cm in diameter,” and only 13 sherds measure more than 5 cm in diameter. This led investigators to suspect post-depositional disturbance, and plowing seems the most likely explanation for this phenomenon. However, consultations with the landowners and the absence of plow scars in excavation units seem to rule this out (Kenmotsu 1992). Moreover, many other collections considered here come from agricultural fields with a documented history of plowing, but have larger sherds on average.

I exclude many of these unusually small sherds, or sherdlets, including a great number of plain body (n=3,448), brushed body (n=4,221), and plain rim (n=112) sherds. For this, and other reasons, my totals for the ceramics are slightly different from the previous study (Kenmotsu 1992). I identify additional ceramic materials including five Native-made pipes, two loop handles, and two sherds that appear to be from the foot of a vessel.

Besides the ceramic materials, lithics are the largest class of artifact from the site. Chipped and ground stone tools are present, including one Perdiz, eight Fresno, one Maud, and four unidentified arrow points. There are also four Native-made and two honey-colored French gunflints. These are just a few of the artifacts that document the presence and impact of European contact.

Gun parts include a modified gun barrel, flintlock cock, six lead balls, two side plate screws, a possible frizzen spring, and fragments of 11 side plate

fragments, two trigger guard fragments, two iron ramrods, and four butt plates. The gun barrel is generally intact except for its flattened or crimped ends, which presumably serve as a tool. Examples of beveling and reuse of gun barrels occur at other sites in East Texas as well (Kenmotsu 1992:154). Other metal artifacts of European origin, such as brass kettle fragments, nails and other ferrous materials are present at the Mayhew site, though much of it is poorly preserved.

The collection also includes at least 34 glass trade beads, as well as a chunk of melted and fused glass beads. Kenmotsu notes that there are some indications that most of these European trade goods are of French origin, and the inventory of materials appears consistent with a Historic Hasinai Caddo farmstead (Kenmotsu 1992).

Plain sherds make up a big part of the collection from the Mayhew site (37.7%), and brushing occurs on most of the decorated sherds (Table 6.79). Fine ware makes up a much smaller part of the collection, but the large number of overall sherds produces a large sample. This includes close to 200 engraved rims, almost half of which are from Patton Engraved vessels. Rims that favor Natchitoches Engraved, Keno Trailed, and a Poynor-Patton hybrid are also present. Only a small percentage of the utility ware is rims (2%). The majority of these rims have horizontal brushing as the sole decoration (n=45), but there are also 12 from LaRue Neck Banded vessels.

**Table 6.79. Ceramic Wares and Types from the Mayhew Site**

	Plain	Utility ware	Fine ware	Total
<b>Base</b>	58			58
<b>Body</b>	5,589	7,599	1,858	15,046
<b>Rim</b>	170	163	199	532

<b>Base</b>	1.0%			
<b>Body</b>	96.1%	97.9%	90.3%	
<b>Rim</b>	2.9%	2.1%	9.7%	
<b>Total</b>	5,817	7,762	2,057	15,636

Percentage		Ratios	
Plain	37.2%	Plain/Decorated	0.59
Utility ware	49.6%	Brushed/Plain	1.18
Fine ware	13.2%	Brushed/Wet Paste	7.51
Brushed*	69.9%		
Wet Paste*	9.3%		

Ceramic Types Present		
cf. Keno Trailed	2	0.2%
cf. Natchitoches Engraved	100	9.4%
cf. Patton Engraved	675	63.5%
LaRue Neck Banded	22	2.1%
Patton Engraved	262	24.6%
Poynor-Patton Engraved	3	0.3%
<b>Total Typed Sherds</b>	1,064	

As part of my analysis, I documented the type of inclusions in over 1,400 ceramic vessel sherds from the site (Table 6.80). More than 70% of all the sampled sherds have some amount of bone. These results are slightly lower than the analysis by Kenmotsu (80%). Nevertheless, it is the dominant inclusion in all wares and appears with grog, hematite, and organics to various extents.

Grog is the most popular inclusion after bone, and it occurs in more than half of all the sherds. This total is slightly less among the plain sherds. Interestingly, regardless of what inclusions they use at the Mayhew site, it occurs in greater amounts in the utility ware. This is true in every case except for minor inclusions such as organics and shell. Hematite is present in close to 30% of all sherds, and is highest in the utility ware. Organics occur in around 5% of the sample, and shell is much less frequent.

Notably, the rate of bone inclusions at the Mayhew site is higher than any other site in the Bayou Loco. In fact, in the study area only Mission Dolores and Mission Nasonis have comparable amounts of bone. The Mayhew site also has the lowest rate of grog in the Bayou Loco, another distinct difference between Mayhew and other sites in the Bayou Loco area.

**Table 6.80. Inclusions and Paste from the Mayhew Site**

Inclusions	Plain	Utility ware	Fine ware	Total	Percent
Bone	86	110	103	299	21.3%
Bone-grog	16	85	46	147	10.5%
Bone-grog-hematite	2	34	5	41	2.9%
Bone-grog-organics	1		2	3	0.2%
Bone-hematite	44	129	62	235	16.7%
Bone-hematite-grog	1	7		8	0.6%
Bone-hematite-organics	3	5		8	0.6%
Bone-organics	14	7	10	31	2.2%
Bone-organics-hematite	2	1	2	5	0.4%
Grog	58	132	120	310	22.1%
Grog-bone	23	77	60	160	11.4%
Grog-bone-hematite	4	11	7	22	1.6%
Grog-bone-organics	1	1	1	3	0.2%
Grog-hematite	8	29	17	54	3.8%
Grog-hematite-bone	1	7	5	13	0.9%
Grog-organics	3	1	10	14	1.0%
Grog-organics-hematite			1	1	0.1%

Table 6.80 (continued)

Hematite	3	1	2	6	0.4%
Hematite-bone	5	4	2	11	0.8%
Hematite-bone-organics			1	1	0.1%
Hematite-grog		2		2	0.1%
Hematite-organics			1	1	0.1%
None	9	3	12	24	1.7%
Shell	3	1	2	6	0.4%
<b>Total sample</b>	287	647	471	1405	

				<b>Total</b>	<b>Percent*</b>
Total with bone	203	478	306	987	70.2%
Total with grog	118	386	274	778	55.4%
Total with hematite	73	230	105	408	29.0%
Total with organics	24	15	28	67	4.8%
Total with shell	3	1	2	6	0.4%
<b>Total occurrences</b>	421	1110	715		

Total with bone	70.7%	73.9%	65.0%
Total with grog	41.1%	59.7%	58.2%
Total with hematite	25.4%	35.5%	22.3%
Total with organics	8.4%	2.3%	5.9%
Total with shell	1.0%	0.2%	0.4%

<b>Paste</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>
Sandy	40	57	84	181

Although bottles and carinated bowls are the only vessel forms I identified in the collection, jars are certainly present. This is due to the size of sherds and the difficulty in identifying vessel form from sherds in general. Carinated bowls appear across all the different wares, though most have engraved designs (Table 6.81). At least one of the Patton Engraved vessels is a carinated bowl. The decorative element on this sherd consists of horizontal lines

with triangular tick marks facing each other indicating that it is likely either Patton Engraved *var. Fair* or *Freeman*. At least one bottle and one carinated bowl are Natchitoches Engraved vessels. Both of these have crosshatched engraved zones, and one has triangular tick marks as well. Additional unidentified types of carinated bowls have engraved and hatched engraved elements with triangular tick marks, and opposed lines.

One of the utility ware carinated bowl sherds has only diagonal brushing, but an engraved rim panel may be missing. The other utility ware carinated bowl sherd, one of the largest sherds in the collection, has a horizontal tool punctated row above an incised element on the rim and tool punctations on the body.

Due to the size of the sherds, I was only able to identify the lip form in many cases. These are overwhelmingly rounded, but also rounded and folded outward, and flat. More than 80% of the fine ware has direct standing rims with either rounded or flat lips, but inverted rims are present as well. Flat lips occur with less frequency in the utility ware. Everted rims dominate the plain and utility ware, but many of these are also direct, and fewer have an inverted rim.

**Table 6.81. Ceramic Forms and Finishes from the Mayhew Site**

<b>Vessel form</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>
Bottle	4		1	5
Carinated bowl	1	2	5	8
<b>Total</b>	5	2	6	13

<b>Rim form-Lip form</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>
Direct-Flat	2	5	11	18
Direct-Rounded	3	18	21	42
Everted-Flat		2		2
Everted-Rounded	7	33		40
Everted-Rounded and folded outward	3			3
Inverted-Flat	1			1

Table 6.81 (continued)

Inverted-Rounded	2	1	6	9
-Flat	2	3	2	7
-Rounded	17	28	18	63
-Rounded and folded outward	5	3		8
<b>Total</b>	42	93	58	193

Close to 70% of all the decorated sherds have brushing, but this is significantly higher (88%) among the utility ware. Of course, the difference may be because brushing occurs on the bodies of several fine ware vessels at the Mayhew site. Around 45% of the utility ware rims have brushing in the decoration, many of these are decorated only with horizontal (n=44) or vertical (n=11) brushing. There are multiple examples of rims with combinations of brushing and punctated rows in various forms and orientations. For example, there are diagonal rows of tool punctations through horizontal brushing, and horizontal rows of tool punctations associated with vertical brushing. Tool punctated rows most often occur just below the lip and on the rim, and some of the punctations are produced by using a cane or fingernail.

There are a substantial number (9.3%) of wet paste sherds without brushing; these rims make up 55.2% of the utility ware rims. This large sample is primarily from vessels with punctations on the rim, but incised decorations also appear frequently (Table 6.82). The most popular decoration on incised rims is vertical incised lines (n=14).

Due to the small size of the sherds, almost 90% of incised body sherds are no more than a single straight line (n=453) or in parallel groups (n=127). Other simple incised elements such as curvilinear and crosshatched lines are rare.

There are more complicated incised decorations like opposed (n=30), and parallel and opposed (n=13) lines, and three sherds with a triangular incised element.

The only utility ware type I identified at the site is LaRue Neck Banded. More than half of these are rim sherds (n=12). A few of the small sherds have only one band, while others are in multiple rows. Surprisingly, most appear to be from different vessels. One sherd with neck banding has a groove in it, the only example in this study with these two decorative classes together. In the future, this may prove to be a new variety of LaRue Neck Banded (perhaps *var. Lindsey*). There are three lip notched rim sherds, one with an additional horizontal incised line. Appliquéd rim sherd decorations consist of a single appliquéd node (n=1) and horizontal appliquéd fillets (n=2).

**Table 6.82. Utility Ware Decorative Classes from the Mayhew Site**

<b>Brushed</b>	<b>Body</b>	<b>Rim</b>	<b>Total</b>
Brushed	6,720	59	6,779
Brushed-Incised	31	1	32
Brushed-Punctated	23	12	35
Brushed-Incised-Punctated	1	1	2
<b>Wet Paste, non-brushed</b>			
Incised	653	26	679
Punctated	140	41	181
Incised-Punctated	16	5	21
Appliquéd	4	1	5
Appliquéd-Punctated	1	2	3
Lip notched		2	2
Lip notched-Incised		1	1
Neck banded	9	12	21
Neck banded-Grooved	1		1
<b>Total</b>	<b>7,599</b>	<b>163</b>	<b>7,762</b>

The bulk of the fine ware sherds are also very small, which undoubtedly influences the number of Patton Engraved sherds. There are a large number of rim (n=92) and body (n=170) sherds that I classify as Patton Engraved, as well as more than twice as many that should probably share that classification. These latter rim (n=2) and body (n=673) sherds have decorations, along with the technological characteristics, that compare very closely to Patton Engraved. The decorations for all Patton Engraved related sherds are in Table 6.83. Notably, among these there are 43 examples with white pigment rubbed into the engraved designs.

Horizontal engraved lines with downward pointing triangular tick marks is the predominant decoration on Patton Engraved rim sherds (n=60) from the Mayhew site. As noted above, there are also rims (n=8) that have triangular tick marks suspended from horizontal lines and facing each other. These are presumably from the Patton Engraved *var. Fair* or *Freeman*. Body sherds (n=10) with this same motif exist as well. A number of Patton Engraved rims have elements that include horizontal and diagonal lines with triangular tick marks.

Patton Engraved body sherds are mainly multiple curvilinear, parallel, and/or straight engraved lines with triangular ticking. On over 100 of these, only one of the engraved lines has triangular tick marks attached to it. This suggests there is likely Patton Engraved, *var. Patton* vessel(s) in the collection (Figure 5.6). In about half the cases, but still well represented, all of the lines have triangular tick marks. Small numbers of opposed lines and complex elements with triangular ticking are also present.

Nearly all of the sherds that compare favorably to Patton Engraved are body sherds. Of course, the distinguishing characteristics of this type frequently occur on the rim panel. The majority of these have a single small line or no line at

all, but all have triangular tick marks. This, along with the size of sherds, is the main reason I classify them as Patton Engraved related. Another reason for the uncertainty is the presence of engraved geometric elements that include triangular tick marks, but do not appear to be from the classic Patton Engraved. Although I am not exactly sure how (or if) these vessels fit into the type Patton Engraved, I suspect they are closely related.

One of the rims from this group has at least four curvilinear engraved lines, and two of them have triangular tick marks that face each other; the other is an engraved element with triangular ticking. The most common decoration for sherds that favor Patton Engraved is small lines with triangular tick marks. Among these, there are also a substantial number broken along the linear and triangular tick marks. They are presumably pendant to a line, but it is no longer visible. The orientation of the ticks makes the decorative design evident in many cases, but in others it is impossible to discern. A considerable number of sherds with engraved linear tick marks also appear in the Patton Engraved related group. These are all body sherds and have the same characteristics as the triangular ticking. Linear ticking also appears on sherds that cannot be assigned to type, but again not on rims.

**Table 6.83. Patton Engraved Decorations from the Mayhew Site**

<b>Patton Engraved</b>	<b>Body</b>	<b>Rim</b>
diagonal engraved line with triangular tick marks		1
engraved element with triangular tick marks		1
engraved line with triangular tick marks		4
engraved line with triangular tick marks with white pigment		2
engraved lines with triangular tick marks		7
horizontal and diagonal engraved lines with triangular tick marks		3
horizontal engraved line below lip with triangular tick marks		1

Table 6.83 (continued)

horizontal engraved line with triangular tick marks		1
horizontal engraved line with downward pointing triangular tick marks	1	60
horizontal engraved line with downward pointing triangular tick marks and diagonal line(s)		2
horizontal engraved line with downward pointing triangular tick marks with white pigment		1
horizontal engraved lines with triangular tick marks above carination		1
horizontal engraved lines with triangular tick marks facing each other	7	8
closely spaced parallel straight engraved lines 2 with triangular tick marks	2	
curvilinear engraved lines 2-5+ one with triangular tick marks	37	
curvilinear engraved lines and straight engraved line with triangular tick marks	1	
engraved line with triangular tick marks and diagonal brushed	1	
engraved lines one with triangular tick marks	1	
engraved with rows of triangular tick marks	1	
engraved with triangular ticks marks pointing toward each other	2	
horizontal engraved line with triangular tick marks	1	
horizontal engraved line with triangular tick marks above horizontal brushed	3	
horizontal engraved line with triangular tick marks above opposed brushed	1	
horizontal engraved line with triangular tick marks pointing away from each other	1	
horizontal engraved lines one with triangular tick marks	2	
horizontal engraved lines with triangular tick marks	1	
horizontal engraved lines with triangular tick marks above horizontal brushed	1	
horizontal engraved lines with triangular tick marks facing each other with white pigment	1	
opposed engraved lines one with triangular tick marks	1	
opposed engraved lines with triangular tick marks above overlapping brushed	1	
parallel straight engraved lines 2+ with triangular tick marks	29	
parallel straight engraved lines 2+ with triangular tick marks with white pigment	4	
parallel straight engraved lines one with triangular tick marks	29	
parallel straight engraved lines one with triangular tick marks with white pigment	4	
parallel straight engraved lines with triangular tick marks	2	

Table 6.83 (continued)

straight engraved line with triangular tick marks above horizontal brushed	2	
straight engraved lines 2-3+ one with triangular tick marks with white pigment	2	
straight engraved lines 2-4+ one with triangular tick marks	25	
straight engraved lines one with triangular tick marks with white pigment	2	
straight engraved lines with triangular tick marks	4	
widely spaced parallel straight engraved lines 2 with triangular tick marks	1	
<b>Total</b>	170	92

<b>cf. Patton Engraved</b>	<b>Body</b>	<b>Rim</b>
curvilinear engraved lines with triangular tick marks facing each other with white pigment		1
engraved element with triangular tick marks		1
engraved line with triangular tick marks	298	
engraved line with triangular tick marks with white pigment	16	
engraved with linear tick mark(s)	43	
engraved with rows of triangular tick marks 2+	1	
engraved with triangular tick mark(s)	95	
opposed engraved lines with triangular tick marks	5	
parallel straight engraved lines with triangular tick marks facing each other	3	
straight engraved line with triangular tick marks	202	
straight engraved line with triangular tick marks with white pigment	10	
<b>Total</b>	673	2

There is also a rim and two body sherds from a Poynor-Patton hybrid vessel(s) (Table 6.84). The rim has downward pointing triangular tick marks indicative of Patton Engraved, in addition to diagonal lines that are likely part of an oval or scroll element. At least one of the body sherds is likely from the same vessel. The other Poynor-Patton body sherd has similar engraved decorations above horizontal brushing. The rim (n=4) and body (n=96) sherds that favor Natchitoches Engraved at the Mayhew site all have crosshatched engraved designs. The engraved elements on rims are similar to the crosshatched engraved

zones on body sherds. This includes horizontal, curvilinear, and straight lines that bound the cross-hatching in zones. In some cases, there are triangular tick marks attached to the lines. Finally, two body sherds with parallel curvilinear and opposed trailed engraved lines appear to be from a Keno Trailed vessel.

**Table 6.84. Other Fine Ware Type Decorations from the Mayhew Site**

<b>Poynor-Patton Engraved</b>	<b>Body</b>	<b>Rim</b>
horizontal engraved line with downward pointing triangular tick marks and diagonal lines	1	1
horizontal engraved line with triangular tick marks and diagonal engraved lines above horizontal brushed	1	
<b>cf. Natchitoches Engraved</b>		
	<b>Body</b>	<b>Rim</b>
crosshatched engraved element		1
crosshatched engraved element with white pigment		1
crosshatched engraved zone	67	2
crosshatched engraved zone and straight line	12	
crosshatched engraved zone and straight line with triangular tick marks	1	
crosshatched engraved zone and straight line with white pigment	1	
crosshatched engraved zone with triangular tick marks	11	
crosshatched engraved zone with triangular tick marks with white pigment	1	
crosshatched engraved zone with white pigment	3	
<b>cf. Keno Trailed</b>		
	<b>Body</b>	<b>Rim</b>
parallel curvilinear and opposed trailed engraved lines	2	
<b>Total</b>	100	5

Just over a thousand sherds with engraving, which consists of 100 rims and 916 body sherds, are unidentified in terms of type (Appendix 5). The majority of rims have a single horizontal line below the lip (n=62), but horizontal lines show up in groups and accompanied by diagonal and vertical lines, hatched elements, and lip notching as well. The diagonal and vertical engraved lines are parts of larger unidentified elements. Additional engraved elements and

hatched elements, some with triangular tick marks, also occur on rims. Both body and rim sherds in this group have lines and elements with triangular tick marks, but the decorations are not conclusively Patton Engraved.

The decoration on approximately 300 of the body sherds is no more than a single straight engraved line. More than 350 of the body sherds have parallel engraved lines, some with white pigment. Curvilinear engraved lines are also present, primarily in groups, and at times with triangular tick marks. Even though more than two-thirds of this part of the sample has simple decorations, there are additional sherds with complex designs. For example, more than 100 of the body sherds have opposed lines that are part of larger elements as well. The opposed lines occur in combination with additional curvilinear, parallel and rectilinear engraved lines. Roughly one-quarter of these decorative elements contain triangular tick marks.

#### **41NA22 - Iron Rock**

The Iron Rock site, 41NA22, is located about one-half of a kilometer northeast of the Mayhew site, near the confluence of Yellow Bank Creek and Bayou Loco. The TASP recorded the Iron Rock site, like the Mayhew site, during the survey for the proposed Bayou Loco Reservoir. The collection consists of surface materials from the survey and additional materials from excavations conducted by Prewitt for the TASP in 1975. Little is known about these excavations.

The materials from the Iron Rock site provide evidence for two distinct components. Presumably, they were sufficiently separate in the excavations. A Morrill dart point, three unidentified dart points, and four dart point fragments, along with 28 sandy paste Goose Creek plain sherds, document this earlier

occupation of the site. Additional materials from the Early Ceramic component are ground stone implements and other modified lithics.

Lithics that I assume relate to the more recent Caddo occupation include four Basset, one Fresno, one Friley, eight Perdiz, and 11 unidentified arrow points. A single white, tubular glass bead is the only European trade material recovered from the site. This, along with the character of the ceramic vessel sherds assemblage, verifies a Historic Caddo component.

A larger number of vessel sherds are currently in the Iron Rock collection stored at TARL (Table 6.85). The plain sherds are primarily from the bodies of vessels, but rims and bases are also present. The count of plain rims suggests that a large number of plain vessels were present at the site. There are also a great number of plain bases, but they may actually be from utility or fine ware vessels. Utility ware makes up almost three-quarters of the collection, and includes more than 100 rims. There is significantly less fine ware, but a larger percentage of rims (7.9%).

Patton is the dominant fine ware type, but Poynor Engraved and Hume Engraved are present in the collection as well. There is also at least one rim sherd that appears to be from a King Engraved vessel. Other typed sherds are from Spradley Brushed-Incised, Killough Pinched, and Lindsey Grooved vessels. Non-vessel ceramics include a large collection of pipe sherds (n=23). More than half of these consist of plain rims and stems, but many are also decorated with engraved elements (n=8). The engraved decorations are primarily horizontal lines encircling the stem or base of the bowl. There are also two pipe stems with tool punctations, and a pipe rim with diagonal incised lines.

**Table 6.85. Ceramic Wares and Types from the Iron Rock Site**

	Plain	Utility ware	Fine ware	Total
<b>Base</b>	64	1		65
<b>Body</b>	676	2,579	175	3,430
<b>Rim</b>	24	104	15	143

<b>Base</b>	8.4%	< 0.1%		
<b>Body</b>	88.5%	96.1%	92.1%	
<b>Rim</b>	3.1%	3.9%	7.9%	
<b>Total</b>	764	2,684	190	3,638

Percentage		Ratios	
Plain	21.0%	Plain/Decorated	0.27
Utility ware	73.8%	Brushed/Plain	3.25
Fine ware	5.2%	Brushed/Wet Paste	11.93
Brushed*	86.3%		
Wet Paste*	7.2%		

Ceramic Types Present		
cf. Hume Engraved	7	7%
cf. Poynor Engraved	26	26%
cf. Spradley Brushed-Incised	8	8%
Killough Pinched	8	8%
King Engraved	1	1%
Lindsey Grooved	12	12%
Patton Engraved	26	26%
Poynor Engraved	5	5%
Poynor Engraved, var. Hood	1	1%
Spradley Brushed-Incised	6	6%
<b>Total Typed Sherds</b>	100	

Three-quarters of all ceramics have grog inclusions, and one-third of the time grog occurs alone (Table 6.86). Conversely, bone occurs in 40.7% of all sampled sherds, but occurs as the sole inclusion in only 9.8% of the sherds. Grog is most popular in fine ware (89.1%), and less so in plain (80.3%) and utility

wares (74.9%). The percentage of bone shifts in the opposite direction. Utility ware has the highest rate of bone (43.4%), and the fine ware contains significantly less (21.7%). Hematite occurs slightly more often than bone in total. However, it is much less when considered alone (1.6%) and hematite is the predominant inclusion in less than 5% of the sample. A very small percentage of the sample has either charred organics or no inclusions at all.

**Table 6.86. Inclusions and Paste from the Iron Rock Site**

Inclusions	Plain	Utility ware	Fine ware	Total	Percent
Bone	7	39	3	49	9.8%
Bone-grog	5	25	1	31	6.2%
Bone-grog-hematite		5		5	1.0%
Bone-hematite	4	41	2	47	9.4%
Bone-hematite-grog			1	1	0.2%
Bone-organics		1		1	0.2%
Grog	25	118	26	169	33.7%
Grog-bone	5	30		35	7.0%
Grog-bone-hematite	2	16	2	20	4.0%
Grog-hematite	9	83	10	102	20.4%
Grog-hematite-bone		9	1	10	2.0%
Grog-organics	3			3	0.6%
Hematite		8		8	1.6%
Hematite-bone		5		5	1.0%
Hematite-grog		9		9	1.8%
None	1	5		6	1.2%
<b>Total sample</b>	<b>61</b>	<b>394</b>	<b>46</b>	<b>501</b>	
				<b>Total</b>	<b>Percent*</b>
Total with bone	23	171	10	204	40.7%
Total with grog	49	295	41	385	76.8%
Total with hematite	15	176	16	207	41.3%
Total with organics	3	1		4	0.8%
<b>Total occurrences</b>	<b>90</b>	<b>643</b>	<b>67</b>		

Table 6.86 (continued)

Total with bone	37.7%	43.4%	21.7%
Total with grog	80.3%	74.9%	89.1%
Total with hematite	24.6%	44.7%	34.8%
Total with organics	4.9%	0.3%	

Paste	Plain	Utility ware	Fine ware	Total
Sandy	10	36	18	64

Bottles and carinated bowls are the most commonly identified vessel form (Table 6.87). Four of the carinated bowls, as well as the compound bowl, are from Poynor Engraved vessels. The compound bowl may actually be a globular carinated bowl, much like two others that are present. One of these has an engraved horizontal line, and the other is plain. One of the remaining carinated bowls is plain, and the other has an engraved scroll element on the rim and horizontal brushing on the body. In addition, there are at least five bottles and one vessel with rim peaks in the Iron Rock collection. Three of the bottle sherds are plain and a fourth has horizontal brushing. The fine ware bottle has a red slip, but lacks an engraved design.

All but one example of the fine ware sample has a direct rim form. The only exception is the Poynor compound bowl, which has an everted rim. Among the fine ware rims, all have rounded lips. More than three-quarters of the utility ware also has direct rims and rounded lips, though a few more examples of the everted rim form are present (n=4). There is also more variety in the lip form from utility ware; this includes lips that have a thickened exterior or collar. All of the plain rims are everted.

**Table 6.87. Ceramic Forms from the Iron Rock Site**

<b>Vessel form</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>
Bottle	3	1	1	5
Carinated bowl	1		5	6
Compound bowl			1	1
Globular carinated bowl	1		1	2
Rim peaks		1		1
<b>Total</b>	<b>5</b>	<b>2</b>	<b>8</b>	<b>15</b>

<b>Rim form-Lip form</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>
Direct-Flat		2		2
Direct-Flat and exterior thickened		1		1
Direct-Rounded		11	8	19
Direct-Rounded and collared		1		1
Direct-Rounded and folded outward			2	2
Everted-Rounded	2	4	1	7
-Flat		1		1
-Rounded		19		19
-Rounded and folded outward	3			3
<b>Total</b>	<b>5</b>	<b>39</b>	<b>11</b>	<b>55</b>

The utility ware at the Iron Rock site is dominated by simple, opposed, overlapping and parallel brushed body sherds (n=2,171), and almost 85% of the utility ware rim sherds have brushing in the decoration (Table 6.88). The majority of the rims have a tool punctated row near the lip, in association with diagonal, horizontal, or vertical brushing. Tool punctations, alone and in rows, are present above and through the brushing. Diagonal (n=9), horizontal (n=26), vertical (n=1), and simple brushing (n=3) frequently appear as the sole decoration on utility ware rims. There are also five rims with a horizontal appliquéd fillet set on the upper rim and above horizontal brushing.

Two utility ware rims that compare favorably to the type Spradley Brushed-Incised appear at the Iron Rock site. Significantly, these are the only examples of this type of element on a rim (see Figure 5.2). One rim sherd has horizontal brushing above horizontal and vertical incised lines that overlap each other. The other has lip notching and a brushed incised element on the rim. The decorative element has horizontal brushing above and below a zone with crosshatched incised lines. Without more information it is impossible to know if either of these vessels have the distinctive Spradley Brushed-Incised decoration on the body.

Additional rims have lip notching alone and in conjunction with brushing. Wet paste rims without brushing have diagonal (n=1) and horizontal (n=1) incised lines or tool punctations rows below the lip (n=2). Two rim sherds with vertical pinched rows are from a Killough Pinched vessel(s). Body sherds from Killough Pinched (n=6) and Spradley Brushed-Incised (n=12) vessels are also present at the Iron Rock site. There are also a dozen body sherds from Lindsey Grooved vessel(s), the only other utility ware type in the collection. Only one of these has brushing in the decoration

Around two-thirds of the body sherds in the incised decorative class have a single straight incised line or parallel incised lines. The few incised elements occur in combination with hatching, punctations, and appliquéd decorations. In addition, there is an incised chevron element (n=1) and an incised zone filled with linear punctations (n=1). The remainder of incised decorations is primarily a mix of crosshatched, curvilinear, and opposed lines. Many of these are likely part of more complex elements.

Appliquéd fillets occur frequently at the Iron Rock site, both alone (n=18), and most often (n=105) with brushing. Only three of the appliquéd fillets are

curvilinear, the remaining fillets are in straight lines. Around 85% of the appliquéd fillets are parallel to the brushing, while the others oppose the brushing. A small number of appliquéd nodes (n=3) are also present.

**Table 6.88. Utility Ware Decorative Classes from the Iron Rock Site**

<b>Brushed</b>	<b>Body</b>	<b>Rim</b>	<b>Base</b>	<b>Total</b>
Brushed	2,174	39	1	2,214
Brushed-Incised	44	1		45
Brushed-Punctated	59	43		102
Brushed-Incised-Punctated	1			1
Appliquéd-Brushed-Punctated	105	5		110
Grooved-Brushed	1			1
Lip notched-Brushed		2		2
Lip notched-Brushed-Incised		1		1
<b>Wet Paste, non-brushed</b>				
Incised	94	4		98
Punctated	57	5		62
Incised-Punctated	3			3
Appliquéd	3			3
Appliquéd-Incised	1			1
Appliquéd-Punctated	19			19
Lip notched	1	2		3
Pinched	6	2		8
<hr/>				
Grooved	11			11
<b>Total</b>	2,579	104	1	2,684

There are only four small Patton Engraved rims sherds, and all of them have engraved triangular tick marks attached to a horizontal line (Table 6.89). Body sherds from Patton Engraved vessels are primarily straight lines with triangular tick marks (n=15). The remaining Patton Engraved body sherds have parallel lines with triangular ticking. Among these sherds, three have multiple

lines with ticking and three have only one line with ticking (n=3). The latter might indicate *Patton Engraved, var. Patton*.

**Table 6.89. Fine Ware Type Decorations from the Iron Rock Site**

<b>Patton Engraved</b>	<b>Body</b>	<b>Rim</b>
horizontal engraved line with triangular tick marks		3
horizontal engraved line with triangular tick marks with white pigment		1
parallel and curvilinear engraved lines and triangular tick mark with white pigment	1	
parallel engraved lines one with triangular tick marks	3	
parallel engraved lines with triangular tick marks	3	
straight engraved line with triangular tick mark(s)	15	
<b>Poynor Engraved and cf. Poynor Engraved</b>		
	<b>Body</b>	<b>Rim</b>
horizontal tool punctated row above crosshatched engraved element		2
lip notched and crosshatched engraved divider element		1
crosshatched engraved element	27	
engraved negative oval element	1	
hatched engraved divider element	1	
<b>King Engraved</b>		
		<b>Rim</b>
crosshatched engraved element		1
<b>cf. Hume Engraved</b>		
	<b>Body</b>	<b>Rim</b>
engraved line with large hatched triangles		1
engraved lines with large hatched triangles	5	1
<b>Total</b>	56	10

One example of a Poynor Engraved rim sherd is the compound bowl mentioned above. The upper panel of the large rim has lip notching, while in the lower panel there is a crosshatched divider, probably repeated four times around the vessel. The horizontal line that delineates the upper and lower panel has large hatched tick marks suspended from it. This is likely from an unnamed variety of Poynor Engraved (Perttula 2009, personal communication). The

Poynor Engraved body sherd with the hatched engraved divider element is from a Poynor Engraved, *var. Hood* vessel. Only three of crosshatched elements are distinctly Poynor Engraved, the other 24 compare favorably to the type.

A crosshatched engraved element appears on a rim and is likely from a King Engraved vessel. Cross-hatching is also on two of the three rims sherds in the collection that have the unique combination of engraved and punctated decorative classes. On two of these, classified as comparing favorably to Poynor Engraved, the crosshatched element appears to be a large divider below a horizontal punctated row. This is very similar to rim sherds from other sites in the study also associated with the type Poynor Engraved.

Numerous engraved decorative elements with cross-hatching (n=25) cannot be assigned to type (Table 6.90). The cross-hatching on rims (n=3) occurs in diagonal and triangular zones. The widely spaced crosshatching fills the majority of a large panel that runs horizontally across the rim.

**Table 6.90. Other Fine Ware Decorations from the Iron Rock Site**

<b>Not typed</b>	<b>Body</b>	<b>Rim</b>
crosshatched engraved triangular zone		1
diagonal crosshatched engraved zone		1
hatched engraved triangle	1	1
horizontal engraved line below lip	3	1
horizontal tool punctated row above engraved element		1
broad curvilinear engraved lines	3	
broad straight engraved line	1	
brushed engraved element	1	
crosshatched engraved lines	2	
crosshatched engraved triangle	2	
crosshatched engraved triangular element	1	
crosshatched engraved zone	17	
curvilinear engraved line	5	
curvilinear engraved line with white pigment	1	

Table 6.90 (continued)

engraved scroll element	1	
engraved scroll element and horizontal brushed	4	
hatched engraved element	1	
hatched engraved panel element	2	
hatched engraved zone	8	
horizontal engraved line	1	
opposed engraved lines	11	
parallel engraved lines	15	
red slip	9	
straight engraved line	25	
straight engraved line with triangular tick marks	1	
widely spaced curvilinear engraved lines	3	
widely spaced parallel engraved lines	1	
<b>Total</b>	119	5

The cross-hatching decoration on body sherds is primarily in unidentified zones, but some are triangular as well. There is also one rim and one body sherd with a hatched engraved triangle, and multiple body sherds with hatched engraved elements, in panels and zones. Other elements include engraved scrolls with and without horizontal brushing (n=5), and one might be a horizontal interlocking scroll. Opposed engraved lines also form decorative elements and on nine sherds red slip is the only decoration. Lastly, there are a substantial number of simple curvilinear, straight, and parallel lines.

#### **41NA23 - Loco Bottom**

It is unclear whether A.T. Jackson or Gus Arnold recorded this site, originally named 42A8-1, or the Jeff Heider Farm, in the 1930s (Notes on file at TARL). At that time, locals reported finding a pot and glass beads. These are presumably from a burial, but it is unclear what happened to the materials. Some 40 years later, during the survey for the proposed Bayou Loco Reservoir, the

TASP relocated the site around a kilometer southeast of the Mayhew site. They renamed it the Loco Bottom site, and as the name suggests the site sits on the bottomlands, on a very small rise. Test excavations took place under the direction of the Mayhew's (Guy 1990:90), with the help of several members of the NAsoc, in early 1973.

In the course of my study, I identified collections from the site stored at TARL (n=3,450) and SFASU (n=81). There are likely three components present at the site, an Early Ceramic, Early to Middle Caddo, and a Historic Caddo occupation. There seems to be substantial collections from the first and the last of these components, but the Early to Middle Caddo appears less significant. The Early Ceramic materials consist of around 50 Goose Creek Plain or Bear Creek Plain sherds, two dart point fragments and various other lithic artifacts. The Early to Middle Caddo, as far as I can tell, is represented by no more than a handful of sherds that compare favorably to Crockett Curvilinear Incised or Pennington Punctated-Incised. Though I collected information using the same methods on most of these sherds, none of them is included in my analysis.

It is my determination that the overwhelming majority of the ceramic vessel sherds (n=3,482) are from the Historic Caddo occupation (Table 6.91). However, it is possible that some of the sherds included in my analysis actually belong to the Early to Middle Caddo component. Non-vessel ceramics include six pipe sherds, five of which are plain. The plain include two rims, two stems and a bowl. The remaining pipe sherd is a bowl and stem decorated with circular punctated rows on the side and bottom of the pipe. Lithics associated with the Historic Caddo occupation include three Friley and three Perdiz arrow points.

A third of the ceramic vessel sherds in my sample are plain, including a large number of rims (n=48). The size and completeness of the sherds indicates

that many of the rims are from plain vessels. Utility ware makes up 60% of the collection, but less than 3% of these are rims (n=58). A much larger percentage of the fine ware, on the other hand, consists of rims (13.4%). Brushing occurs on 80% of the decorated sherds, and wet paste decorations without brushing make up 11.4% of the sample.

**Table 6.91. Ceramic Wares and Types from the Loco Bottom Site**

	Plain	Utility ware	Fine ware	Total
<b>Base</b>	35			35
<b>Body</b>	1,097	2,056	162	3,315
<b>Rim</b>	48	58	25	131

<b>Base</b>	3.0%			
<b>Body</b>	93.0%	97.3%	86.6%	
<b>Rim</b>	4.1%	2.7%	13.4%	
<b>Total</b>	1,180	2,114	187	3,481

Percentage		Ratios	
Plain	33.9%	Plain/Decorated	0.51
Utility ware	60.7%	Brushed/Plain	1.57
Fine ware	5.4%	Brushed/Wet Paste	7.05
Brushed*	80.5%		
Wet Paste*	11.4%		

Ceramic Types Present		
cf. Hume Engraved	3	2.3%
cf. Patton Engraved	1	0.8%
cf. Poynor Engraved	11	8.6%
LaRue Neck Banded	17	13.3%
Lindsey Grooved	15	11.7%
Patton Engraved	72	56.3%
Poynor Engraved	2	1.6%
Poynor-Patton Engraved	1	0.8%
Spradley Brushed-Incised	6	4.7%
<b>Total Typed Sherds</b>	<b>128</b>	

A range of utility and fine ware types is present at the Loco Bottom site. The majority of the fine ware sherds are from Patton Engraved vessels, but there are also sherds with decorations related to Poynor Engraved and Hume Engraved. At least one body sherd appears to be from a Poynor-Patton Engraved vessel. The utility ware types present include LaRue Neck Banded, Lindsey Grooved, and Spradley Brushed-Incised.

Grog occurs in 94% of all the sherds included in the sample from the Loco Bottom site (Table 6.92). While this is considerably higher than the sites previously discussed in the Bayou Loco area, it is consistent with sites such as Deshazo (see below). More than half of the time grog occurs as the sole inclusion, and around one-third of the time it appears in combination with hematite. Bone is present as an inclusion in only 15% of the sample. It is also the only type of inclusion to occur in significantly different proportions across wares, most frequently in plain (17.7%), and declining in utility (15.4%), and fine wares (8.2%). The rate of sandy paste varies between 22% and 33% in the wares. The highest rate is among the plain sherds, which may indicate that some of these belong to the earlier sandy paste traditions.

**Table 6.92. Inclusions and Paste from the Loco Bottom Site**

Inclusions	Plain	Utility ware	Fine ware	Total	Percent
Bone	8	3		11	2.8%
Bone-grog	1	3		4	1.0%
Bone-grog-hematite		1		1	0.3%
Bone-hematite		10	1	11	2.8%
Grog	41	136	27	204	51.0%
Grog-bone	3	18	2	23	5.8%
Grog-bone-hematite		2		2	0.5%
Grog-hematite	22	90	17	129	32.3%
Grog-hematite-bone	2	5		7	1.8%

Table 6.92 (continued)

Grog-hematite-organics	1			1	0.3%
Grog-organics		3		3	0.8%
Hematite			1	1	0.3%
Hematite-grog		1		1	0.3%
Hematite-grog-bone-organics			1	1	0.3%
None	1			1	0.3%
<b>Total sample</b>	79	272	49	400	

				<b>Total</b>	<b>Percent*</b>
Total with bone	14	42	4	60	15.0%
Total with grog	70	259	47	376	94.0%
Total with hematite	25	109	20	154	38.5%
Total with organics	1	3	1	5	1.3%
<b>Total occurrences</b>	110	413	72		

Total with bone	17.7%	15.4%	8.2%
Total with grog	88.6%	95.2%	95.9%
Total with hematite	31.6%	40.1%	40.8%
Total with organics	1.3%	1.1%	2.0%

<b>Paste</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>
Sandy	26	61	12	99

At least one of the fine ware carinated bowls is from a Patton Engraved vessel (Table 6.93); others have engraved decorations such as a scroll (n=2), hatched (n=1) and opposed elements (n=1). The carinated bowls classified as utility ware both have horizontal brushing. The brushing on these body sherds is probably from below the carination of what are actually fine ware vessels. The last example of a carinated bowl is from a plain vessel.

Another plain vessel has an everted rim with peaks, and a lip that is rounded and folded outward. With one exception, another everted rim, the remaining plain rims are direct. Everted rim forms appear most frequently

among the utility ware, but the majority of utility ware has direct rim forms. Most fine ware rims are also direct, and the lips are either rounded or flat. These lips are also folded outward.

**Table 6.93. Ceramic Forms from the Loco Bottom Site**

Vessel form	Plain	Utility ware	Fine ware	Total
Carinated bowl	1	2	5	8
Rim peaks	1			1
<b>Total</b>	2	2	5	9

Rim form-Lip form	Plain	Utility ware	Fine ware	Total
Direct-Flat	3	2	2	7
Direct-Flat and folded outward			1	1
Direct-Rounded	2	9	3	14
Direct-Rounded and folded outward	1		2	3
Everted-Flat and folded outward			1	1
Everted-Rounded	1	6		7
Everted-Rounded and folded outward	1			1
-Flat			1	1
-Flat and folded outward		1		1
-Rounded		2	1	3
-Rounded and exterior thickened		5		5
-Rounded and folded outward		1		1
<b>Total</b>	8	26	11	45

As noted, brushing occurs on 80% of the decorated sherds; this is also the approximate rate of utility ware rims with brushing (Table 6.94). These rims primarily have horizontal brushing as the sole decoration (n=28), but diagonal (n=3) and vertical brushing (n=3) occur alone as well. All three of these decorations appear in small quantities on body sherds, but few are identifiable because the sherds orientation is rarely apparent. The remaining rims have horizontal brushing below tool punctations, frequently in rows on the lip.

More than 1,700 of the utility ware body sherds have brushing as the sole decoration. The majority of these are simply parallel brushed (n=1,712), but there are also sherds with opposed (n=10) and overlapped brushing (n=7). Brushing also occurs in combination with pinching, straight, overlapping and opposed incised lines, appliquéd fillets, and tool punctated rows. Six body sherds from Spradley Brushed-Incised vessels with parallel brushing and overlapping parallel incised lines are present.

The majority of wet paste rim sherds without brushing have diagonal incised lines. The diagonal lines occur alone (n=1) or together in groups (n=3), sometimes with additional opposed lines (n=2) or a tool punctated zone (n=1). Tool punctations also appear alone on rim sherds. Other rims have horizontal incised lines, in one instance connected to curvilinear lines. There is also a rim sherd, along with 16 body sherds, that have horizontal neck banding indicative of LaRue Neck Banded vessels. Lindsey Grooved body sherds (n=14) are also present in the collection.

**Table 6.94. Utility Ware Decorative Classes from the Loco Bottom Site**

<b>Brushed</b>	<b>Body</b>	<b>Rim</b>	<b>Total</b>
Brushed	1,734	34	1,768
Brushed-Incised	23		23
Brushed-Punctated	31	11	42
Appliquéd-Brushed-Punctated	18		18
Pinched-Brushed	1		1
<b>Wet Paste, non-brushed</b>			
Incised	137	9	146
Punctated	41	2	43
Incised-Punctated	14	1	15
Appliquéd	6		6
Appliquéd-Punctated	16		16

Table 6.94 (continued)

Appliquéd-Incised-Punctated	1		1
Pinched	4		4
Grooved	14		14
Neck banded	16	1	17
<b>Total</b>	2,056	58	2,114

The only decoration on Patton Engraved rim sherds (n=2) is a horizontal line with triangular tick marks, but there are also more than 70 Patton Engraved body sherds from the Loco Bottom site (Table 6.95). The body sherds have straight, parallel, and curvilinear engraved lines, and all but one of these have triangular ticking as well. The exception has parallel lines with circular tick marks, the only example of this type of ticking in the study. Another large body sherd with a circle and curvilinear engraved lines with triangular tick marks is likely from a Patton Engraved, *var. Fair* vessel.

Table 6.95. Fine Ware Type Decorations from the Loco Bottom Site

Patton Engraved and cf. Patton Engraved	Body	Rim
horizontal engraved line with triangular tick mark		2
curvilinear and circular engraved lines with triangular tick marks	1	
curvilinear engraved line with triangular tick mark	3	
curvilinear engraved lines with triangular tick marks	4	
parallel engraved lines one with triangular tick marks	2	
parallel engraved lines with circular tick marks	1	
parallel engraved lines with triangular tick marks	11	
straight engraved line with triangular tick marks	49	

Table 6.95 (continued)

<b>Poynor Engraved and cf. Poynor Engraved</b>	<b>Body</b>	<b>Rim</b>
engraved negative oval element		1
engraved tool punctated element		1
engraved scroll element	10	
engraved scroll element with triangular tick marks	1	
<b>Poynor-Patton Engraved</b>	<b>Body</b>	<b>Rim</b>
horizontal engraved line with triangular tick marks and vertical divider	1	
<b>cf. Hume Engraved</b>	<b>Body</b>	<b>Rim</b>
horizontal engraved line with hatched pendant triangles		3
	83	7

Poynor Engraved elements occur on two of the rims sherds, one with a negative oval motif. The other Poynor Engraved rim has a tool punctated row above an engraved panel. The panel has a crosshatched divider and curvilinear line, perhaps part of an oval motif. Body sherds (n=11) have scroll elements that compare favorably to Poynor Engraved. One of these sherds with a scroll element has triangular tick marks as well.

The decorations on the one example of a Poynor-Patton Engraved hybrid include a horizontal line with triangular tick marks and a vertical divider. This is likely from a Poynor Engraved, *var. Freeman* vessel. There are also three rim sherds with large hatched triangles suspended from a horizontal line that compare favorably to the type Hume Engraved.

Most of the non-typed rim sherds from the Loco Bottom site have a single horizontal line, usually just below the lip (Table 6.96). Five rims have vertical engraved lines, including the only fine ware vessel with an everted rim. Complex decorative elements on other rims include a crosshatched zone, vertical lines that

are part of a panel, and an interlocking scroll motif. Two other scroll elements on body sherds are from carinated bowls, one with brushing on the body.

**Table 6.96. Other Fine Ware Decorations from the Loco Bottom Site**

<b>Not typed</b>	<b>Body</b>	<b>Rim</b>
crosshatched engraved zone		1
engraved panel element		1
horizontal engraved interlocking scroll		1
horizontal engraved line below lip		8
horizontal engraved lines		2
vertical engraved lines		5
crosshatched engraved element	2	
crosshatched engraved zone	18	
curvilinear engraved line	12	
engraved circular element	1	
engraved element	2	
engraved scroll element	1	
engraved scroll element and horizontal brushed	1	
hatched engraved element above horizontal brushed	1	
opposed engraved element	3	
opposed engraved lines	11	
parallel engraved lines	10	
straight engraved line	16	
straight engraved line and rectangular excised zone	1	
	79	18

Another carinated bowl body sherd has a hatched engraved element on the rim panel and horizontal brushing on the body. One sherd with an opposed engraved element is also a carinated bowl. There are also circular, curvilinear, horizontal, and hourglass shaped decorative elements. Simple geometric lines occur on many sherds, one with an additional rectangular excised zone.

## **41NA27 - Deshazo**

The Deshazo site, now inundated by Lake Nacogdoches, is around one kilometer south of Loco Bottom. The Deshazo site formerly consisted of a northern and southern area separated by a spring-fed tributary to Bayou Loco. The arrangement of the site initially led investigators to record two sites, 41NA13 and 41NA27. It was only after further examination that they decided to record it as one site (41NA27). The site occupied the upper part of a low terrace on the eastern edge of the Bayou Loco floodplain. Extensive work at the site recovered a large collection of material culture resulting from an occupation area that stretched over nine hectares and most of a large alluvial fan deposit (Story 1982).

Work related to the Deshazo site (41NA27) represents one of the most detailed and comprehensive research projects in Historic period Hasinai Caddo archaeology. Detailed information is available from several sources. Most importantly, there is a two-volume report that covers the history of excavations, the environmental setting, detailed description of the site and investigations, analysis of structures, burials, and cultural features, European trade goods, faunal and floral remains, bone tools, ground and chipped stone tools, ceramic pipes and vessel sherds (Story, editor 1982, 1995).

Several authors contributed to this comprehensive study, and I try not to repeat their results here. Jeff Girard's analysis of chipped stone materials remains an essential study of lithics used by the Historic Caddo groups in east Texas. I use his classifications of arrow points in the discussion of chronology (see Table 8.3). Patty Newhaus also covers the large collection of ceramic pipes in detail. The most important chapter in the report for this study is Ross Fields' analysis of Native-made ceramic vessels and sherds (Fields 1995:173-232). In some cases, I rely on the work of Fields for classifications and counts.

As with previous sites, I briefly describe the investigations, along with the materials recovered from the site. My discussion also covers the issues related to sampling procedures for the large sherd collection.

### *History of Investigations and Site Description*

The first investigations at the Deshazo site were by Robert Turner, Sr. and Robert Turner, Jr. in the late 1930s. The avocational archaeologists kept detailed notes of their excavations, which uncovered nine burials in a Historic period Caddo cemetery south of the small tributary (Area A). The burials contained glass beads, metal knives, and brass hawk bells, as well as 16 vessels (Appendix 1; Fields 1995:203-208).

The fine ware vessels include two Patton Engraved bowls, *var. Allen* and *var. Fair*. The Patton Engraved jar is likely *var. Patton*. Other fine ware vessels include a Taylor Engraved carinated bowl and a bowl that favors Natchitoches Engraved. Another vessel has horizontal lines with hatched triangles on the rim. This design favors Hume Engraved, but oddly, the form is a bowl not a bottle (Perttula et al. 2011). A carinated bowl and a compound bowl are not unassigned to a fine ware type. Utility ware vessels include an incised-brushed jar, a brushed-punctated jar, a punctated jar, an appliquéd jar, and a brushed-appliquéd jar. There are also a two plain bowls and a plain jar. Half of a 17<sup>th</sup> vessel recovered from the hearth was reconstructed at some point. This bowl has horizontal brushing on the rim and an engraved element below the carination.

Shortly after the Turner's excavations, Gus Arnold of the UT-WPA surveys visited the site and collected artifacts from the surface. It is unclear what part of the site the artifacts came from, but Arnold refers to the site as a village.

During this period, the site was under cultivation and surface indications were apparently obvious (Story 1982).

More than 30 years later, Prewitt surveyed the area during the TASP survey for the proposed Bayou Loco Reservoir (Prewitt et al. 1972). At this time, the survey crew dug four small test pits. However, it was difficult to assess the size and extent of the site because it was partly in heavily wooded areas. Therefore, Prewitt based his decision to continue to work primarily on the Turner's earlier finds. Prewitt returned to the site in 1975 and completed an extensive series of backhoe trenches (total length of 605 m) and limited hand excavations in order to define the site. These excavations identified a dense midden, and the remains of four structures. Prewitt also found a glass bead inside one of the structures indicating that the village was at least in part contemporaneous with the cemetery. During these investigations, Prewitt better defined the site area, identified five concentrations of cultural material (Areas A-E), and sampled each area.

Dee Ann Story conducted the UT Field School at the Deshazo site in the summers of 1975, not long after Prewitt's investigations, and again in 1976 (Story 1982, 1995). During this same time, Jim Corbin of SFASU also completed limited excavations and a survey at Deshazo. The majority of their excavations took place in the main areas of occupation in the small, centralized hamlet, which had the midden and at least nine circular structures (Area D). It is important to note that, "Area D was sampled well for Allen phase cultural features and artifacts, and it is unlikely that any major feature, such as a structure, was overlooked" (Story 1995:237). Most of the artifacts related to the Caddo occupation in the collection are the result of the intense testing and careful hand excavations in this area (18% of 5,500 square meters).

Extensive testing also took place in Area A, the southern part of the site where the Turners excavated the Caddo cemetery, but they discovered no additional evidence of burials. Excavations in Area A led to the identification of at least one structure and the recovery of a large number of Caddo sherds (n=651). The cultural material recovered from Area D includes 29,064 of these Caddo “tempered sherds” (Fields 1995: Table 66). The only Caddo vessel sherds in the collection from Area C (n=138) are the result of Prewitt’s investigations. A small surface collection of Caddo sherds (n=23) exists from Area B, and the rest of the material is almost exclusively from the 19<sup>th</sup> century (Creel 1982b). Minor testing in Area E produced only two Caddo sherds.

The UT Field School investigations also identified two additional areas (Areas F-G), but these received much less archaeological attention. Area G is south of the spring-fed tributary and the westernmost area of the site. Researchers did not find Area G until the summer of 1976, most likely due to poor visibility. The collection consists of materials from one test unit, as well as a surface survey of road cuts and the back dirt from dam construction activities (Creel 1982b). The little amount of work produced a large sample of 589 Caddo sherds. Unfortunately, there was little time for further investigations in this area before the reservoir was complete. Work in Area F was restricted to surface collections, and resulted in 158 Caddo sherds.

The sample of sherds that I consider below is entirely from these seven defined areas at the Deshazo site (Areas A-G). The entire collection from the investigations in these areas consists of 30,625 Caddo sherds (Fields 1995: Table 66).

In addition to the Caddo sherds, excavations recovered Early Ceramic materials from different areas of the site. Culture materials from this component

are clearly different from the later Caddo occupation, and include a large number of nontempered sandy paste rim (n=48) and body (n=751) sherds. The majority is plain, but decorations occur on ten rim and 30 body sherds. Decorations are “usually with incised, engraved, or grooved (i.e., wide incising) diagonal lines, often bordering fields of punctations (see Figure 58C-H), but sometimes with fairly complex, straight line designs” (Fields 1995:179). Even though there is substantial evidence for the Early Ceramic component, there are no associated cultural features or subsistence remains (Story 1995:233).

A distribution analysis by Fields supports evidence from the cultural material that the two components are distinct (Fields 1995:209). In Area D, there are a high density of dart points and sandy paste sherds in particular units and a lower density of sandy paste sherds in the units where the Caddo component predominates. Caddo sherds are the overwhelming majority in all other areas of the site, which suggest the two occupations are sufficiently separate.

#### *Field's Analysis of the Caddo Vessel Sherds*

The majority of the artifacts and features from the Deshazo site, including a “small collection of European trade goods, two archeomagnetic dates—A.D. 1715+/-31 and A.D. 1710+/-34 (2-sigma standard deviation)—and ceramic evidence” date to a single historic Allen phase occupation from the latter half of the 17<sup>th</sup> century to the early 18<sup>th</sup> century (Story 1995:237). However, the comprehensive ceramic analysis by Fields suggests the Caddo sherds may represent prehistoric and historic occupations. I do not repeat all of the details of his work, which covers many aspects of the collection, but briefly discuss a few notable conclusions.

Fields characterizes and classifies the large collection of Caddo sherds according to specific attributes related to inclusions, surface treatment techniques, decorative motif or element, and technique of design execution (Fields 1995:208). In addition, he presents the frequencies of each of these categories by area (Fields 1995: Table 66). Among other things, his analysis of sherd density and distribution focuses on 28 motif and element categories from the engraved, incised, and punctated sherds. Using groups of these categories, and based on the inference that the categories of decorative elements have temporal associations, he defines an early and late cluster of sherds.

The proposed late cluster consists of the five identifiable motifs (concentric ticked circles, horizontal ticked lines, interlocking arms, rows of punctations, and horizontal lines with triangles) found on decorated vessels from the possibly later group of burials... The proposed early cluster consists of six motif or element categories (plain horizontal lines, miscellaneous diagonal lines, field of punctations on the body, field of punctations on the rim, miscellaneous punctated, and oval panels-Poynor Engraved) that resemble or are assignable to types predating the historic period" (Fields 1995:218).

Fields notes that there are three main patterns related to the decorative motifs and elements within Area D. First, all of the sherd groups occurred in each of the major units. This indicates that motif and elements were not exclusive to any one part of Area D, this also points to a high degree of interaction. Secondly, there is a relatively high frequency of Patton Engraved motifs from Units 1 and/or 3/11. Interestingly, these are primarily outside of the midden and more closely associated with the structures. Finally, the earlier motif or element categories have relatively high frequencies nearer the midden and additional structures in Unit 9.

In addition to Area D, Fields examines patterns across the Deshazo site. For example, the higher frequency of brushing and Patton Engraved sherds in Area D suggest that the southern and northeastern parts of the site might predate the primary, historic component. The higher rate of punctated sherds in Areas A, C, F, and G support this assertion. Fields' arguments are convincing, but as Story notes (1995:237), it "is much less clear whether this apparent temporal difference should be associated with the initial use of the site by the Allen phase occupants, or with a brief and separate occupation that may have occurred mainly in Area F and areas south of the tributary." Fields acknowledges this, and agrees that the possibility of an earlier, separate Caddo occupation cannot be demonstrated unequivocally (Fields 1995:224).

As with this study, there are limitations to the ceramic analysis at the Deshazo site. This includes considerable overlap in the distributions of temporally diagnostic artifacts and shallow deposits that were not stratified. Regardless, the detailed study is an exceptional contribution that demonstrates the possibilities of ceramic analysis at the site level. The work also demonstrates the important inferences to be drawn from well-excavated and documented collections.

### *Sample of Collection and Detailed Ceramic Analysis*

Researchers previously sorted the extensive collection of sherds stored at TARD by decorative class, type of inclusion, and part of the vessel (base, body, or rim). This has some effect on the approach to sampling, which varies according to the group of sherds and type of ware. I exclude all of the sandy paste sherds from the Early Ceramic component and the Marksville Incised sherd (Fields 1995:173). In addition, I rule out all of the fired clay specimens (most of which are

small sherds) and sherdlets. Although not nearly as small on average as the Mayhew site, there are a large number of small and eroded sherdlets from the Deshazo site as well.

As with other sites, I attempt to collect information related to decorative treatment from the entire collection of vessel sherds. However, at the Deshazo site it is necessary to sample due to the size and condition of the collection. Sampling is also clearly necessary for the detailed examination of technological attributes.

I rely on the total counts of plain sherds provided by Fields (Table 6.97, in parentheses), but did examine around 300 plain base, body, and rim sherds in terms of technological attributes. I sorted through the entire collection of plain rims in order to see the range of rim forms, but examined only 108 plain rims in detail. I also recorded attributes from base (n=97) and body (n=132) sherds. Attributes I collected include rim and lip form, type of inclusions, firing conditions, surface treatment, and thickness.

Previous studies make use of only two categories of inclusions, either 'grog' or 'grog and bone.' Most of the sherds in the collection, both plain and decorated, are in bags according to the type of inclusions. In other words, there may be two bags of plain rim sherds one with grog inclusions and the other with grog and bone inclusions. When this is the case, selecting too many sherds from one of these categories of inclusions would create a sampling bias. In order to minimize this possibility, I rely on the tables provided in the Deshazo report to help determine the sample size (Fields 1995: Table 71-72). For example, Fields notes that around 79% of plain sherds have grog and only 21% have grog and bone (Fields 1995: Table 71). Therefore, 79% of my detailed sample of technological attributes of plain sherds comes from bags labeled grog inclusion.

The other 21% of my sample is from bags labeled grog and bone. The goal is to maintain the proportions assigned by Fields from bag to bag. This process also applies to the utility and fine wares.

Like most Historic Caddo sites, sherds with brushing as the sole decoration make up the majority of the ceramic collection from the Deshazo site. Generally, I examine the decorative elements from all rim sherds (n=541) and around 1,000 out of the large number of body sherds (n=19,122) (Fields 1995: Table 66). For each of these groups, I examine around 100 sherds for detailed technological attributes. The sample favors rim sherds with brushing as the sole decoration, but I believe the focus on rims better approximates the character of the collection.

The abovementioned do not include sherds with brushing in addition to another decorative technique (i.e. brushed-punctations). The sampling strategy for this group is the same as the strategy for sherds with wet paste decorations without brushing or sherds with engraving. I examine the decorative treatment and stylistic elements for all of the sherds from these groups, and technological attributes for around one-quarter of the sample. Again, the rims are favored in this part of the analysis. For the most part, Fields does not differentiate between the engraved and incised decorations in his report. This ultimately makes comparisons with my study difficult.

Here, I rely on the count by Fields (1995: Table 66) for the total number of body sherds with brushing as the sole decoration in order to calculate the percentage of utility ware along with related measures. These and the plain sherds are the only groups of sherds that I did not count in full myself. The total of this group of sherds by Fields (1995) substitutes for my smaller sample (Table 6.97, in parentheses) and brings my total number of Caddo sherds to 30,422. The

total number of Caddo sherds in the Deshazo report is 30,625 (Fields 1995: Table 66), a difference of less than 1%.

There are still differences in the two studies that make specific results difficult to compare. The classification systems are slightly different, and in a few cases, my interpretation of specific sherds is different. The detailed analysis of technological attributes includes close to 1,500 sherds, less than 5 percent of the entire sample. Still, I believe the two samples compare well and are representative of the assemblage.

**Table 6.97. Ceramic Wares and Types from the Deshazo Site**

	Plain*	Utility ware*	Fine ware	Total
<b>Base</b>	97 (297)			97 (297)
<b>Body</b>	132 (6,344)	2,413 (20,562)	1,755	4,300 (28,661)
<b>Rim</b>	108 (333)	826 (846)	285	1,219 (1,464)
<b>Base</b>	4.3%			
<b>Body</b>	91.0%	96.0%	86.0%	
<b>Rim</b>	4.8%	4.0%	14.0%	
<b>Total</b>	(6,974)	3,239 (21,408)	2,040	5,616 (30,422)

<b>Percentage*</b>	
Plain	22.9%
Utility ware	70.4%
Fine ware	6.7%
Brushed*	87.1%
Wet Paste*	4.5%

<b>Ratios</b>	
Plain/Decorated	0.30
Brushed/Plain	2.93
Brushed/Wet Paste	19.52

**Ceramic Types Present**

Belcher Ridged, var. Deshazo	3	0.4%
cf. Patton Engraved	390	47%
cf. Poynor Engraved	28	3.4%
cf. Poynor Engraved, var. Hood	2	0.2%
Hume Engraved	3	0.4%
Karnack Brushed-Incised	21	2.5%
King Engraved	13	1.6%

Table 6.97 (continued)

LaRue Neck Banded	4	0.5%
Lindsey Grooved	55	6.6%
Patton Engraved	243	29.3%
Poynor Engraved	35	4.2%
Poynor Engraved, var. Hood	7	0.8%
Poynor-Patton Engraved	14	1.7%
Spradley Brushed-Incised	11	1.3%
<b>Total Typed Sherds</b>	<b>829</b>	

Grog is clearly the most popular inclusion in my sample (93.9%); this includes 95.3% of utility ware, 90% of fine ware, and all but 1 of the plain sherds (Table 6.98). In more than half of the total sherds, grog is the only inclusion. Grog is also present in a large number of sherds that have additional inclusions, primarily bone and hematite. Bone occurs in one-quarter of all sherds, but in only 3.9% as the sole inclusion. It occurs four times that rate with grog and least often in fine ware. Hematite is present in 20.4% of all sherds, but is highest in fine ware (24.6%) and considerably lower among the plain sherds (7.1%). Grog with hematite as a minor inclusion is only behind grog alone in terms of overall popularity.

Small amounts of organics appear in the fine and utility ware as well, but only in combination with grog or bone. Historic Caddo sherds with a sandy paste make up around 10% of the fine and utility ware. Of these, all but one sherd has inclusions like grog, bone, and hematite.

**Table 6.98. Inclusions and Paste from the Deshazo Site**

<b>Inclusions</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Bone		24	29	53	3.9%
Bone-grog	53	73	14	140	10.4%
Bone-grog-hematite	1	8	3	12	0.9%
Bone-hematite		4	10	14	1.0%
Bone-hematite-grog		3	1	4	0.3%
Bone-organics			1	1	0.1%
Grog	141	349	299	789	58.4%
Grog-bone	1	47	31	79	5.8%
Grog-bone-hematite		15	5	20	1.5%
Grog-hematite	13	101	93	207	15.3%
Grog-hematite-bone	1	3	4	8	0.6%
Grog-organics		1	3	4	0.3%
Hematite			4	4	0.3%
Hematite-bone			1	1	0.1%
Hematite-bone-grog		2		2	0.1%
Hematite-grog			4	4	0.3%
None	1	2	6	9	0.7%
<b>Total sample</b>	211	632	508	1351	

	<b>Total</b>	<b>Percent*</b>
Total with bone	334	24.7%
Total with grog	1269	93.9%
Total with hematite	276	20.4%
Total with organics	5	0.4%
<b>Total occurrences</b>	281	918

Total with bone	26.5%	28.3%	19.5%
Total with grog	99.5%	95.3%	90.0%
Total with hematite	7.1%	21.5%	24.6%
Total with organics		0.2%	0.8%

<b>Paste</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>
Sandy	6	51	61	118

Fine ware carinated bowls are by far the most recognized vessel form in the collection of sherds from the Deshazo site (Table 6.99). All but one of these, a rim sherd with a hatched engraved divider and curvilinear element above diagonal brushing, are body sherds broken at the carination. At least five of the carinated bowl sherds are from Poynor Engraved, *var. Hood* vessels, and all of these have a crosshatched engraved divider and negative oval element on the rim panel. One has diagonal brushing on the body of the vessel. A carinated bowl sherd that favors Poynor Engraved has an engraved oval element.

There are also six untyped body sherds from carinated bowls with a crosshatched engraved element above horizontal brushing on the body, one with a crosshatched element and no brushing. A horizontal engraved line on the rim is the only decoration on 10 carinated bowl sherds. Another 26 carinated bowl sherds have a horizontal line on the rim panel above horizontal brushing on the body. There are also carinated bowls with horizontal engraved lines that occur with diagonal (n=6) and vertical (n=5) lines above horizontal brushing. The latter resemble simple panel dividers.

Three carinated bowl sherds have hatched engraved elements on the rim panel, two of these are above horizontal brushing on the body and the other has triangular tick marks. Engraved scroll elements also appear on carinated bowl sherds. This includes a scroll element with crosshatching and an engraved element with a crosshatched zone scroll and triangular tick marks above horizontal brushing. A carinated bowl sherd with an engraved element with white pigment and opposed brushing on the body may also be part of a scroll.

The remaining carinated bowl sherds have a variety of decorative elements and motifs (i.e. divider element), including a smaller number that have curvilinear, diagonal, horizontal, parallel, opposed, and straight lines.

The two simple bowls that I identify have a crosshatched and a hatched engraved element. The only compound bowl sherd from the Deshazo site has a crosshatched engraved zone. One unique vessel also has a scalloped lip decorated with a horizontal tool punctated row above diagonal engraved lines. This is the only example of punctations with engraved decorations, a rare combination of decorative elements, on a scalloped lip.

Although Fields did not recognize any bottle sherds from the Deshazo site, I identify at least 10 body sherds as originating from bottles. A range of engraved decorations appears on these sherds, including single and multiple curvilinear lines. In one case, the curvilinear lines are widely spaced; another bottle sherd has multiple curvilinear lines, one with hatched triangles. There is also a bottle sherd with a red slip in addition to curvilinear and opposed engraved lines. Other bottle sherd decorations include a hatched engraved panel element with divider and an engraved element with horizontal lines and opposed lines.

One bottle sherd is definitively from a utility ware vessel, and another sherd is less so. The former is broken at the neck-body juncture of a bottle and decorated with a straight appliquéd fillet (Fields 1995, Figure 75a). The latter has a tool punctated row and horizontal incised lines.

**Table 6.99. Ceramic Forms from the Deshazo Site**

Vessel form	Plain	Utility ware	Fine ware	Total
Bottle		1	9	10
cf. Bottle		1		1
Bowl			2	2
Carinated bowl	1		81	82
Compound bowl			1	1
Scalloped lip		1	1	2
<b>Total</b>	1	3	94	98

Table 6.99 (continued)

<b>Rim form-Lip form</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>
Direct-Flat	2	15	14	31
Direct-Flat and folded outward		11	2	13
Direct-Folded outward		8		8
Direct-Rounded	58	133	55	246
Direct-Rounded and folded outward	11	11	13	35
Direct-Thinned	1	3	1	5
Everted-Flat		2	1	3
Everted-Rounded	14	26	6	46
Everted-Rounded and folded outward	2	1		3
Inverted-Flat	1		1	2
Inverted-Rounded	1		3	4
-Folded outward		1		1
-Rounded	13	8	2	23
-Rounded and folded outward	5	1		6
<b>Total</b>	<b>108</b>	<b>220</b>	<b>98</b>	<b>426</b>

A direct or standing rim with a rounded lip occurs on around 58% of all the rim sherds, in another 8% the lip is rounded and folded outward. These rates are consistent across all sherds. Brushing is the primary decoration on utility ware with direct rims and flat lips, but incising and punctations is present in lesser amounts. Around 11% of the sherds have everted rims and rounded lips, and these are primarily from plain and utility ware vessels. Only six sherds have inverted rims, one of these compares favorably to a Poynor Engraved vessel.

Brushing makes up over 90% of the collection and all other decorative classes are approximately 2% or less (Table 6.100). More than three-quarters of the utility ware rims have brushing in the decoration. Brushing is the sole decoration on 63.1% of these rims, and it occurs in smaller amounts with punctations (9.3%), appliquéd-punctations (3.8%), and incising (1.5%).

Punctations is the most common decoration on wet-paste rims sherds without brushing (12.8%). In fact, more than one-third of sherds with punctations as the sole decoration are rims. Most of these rims have tool punctated rows below the lip, but there are also more complex punctated designs. A large number of rim (n=38) and body (n=354) sherds have appliquéd fillets, most of these (72.6%) have brushing as well. Fingernail punctations are present as the sole decoration on close to 20 sherds. They appear in rows on rim sherds (n=2), in groups on body sherds (n=13), and as part of elements with incised lines (n=4).

Deshazo is the only site with vessel sherds that have appliquéd strips of clay without additional decorations (i.e. punctations). These appliquéd strips occur on rim (n=12) and body (n=38) sherds. The strips of clay are relatively flat, which is slightly different from the appliquéd ridges of clay (see Chapter 5). Other appliquéd rim sherds from the Deshazo site have nodes (n=2) and vertical appliquéd ridges (n=2).

**Table 6.100. Utility Ware Decorative Classes from the Deshazo Site**

<b>Brushed</b>	<b>*Body</b>	<b>Rim</b>	<b>Total</b>
Brushed	973 (19,122)	521 (541)	1,494 (19,663)
Brushed-Incised	155	12	167
Brushed-Punctated	138	77	215
Brushed-Incised-Punctated	2		2
Appliquéd-Brushed	45	5	50
Appliquéd-Brushed-Punctated	226	31	257
Grooved-Brushed	2	2	4
Lip notched-Brushed		1	1
Pinched-Brushed	3		3
<b>Wet Paste, non-brushed</b>			
Incised	445	19	464
Punctated	201	106	307

Table 6.100 (continued)

Incised-Punctated	41	14	55
Appliquéd	44	16	60
Appliquéd-Incised		3	3
Appliquéd-Punctated	89	5	94
Appliquéd-Incised-Punctated	1	2	3
Lip notched		1	1
Pinched	3	1	4
<hr/>			
Grooved	45	6	51
<hr/>			
Neck banded		4	4
<b>Total</b>	2,413 (20,562)	826 (846)	3,238 (21,408)

Pinched body and rim sherds are also present at the Deshazo site. Except for one sherd from 41NA23, the Deshazo site has the only examples of pinched and brushed decorations on the same sherd.

I examined multiple bags with large brushed body sherds, presumably as the sole decoration, in order to see how these decorations compared with other collections (Table 6.101). The results reveal variations in the type of brushing, several sherds with additional decorative classes, and three Spradley Brushed-Incised sherds.

**Table 6.101. Sample from Bags with Large Brushed Body Sherds**

<b>Brushed Decorative Elements</b>		
parallel brushed	591	81.7%
overlapping brushed	50	6.9%
opposed brushed	37	5.1%
vertical brushed	13	1.8%
horizontal brushed	7	1.0%
diagonal brushed	2	0.3%
curvilinear brushed	1	0.1%

Table 6.101 (continued)

parallel brushed-incised	10	1.4%
parallel brushed and appliquéd node	2	0.3%
parallel brushed with overlapping incised lines	7	1.0%
Spradley Brushed-Incised	3	0.4%
<b>Total</b>	723	

Five different utility ware types are identified at the Deshazo site (Table 6.102). The most numerous are Lindsey Grooved rim (n=8) and body (n=47) sherds. The majority has only grooved decorations, but brushing occurs on several rim and body sherds as well. All of the Belcher Ridged sherds have diagonal appliquéd ridges and incised lines. Perttula suggests referring to these as Belcher Ridged, *variety Deshazo* (personal comm. 2010).

Incised decorations are consistent with other collections considered in this study. One exception is 21 of the 77 sherds with vertical and parallel incised lines that appear to be from Karnack Brushed-Incised vessels (Fields 1995, Figure 66 A-C). Other decorative elements on incised rims include chevrons and incised zones filled with punctations. LaRue Neck Banded rims and Spradley Brushed-Incised sherds are present as well.

**Table 6.102. Utility Ware Type Decorations from the Deshazo Site**

<b>Belcher Ridged</b>	<b>Body</b>	<b>Rim</b>
diagonal appliquéd ridged and incised lines		3

<b>Karnack Brushed-Incised</b>	<b>Body</b>
horizontal and vertical incised lines	2
parallel incised lines	14
vertical incised lines	5

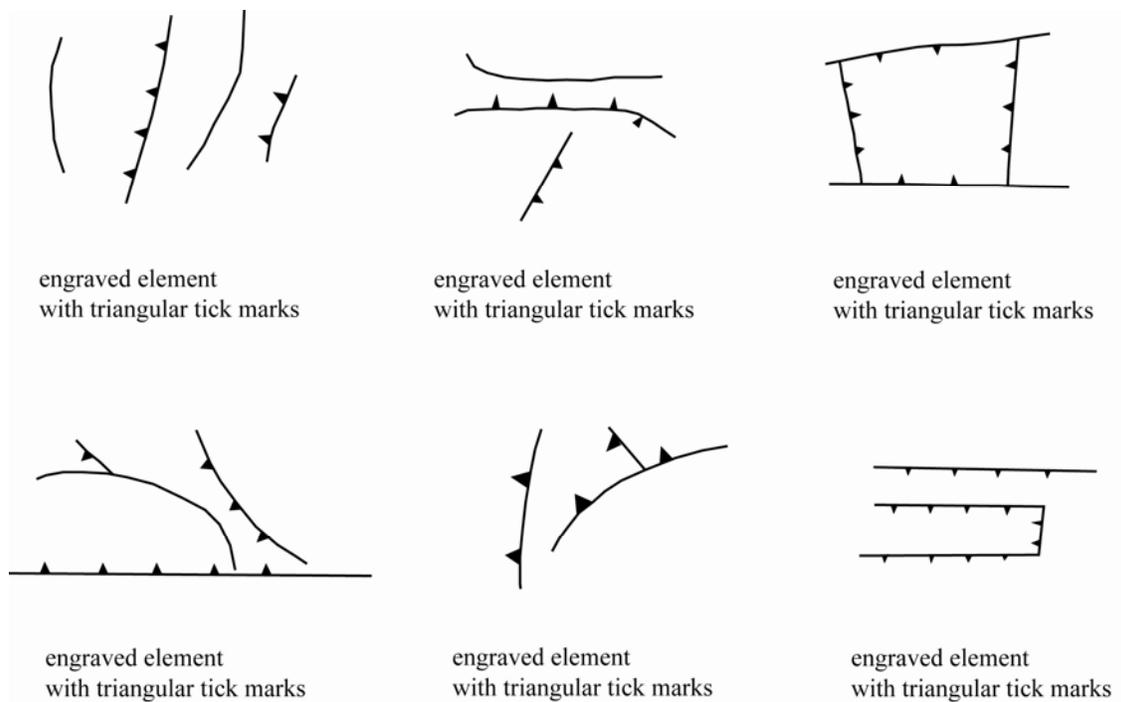
<b>LaRue Neck Banded</b>	<b>Body</b>	<b>Rim</b>
neck banded		4

Table 6.102 (continued)

<b>Lindsey Grooved</b>	<b>Body</b>	<b>Rim</b>
horizontal brushed and horizontal grooved		2
horizontal grooved		6
grooved	2	
horizontal brushed within horizontal grooved	2	
horizontal grooved	42	
parallel grooved	1	
<b>Spradley Brushed-Incised</b>		
	<b>Body</b>	
parallel brushed with overlapping crosshatched incised lines	2	
parallel brushed with overlapping straight incised lines	6	
<b>Total</b>	76	15

One of the more difficult parts of dealing with the Deshazo collection was figuring out what to do with a large group of sherds decorated with ticking, but that seemingly do not belong to the type Patton Engraved (Figure 6.13). Many of the sherds are more than 5 cm on a side, and so much of the design is visible. Differences in Patton Engraved and these sherds include the use of terminating lines, hatching, and rectangular elements, the alternating tick marks on curvilinear, opposed and straight lines, and the basic configuration of the decorative element. I do not classify these sherds as Patton Engraved, but many are placed in the compares favorably category.

In my opinion, these differences probably represent stylistic variation in what would have been recognizable as Patton Engraved. Still, the large group of Patton Engraved-like sherds influenced the interpretation of the remaining assemblage. These differences may have led to the great number of body sherds classified as compares favorably to Patton Engraved.



**Figure 6.13. Decorated Sherds from the Deshazo Site**

I still classify most of the rims with ticked elements as Patton Engraved (Table 6.103). These frequently have horizontal lines with downward pointing triangular tick marks. Five sherds have multiple horizontal lines with tick marks and are likely from Patton engraved, *var. Allen* vessels. Several rims have horizontal lines with linear (n=1) or triangular (n=3) tick marks that face each other (i.e. Patton Engraved, *var. Fair* or *Freeman*). A large number of rims have rows with triangular tick marks side-by-side that do not appear attached to a line. More than 93% of the Patton Engraved sherds have the triangular tick marked element (versus the linear tick mark) (Fields 1995:187-189).

A large number of body sherds have multiple parallel or curvilinear lines with ticking. When the sherds have multiple lines and only one has ticking, it is possibly from Patton Engraved, *var. Patton* vessels. The sherds with circles or

concentric circles with ticking more likely represent Patton Engraved, *var. Freeman* or *Fair*.

More than 30 sherds have white pigment rubbed into engraved lines, including a King Engraved sherd and at least 20 Patton Engraved sherds. Eight sherds have a red slip, including Patton Engraved and Poynor Engraved sherds.

Rims that favor Patton Engraved have elements such as a horizontal tool punctated row above a horizontal line and diagonal line with triangular tick marks, and horizontal lines with upward-pointed ticking. I also classify two rims with a horizontal tool punctated row above a crosshatched engraved divider element, and two rim sherds have interlocking scroll elements and dividers, as comparing favorably to Poynor Engraved.

**Table 6.103. Patton Engraved Decorations from the Deshazo Site**

<b>Patton Engraved</b>	<b>Body</b>	<b>Rim</b>
engraved with horizontal row of triangular tick marks		14
engraved with horizontal row of triangular tick marks with white pigment		2
horizontal engraved line below lip with downward pointing triangular tick marks		22
horizontal engraved line below lip with triangular tick marks		37
horizontal engraved line with downward pointing triangular tick marks with white pigment		1
horizontal engraved line with linear tick marks		7
horizontal engraved lines with linear tick marks facing each other		1
horizontal engraved lines with triangular tick marks	2	5
horizontal engraved lines with triangular tick marks facing each other		3
curvilinear engraved line with linear tick marks	6	
curvilinear engraved line with triangular tick marks and red slip	1	
curvilinear engraved lines one with triangular tick marks	4	
curvilinear engraved lines with triangular tick marks	88	
curvilinear engraved lines with triangular tick marks and excised triangle	1	
curvilinear engraved lines with triangular tick marks with white pigment	3	
engraved circle with triangular tick marks	5	

Table 6.103 (continued)

engraved concentric circles with triangular tick marks	1	
engraved concentric circles with triangular tick marks with white pigment	1	
horizontal engraved line with triangular tick marks	1	
opposed engraved lines with triangular tick marks	1	
parallel straight engraved lines one with triangular tick marks	12	
parallel straight engraved lines with triangular tick marks	19	
straight engraved line with triangular tick marks	2	
straight engraved lines with triangular tick marks with white pigment	4	

<b>cf. Patton Engraved</b>	<b>Body</b>	<b>Rim</b>
horizontal and curvilinear engraved lines with triangular tick marks		1
horizontal engraved line with upward pointing triangular tick marks		1
horizontal engraved lines one with triangular tick marks		1
horizontal tool punctated row and engraved element with triangular tick marks		1
curvilinear engraved line with triangular tick marks	112	
curvilinear engraved line with triangular tick marks with white pigment	1	
curvilinear engraved lines with hatched triangles	1	
curvilinear engraved lines with triangular tick marks	1	
engraved element with triangular tick marks	1	
horizontal engraved lines with linear tick marks	2	
horizontal engraved lines with triangular tick marks with white pigment	1	
opposed engraved lines one with triangular tick marks	1	
opposed engraved lines with triangular tick marks	1	
parallel engraved lines one with triangular tick marks	3	
parallel engraved lines with linear tick marks	1	
parallel engraved lines with triangular tick marks	12	
rectilinear engraved element with triangular tick marks	1	
straight engraved line with linear tick marks	4	
straight engraved line with linear tick marks with white pigment	1	
straight engraved line with triangular tick marks	236	
straight engraved line with triangular tick marks and red slip	1	
straight engraved line with triangular tick marks with white pigment	6	
<b>Total</b>	537	96

Several other fine ware types are present at the Deshazo site (Table 6.104). This includes Hume Engraved rim and body sherds with decorations such as hatched triangles and vertical ladders. Most of the Poynor-Patton Engraved rim (n=8) and body (n=6) sherds, likely from Poynor Engraved, *var. Freeman* vessels, have horizontal lines (at least one line with ticking) and vertical dividers. Other Poynor Engraved vessels have arched, crosshatched, and hatched divider elements, as well as oval and negative oval elements. More than a dozen sherds with bands of crosshatched elements appear to be from King Engraved vessel(s).

**Table 6.104. Other Fine Ware Type Decorations from the Deshazo Site**

<b>Hume Engraved</b>	<b>Body</b>	<b>Rim</b>
horizontal engraved line with hatched triangle		1
vertical engraved ladder		1
engraved element with hatched triangle	1	
<b>King Engraved</b>		
	<b>Body</b>	
crosshatched engraved element	12	
crosshatched engraved element with white pigment	1	
<b>Poynor Engraved</b>		
	<b>Body</b>	<b>Rim</b>
hatched engraved divider element		1
lip notched and engraved divider element		2
crosshatched engraved divider element	1	
crosshatched engraved divider and negative oval element	5	
crosshatched engraved divider and negative oval element above diagonal brushed	1	
engraved arched divider element	21	
engraved arched divider element with red slip	1	
engraved divider element	1	
engraved oval element	1	
excised divider element	1	
hatched engraved divider element	6	
hatched engraved negative oval element	1	

Table 6.104 (continued)

<b>cf. Poynor Engraved</b>	<b>Body</b>	<b>Rim</b>
engraved interlocking scroll element and divider		2
horizontal tool punctated row above crosshatched engraved divider element		2
crosshatched engraved divider element	7	
crosshatched engraved oval element	1	
engraved oval element	1	
hatched engraved divider element	16	
hatched engraved negative oval element	1	

<b>Poynor-Patton Engraved</b>	<b>Body</b>	<b>Rim</b>
horizontal engraved line with triangular tick marks and vertical divider	4	6
horizontal engraved lines with triangular tick marks and vertical divider		2
engraved with row of triangular tick marks and vertical divider	2	
<b>Total</b>	85	17

A wide variety of fine ware rim (n=172) and body (n=1,133) sherds in the Deshazo collection are not assignable to type (Appendix 5). The majority of rims have curvilinear (n=1), diagonal (n=10), horizontal (n=58), horizontal and diagonal (n=20), or horizontal and vertical (n=3) lines. However, a large number have more complex and elaborate decorations. For example, rim sherds have interlocking scroll elements and dividers (n=9), including one with linear tick marks and a black slip.

Twenty-one rims sherds have a tool punctated row that runs horizontally above engraved decorations. In addition to the punctated row, decorations on these sherds consist of diagonal and horizontal lines, crosshatched zones, and other elements, including one with triangular tick marks. Other rim elements include a variety of dividers, hatched triangular elements, excised triangles, panels, rectilinear designs, and at least one oval.

Most of the fine ware body sherds have simple designs made of straight, curvilinear, parallel and opposed lines. However, there are also a large variety of elements and motifs. For instance, a large number of body sherds, and a smaller number of rim sherds, have crosshatched elements. Crosshatching is part of zones, dividers, scrolls, and panels. Several sherds have elements with hatched or crosshatched zones that are likely part of ovals. Other elements are rectangular or triangular. Identifiable decorative motifs without hatching or crosshatching include the chevron, circle and cross, divider, panel, and oval.

Several body sherds have excising in zones, triangles, or as the fill for a divider. Three sherds have parallel trailed engraved lines. On one of these sherds, the lines are closely spaced and curvilinear as well.

As noted, the collection has decorative elements not classified as Patton Engraved with linear, oval, and triangular ticking. Some fine ware sherds without ticking may also be from Patton Engraved vessels. For example, several body sherds have parallel curvilinear lines that are likely part of concentric circles or spiral motifs. The same is true of a body sherd with a curvilinear engraved element. All of these are likely from the body of either Patton Engraved or Poynor Engraved vessels.

#### **41NA60 - Henry M.**

The Henry M. site is a Historic Caddo farmstead on a natural rise in the floodplain on the west side of Bayou Loco. This Allen phase site is around four kilometers south of Deshazo, and less than 10 kilometers from the confluence of the Bayou Loco and the Angelina River. Janice Mayhew recorded the Henry M. site in 1973, on one of the many surveys in the area. The small surface collection from this survey included Patton Engraved sherds. Tom Middlebrook later

began work there in 1985, and led excavations at the Henry M. site intermittently through 1991. Materials from these excavations were made available for research, and recent reports cover them in detail (Middlebrook and Perttula 2008; Perttula et al. 2010).

Most of the extensive excavations, over 55 m<sup>2</sup> in a generally contiguous block, focused on an area that includes a structure with an associated and well-preserved midden. Excellent preservation at the Henry M. site is not typical of the region, and the excavations recovered large amounts of organic materials such as animal bone and plant remains (see Chapter 2). One of the most interesting organic remains is a large conch shell scoop or cup recovered from inside the fill of a center post in a structure (Perttula et al. 2010:49, Figure 25). The shell scoop is undecorated, unlike others known from earlier Caddo sites such as Spiro. A similar undecorated shell scoop occurs in a mortuary context at the 15<sup>th</sup> century Standridge site in southwestern Arkansas (Early 1988:141, Figure 67b).

Excavations recovered lithic materials from the Henry M. site; this includes chipped and ground stone artifacts. A high percentage of tools are present in the chipped stone material, and many of the raw materials are from non-local sources. This indicates that lithic material, although rare locally, played a vital part in the inventory of this Historic Caddo group. This, along with the shell scoop, also provides proof that the Caddo acquired materials from long distances through travel or interaction with others. Arrow points from the site include Fresno (n=4), Turney (n=4), Cuney (n=3), and Perdiz (n=1).

The only Historic European trade goods are a glass trade bead and two gunflint fragments. The blade gunflints are of local and non-local raw materials (Perttula et al. 2010:49, Figure 26). Recovered from inside the structure, the single clear bead is olive-shaped like others found in ca. A.D. 1680 to ca. 1740

archaeological contexts in east Texas and northwestern Louisiana (Perttula et al. 2010:50, Figure 27).

The majority of the cultural material recovered from the Henry M. site is ceramics, particularly vessel sherds. As part of this analysis, we examined three different collections of sherds from the Henry M. site (Table 6.105). Small collections are stored at TARL (n=14) and SFASU (n=24), and a much larger sample exists (n=2,680) from the extensive Middlebrook excavations. Non-vessel ceramics include a clay coil, small pieces of burned clay (n=169), and six pipes sherds. The latter represent at least five elbow pipes and have various decorations. A large number of sherdlets are excluded (n=1,041). A recent publication presents the detailed ceramic analysis at length (Perttula et al. 2010:8-31); therefore, I just briefly highlight the results below.

**Table 6.105. Ceramic Wares and Types from the Henry M. Site**

	Plain	Utility ware	Fine ware	Total
<b>Base</b>	30	2		32
<b>Body</b>	527	1,754	259	2,540
<b>Rim</b>	21	89	36	146
<hr/>				
<b>Base</b>	5.2%	0.1%		
<b>Body</b>	91.2%	95.1%	87.8%	
<b>Rim</b>	3.6%	4.8%	12.2%	
<b>Total</b>	578	1,845	295	2,718
<hr/>				
<b>Percentage</b>		<b>Ratios</b>		
Plain	21.3%	Plain/Decorated	0.27	
Utility ware	67.9%	Brushed/Plain	2.87	
Fine ware	10.9%	Brushed/Wet Paste	8.05	
Brushed*	77.6%			
Wet Paste*	9.6%			

Table 6.105 (continued)

<b>Ceramic Types Present</b>		
cf. Hood Engraved	1	0.5%
cf. Hume Engraved	3	1.6%
cf. Patton Engraved	18	9.7%
cf. Poynor Engraved	3	1.6%
Hume Engraved	12	6.5%
King Engraved	1	0.5%
LaRue Neck Banded	3	1.6%
Lindsey Grooved	51	27.6%
Patton Engraved	72	38.9%
Poynor Engraved	8	4.3%
Poynor Engraved, var. Cook or Hood	1	0.5%
Spradley Brushed-Incised	12	6.5%
Taylor Engraved	1	0.5%
<b>Total Typed Sherds</b>	<b>185</b>	

The large collection of vessel sherds is chiefly (67.9%) utility ware, but plain and fine ware sherds are present in substantial numbers as well. More than half of the nearly 150 rims are from utility ware vessels, and fewer are from fine ware (n=36) and plain (n=21) vessels. More than three-quarters of the decorated sherds at the Henry M. site have brushing. Unusually, in two cases the base of the vessel has brushing.

Almost half of the typed sherds are from Patton Engraved vessels (n=90); this includes small sherds with simple ticked designs that compare favorably to Patton Engraved. Additional fine ware types from the site include Poynor Engraved, Taylor Engraved, and Hume Engraved. A sherd from a carinated bowl, probably from a Holly Fine Engraved vessel, has fine diagonal lines next to a triangular excised area. I excluded this sherd from the analysis. The identified utility ware consists of a large number of Lindsey Grooved sherds (n=51) in addition to a dozen Spradley Brushed-Incised sherds.

A majority of the sherds in the collection (83.1%) from the Henry M. site have grog inclusions (Table 6.106). It occurs most often as the sole inclusion (46%), and one-quarter of the sherds have grog along with hematite as a minor inclusion. Grog also occurs in combination with bone and organics. Utility ware has the highest rate of grog, slightly more than fine ware followed by plain sherds.

**Table 6.106. Inclusions and Paste from the Henry M. Site**

Inclusions	Plain	Utility ware	Fine ware	Total	Percent
Bone	13	25	8	46	5.8%
Bone-grog	4	1	1	6	0.8%
Bone-grog-hematite	2	4	1	7	0.9%
Bone-hematite	6	20	8	34	4.3%
Bone-organics	1			1	0.1%
Grog	40	251	73	364	46.0%
Grog-bone	3	30	3	36	4.6%
Grog-bone-hematite	2	7	2	11	1.4%
Grog-hematite	22	157	33	212	26.8%
Grog-hematite-bone	2	1		3	0.4%
Grog-organics	3	7		10	1.3%
Hematite	1	14	9	24	3.0%
Hematite-bone		5	3	8	1.0%
Hematite-grog		5	3	8	1.0%
Hematite-organics			1	1	0.1%
None	7	5	5	17	2.1%
Shell		3		3	0.4%
<b>Total sample</b>	106	535	150	791	

	Total	Percent*
Total with bone	152	19.2%
Total with grog	657	83.1%
Total with hematite	308	38.9%
Total with shell	3	0.4%
Total with organics	12	1.5%
<b>Total occurrences</b>	150	779
		203

Table 6.106 (continued)

Total with bone	31.1%	17.4%	17.3%
Total with grog	73.6%	86.5%	77.3%
Total with hematite	33.0%	39.8%	40.0%
Total with shell		0.6%	
Total with organics	3.8%	1.3%	0.7%

Paste	Plain	Utility ware	Fine ware	Total
Sandy	34	152	56	242

Hematite appears in almost 40% of all sherds, though rarely alone. Bone is present in 19.2% of all sherds, nearly twice as often in the plain sherds than in the decorated sherds. Conversely, hematite and bone occur in nearly the exact same proportions in the utility and fine wares. Charred organic matter appears in small measure (1.5%). Around 30% of the entire sample has a sandy paste. Only seven of the sherds in this large group have no inclusions.

Three sherds among the utility ware have shell inclusions. All have incised lines, one sherd has a single straight line and the other two have curvilinear lines. The latter are both broad, but only one is trailed and they do not appear to be from the same vessel.

Carinated bowls were only recognizable from body sherds at the Henry M. site (Table 6.107). More than half of these have brushing on the body, and most have engraved decorations on the rim. Twelve of the 32 fine ware carinated bowls are from the established ceramic types Patton Engraved (n=5), Poynor Engraved (n=6), and Taylor Engraved (n=1). Other fine ware carinated bowls have complex elements with crosshatching or hatching, or an excised triangular element. Simple horizontal, opposed and parallel engraved lines are also present on carinated bowl sherds. The fine ware bottles have a straight line (n=1), curvilinear lines (n=1) or curvilinear elements (n=2).

Among the utility ware, there is a bottle, a jar, and five carinated bowls. The utility ware carinated bowls are decorated with horizontal brushing (n=4) and parallel incised lines (n=1), while the jar has diagonal incised lines and the bottle has opposed brushing.

**Table 6.107. Ceramic Forms from the Henry M. Site**

Vessel form	Plain	Utility ware	Fine ware	Total
Bottle	4	1	4	9
cf. Bottle	1			1
Carinated bowl	1	5	32	38
Globular bowl			1	1
Jar		1		1
Rim peaks			1	1
<b>Total</b>	6	7	38	51

Rim form-Lip form	Plain	Utility ware	Fine ware	Total
Direct-Flat	1	6	1	8
Direct-Rounded	6	13	9	28
Direct-Rounded and folded outward		1	6	7
Everted-Flat	1		1	2
Everted-Rounded	1	30	1	32
Everted-Rounded and folded outward		3		3
Inverted-Flat			1	1
Inverted-Rounded			5	5
-Flat	1	6	1	8
-Rounded	10	26	8	44
-Rounded and folded outward		2		2
<b>Total</b>	20	87	33	140

Almost two-thirds of the rims are from utility ware vessels, and most of these have everted rims. Conversely, most of the fine ware vessels have direct rims. Inverted rims occur only on fine ware sherds, four of which are from Patton Engraved vessels. The overwhelming majority of all rim types have

rounded lips. Flat lips, especially on direct rims, occur most frequently on utility ware vessels.

The majority of utility ware sherds have brushing as the sole decoration, including 38 of the rims (Table 6.108). Brushing also occurs on 11 rim sherds with other decorative classes. These include brushing with tool punctated rows (n=6), an appliquéd node (n=1) and fillet (n=1), and a tool punctated row above an incised element made of a horizontal and diagonal lines (n=1).

**Table 6.108. Utility Ware Decorative Classes from the Henry M. Site**

<b>Brushed</b>	<b>Body</b>	<b>Rim</b>	<b>Base</b>	<b>Total</b>
Brushed	1,504	38	2	1,544
Brushed-Incised	62			62
Brushed-Punctated	11	6		17
Brushed-Incised-Punctated	1	1		2
Appliquéd-Brushed	1	1		2
Appliquéd-Brushed-Punctated	4	1		5
Appliquéd-Brushed-Incised-Punctated	1			1
Grooved-Brushed	4	2		6
<b>Wet Paste, non-brushed</b>				
Incised	97	15		112
Punctated	25	12		37
Incised-Punctated	4	3		7
Appliquéd-Punctated	2			2
Grooved	36	7		43
Grooved-Appliquéd-Punctated	1			1
Grooved-Punctated		1		1
Neck banded	1	2		3
<b>Total</b>	<b>1,754</b>	<b>89</b>	<b>2</b>	<b>1,845</b>

Many of the utility ware sherds have complex decorative elements. These elements have various combinations of brushing, incising, and punctations such

as parallel brushing within an incised panel, tool punctated rows that run horizontally on rim and diagonally alongside incised lines, a horizontal tool punctated row above horizontal brushing and an incised triangular element, and multiple diagonal lines in opposing directions.

Utility ware types present at the Henry M. site are Lindsey Grooved, LaRue Neck Banded, and Spradley Brushed-Incised (Table 6.109). Totals from the utility ware decorative classes (Table 6.108) include these typed sherds.

A large number of Lindsey Grooved rim sherds are present in the collection, which suggests numerous vessels of this type. The various decorative classes that occur together with Lindsey Grooved (i.e. appliquéd fillets, brushing, and tool punctations) supports this assertion. There is only one body and two rims sherds from LaRue Neck Banded vessels. Parallel incised lines overlap parallel, opposed, and overlapping brushing on the Spradley Brushed-Incised body sherds.

**Table 6.109. Utility Ware Type Decorations from the Henry M. Site**

<b>Lindsey Grooved</b>	<b>Body</b>	<b>Rim</b>
grooved	2	1
horizontal brushed within horizontal grooved		2
horizontal grooved	1	6
tool punctated row through horizontal grooved		1
parallel brushed and parallel grooved	3	
parallel brushed within parallel grooved	1	
parallel grooved	33	
parallel grooved and straight appliqued fillet	1	
<b>LaRue Neck Banded</b>	<b>Body</b>	<b>Rim</b>
neck banded	1	2

Table 6.109 (continued)

<b>Spradley Brushed-Incised</b>	<b>Body</b>	
opposed brushed with overlapping parallel incised lines	1	
overlapping brushed with overlapping parallel incised lines	1	
parallel brushed with overlapping parallel incised lines	10	
<b>Total</b>	54	12

Rims sherds from the Henry M. collection suggest there are at least 13 Patton Engraved vessels (Table 6.110). Decorative elements on the Patton Engraved rims include curvilinear and diagonal engraved lines below a horizontal line with triangular tick marks, triangular tick marks directly under the lip but not attached to a line, and a horizontal line with triangular ticking above an oval element and a hatched triangle among others. The latter sherd has an inverted rim with peaks on it.

Patton Engraved body sherds have curvilinear, horizontal, and opposed engraved lines with triangular tick marks. Several sherds with multiple curvilinear lines and triangular tick marks are likely part of the concentric circle motif associated with Patton Engraved, *var. Freeman* or *Patton*. Two other sherds have an element associated with Patton Engraved, *var. Freeman* (parallel lines with triangular tick marks facing each other). All but ten of the Patton Engraved sherds have triangular tick marks. Four sherds have lines with linear tick marks and six sherds have lines with oval tick marks.

**Table 6.110. Patton Engraved Decorations from the Henry M. Site**

<b>Patton Engraved and cf. Patton Engraved</b>	<b>Body</b>	<b>Rim</b>
engraved element with triangular tick marks	1	2
engraved with triangular tick marks	7	1
hatched engraved element with triangular tick marks		1
horizontal and diagonal engraved lines one with triangular tick marks	1	3
horizontal engraved line below lip with triangular tick marks		1

Table 6.110 (continued)

horizontal engraved line with downward pointing triangular tick marks		2
horizontal engraved line with triangular tick marks		2
horizontal engraved line with triangular tick marks with white pigment		1
curvilinear engraved line with large oval tick marks	1	
curvilinear engraved line with triangular tick marks	8	
curvilinear engraved lines one with triangular tick marks	2	
curvilinear engraved lines with triangular tick marks	2	
engraved element with linear tick marks	1	
engraved line and triangular tick marks	1	
engraved line with triangular tick marks	5	
engraved line with triangular tick marks with white pigment	1	
engraved with row of large oval tick marks	1	
engraved with row of large triangular tick marks	1	
engraved with row of linear tick marks	2	
engraved with row of linear tick marks with white pigment	1	
engraved with row of triangular tick marks	7	
engraved with triangular tick mark	1	
horizontal and curvilinear engraved lines with triangular tick marks	1	
horizontal engraved line with triangular tick marks above horizontal brushed	1	
horizontal engraved lines with triangular tick marks	1	
opposed engraved lines one with small oval tick marks	1	
opposed engraved lines one with triangular tick marks	2	
parallel engraved lines one with triangular tick marks	2	
parallel straight engraved lines with triangular tick marks facing each other	2	
straight engraved line with oval tick marks	3	
straight engraved line with triangular tick mark	2	
straight engraved line with triangular tick marks	14	
straight engraved lines 4+ one with triangular tick marks	1	
straight engraved lines one with triangular tick marks	2	
straight engraved lines with triangular tick marks	2	
<b>Total</b>	77	13

The Poynor Engraved rim is from a carinated bowl and has an hourglass-shaped panel divider that is either *variety Cook* or *Hood* (Table 6.111). Poynor Engraved body sherds are primarily scrolls and hatched triangular elements. Hatched pendant triangles as well as hatched and crosshatched ladder motifs

occur on rim and body sherds from Hume Engraved vessels. One sherd with the ladder element has white pigment and a brown slip. Only one body sherd favors King Engraved (Perttula et al. 2010, Figure 15b), Hood Engraved, and Taylor Engraved.

**Table 6.111. Other Fine Ware Types Decorations from the Henry M. Site**

<b>Poynor Engraved and cf. Poynor Engraved</b>	<b>Body</b>	<b>Rim</b>
engraved divider element		1
engraved panel element	1	
engraved scroll element	2	
engraved scroll element and horizontal brushed	3	
hatched engraved triangular element	2	
hatched engraved triangular element above horizontal brushed	2	
<b>Hume Engraved and cf. Hume Engraved</b>		
horizontal engraved line with hatched pendant triangles		3
horizontal engraved line with pendant triangles		1
straight engraved line with hatched triangles		1
crosshatched engraved ladder element	1	
engraved ladder	3	
engraved with row of hatched triangles	1	
hatched engraved triangle	3	
hatched engraved triangles	2	
lip notched and horizontal engraved line with hatched triangles	1	
<b>cf. Hood Engraved</b>		
broad parallel engraved lines	1	
<b>King Engraved</b>		
crosshatched engraved element	1	
<b>Taylor Engraved</b>		
engraved hooked arm scroll element	1	
<b>Total</b>	<b>24</b>	<b>6</b>

The fine ware not assigned to type includes 158 body and 17 rim sherds (Appendix 5). Along with simple, curvilinear, parallel and opposed lines, the list of decorations includes a wide range of elements. Rim designs frequently have a horizontal line below the lip, sometimes with vertical and diagonal lines attached to it. Rim elements include crosshatching in a panel and a triangular element with hatched corners.

Numerous engraved body sherds have crosshatched and hatched decorative elements. These occur in zones, panels and triangles. They use rectilinear and opposed lines to create elements as well. Two sherds have triangular zones filled by excising, and one of these has brushing. Other brushed fine ware elements include horizontal and curvilinear lines above diagonal brushing on the body, and a diagonal and opposed element above horizontal brushing. One body sherd has an engraved element with horizontal lines below terminating curvilinear lines.

Only two sherds not assigned to Patton Engraved have triangular tick marks. One sherd has several curvilinear lines, a line with triangular tick marks, and a crosshatched engraved ladder element as well (Perttula et al. 2010, Figure 14b). The other sherd has a crosshatched engraved zone with triangular ticking in addition to parallel brushing.

#### **41NA111 - Dick Shipp**

Jim Corbin recorded the Dick Shipp in 1992. The assemblage from the site is the result of a non-controlled surface sample. The collection of 361 sherds (Table 6.112) and a much smaller number of lithics is currently at SFASU.

The ceramic collection is primarily utility ware and plain sherds. The utility ware types La Rue Neck Banded and Lindsey Grooved appear at the site,

and 86% of the decorated sherds have brushing. However, Corbin collected only 15 fine ware sherds; none of these is a diagnostic type. There are no reports or evidence of European trade goods from the site.

**Table 6.112. Ceramic Wares and Types from the Shipp Site**

	Plain	Utility ware	Fine ware	Total
<b>Base</b>	18			18
<b>Body</b>	124	196	12	332
<b>Rim</b>	2	6	3	11

<b>Base</b>	12.5%			
<b>Body</b>	86.1%	97.0%	80.0%	
<b>Rim</b>	1.4%	3.0%	20.0%	
<b>Total</b>	144	202	15	361

<b>Percentage</b>		<b>Ratios</b>	
Plain	39.9%	Plain/Decorated	0.66
Utility ware	56.0%	Brushed/Plain	1.30
Fine ware	4.2%	Brushed/Wet Paste	12.47
Brushed*	86.2%		
Wet Paste*	6.9%		

<b>Ceramic Types Present</b>		
LaRue Neck Banded	1	50.0%
Lindsey Grooved	1	50.0%
<b>Total Typed Sherds</b>	2	

Three-quarter of the sherds have grog inclusions, and the proportions are even across the different wares (Table 6.113). Less than half of the sherds have grog alone, which means that it frequently occurs in addition to other inclusions. Bone is present in 40.4% of the sample, but this is highest in plain sherds and decreases in utility and fine wares. Conversely, the amount of hematite is highest

in fine ware and decreases in utility ware and plain sherds. A few sherds have organic materials used as inclusions.

**Table 6.113. Inclusions and Paste from the Shipp Site**

<b>Inclusions</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Bone	2	7	1	10	10.1%
Bone-grog	3	2		5	5.1%
Bone-hematite	3	4	1	8	8.1%
Bone-hematite-organics		1		1	1.0%
Bone-organics	1	2		3	3.0%
Grog	14	28	6	48	48.5%
Grog-bone	5	7		12	12.1%
Grog-hematite	2	6	2	10	10.1%
Grog-hematite-bone	1			1	1.0%
Grog-hematite-organics		1		1	1.0%
<b>Total sample</b>	<b>31</b>	<b>58</b>	<b>10</b>	<b>99</b>	

	<b>Total</b>			<b>Percent*</b>	
Total with bone	15	23	2	40	40.4%
Total with grog	25	44	8	77	77.8%
Total with hematite	6	12	3	21	21.2%
Total with organics	1	4		5	5.1%
<b>Total occurrences</b>	<b>47</b>	<b>83</b>	<b>13</b>		

Total with bone	48.4%	39.7%	20.0%
Total with grog	80.6%	75.9%	80.0%
Total with hematite	19.4%	20.7%	30.0%
Total with organics	3.2%	6.9%	

<b>Paste</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>
Sandy	1	5	1	7

The sherds are likely from bowls, carinated bowls, and jars, but I identified no specific vessel forms. Rim forms from all wares are mostly direct

with rounded lips, and two utility ware rim sherds have everted rims with rounded lips (Table 6.114).

**Table 6.114. Ceramic Forms from the Shipp Site**

Rim form-Lip form	Plain	Utility ware	Fine ware	Total
Direct-Rounded	1	3	1	5
Everted-Rounded		2		2
-Rounded	1			1
<b>Total</b>	2	5	1	8

Brushing as the sole decoration dominates the collection, including two rim sherds with horizontal brushing and one rim with vertical brushing (Table 6.115). The punctations appear on sherds in rows or as part of appliquéd fillets. It is unclear if the sherd with pinched rows is from a Killough Pinched vessel.

**Table 6.115. Utility Ware Decorative Classes from the Shipp Site**

Brushed	Body	Rim	Total
Brushed	170	3	173
Brushed-Incised	4		4
Brushed-Punctated	4	1	5
Appliquéd-Brushed	1		1
Appliquéd-Brushed-Punctated	3		3
Grooved-Brushed	1		1

**Wet Paste, non-brushed**

Incised	3		3
Punctated	6	1	7
Appliquéd	1		1
Appliquéd-Punctated	1		1
Appliquéd-Incised-Punctated	1		1
Pinched	1		1

Neck banded-Appliquéd		1	1
<b>Total</b>	196	6	202

Both the neck banding and the grooving occur with other decorative classes. The La Rue Neck Banded rim sherd also has an appliquéd node and the Lindsey Grooved body sherd has a straight groove with parallel brushing in it.

Two untyped engraved rim sherds have horizontal and diagonal engraved lines (Table 6.116). More interesting, the third rim sherd has a horizontal tool punctated row above a crosshatched engraved element. This mixture of elements only occurs at sites in the Bayou Loco including 41NA22, 41NA23, 41NA27, and 41NA44. This distinct decorative element may be an important part of distinguishing between different Hasinai groups.

**Table 6.116. Fine Ware Decorations from the Shipp Site**

<b>Not typed</b>	<b>Body</b>	<b>Rim</b>
horizontal and diagonal engraved lines		1
horizontal engraved line below lip		1
horizontal tool punctated row above crosshatched engraved element		1
broad straight engraved line	1	
crosshatched engraved element	1	
crosshatched engraved zone	1	
curvilinear engraved lines 3+	1	
hatched engraved element	1	
parallel engraved lines	2	
straight engraved line	4	
widely spaced parallel engraved lines	1	
<b>Total</b>	12	3

Two engraved body sherds have crosshatched elements but it is unclear if either relates to King Engraved. One has perpendicular lines that are part of a crosshatched zone. The hatched element is probably part of a divider and the remaining sherds have simple lines.

#### **41NA183 - Loco Fork**

Tom Middlebrook, and his son Thomas, located the Loco Fork site (41NA183) in January 1986. Archaeological work at the site took place intermittently for more than 10 years and includes extensive surface collections, two 1 x 1 units and at least nine shovel tests. The small village sits on a low terrace west of the middle fork of the Bayou Loco, more than 10 kilometers northwest of other sites in this area. The ceramic assemblage is clearly different from other sites in the Bayou Loco, but the reasons are unclear. Middlebrook suggests the site might be Middle Caddo, but the ceramics compare nicely to the Spradley site in many respects (see below). One Goose Creek Plain sherd documents an earlier occupation, but it would precede any Middle or Historic Caddo groups.

The percentage of plain sherds is much higher than other sites in the Bayou Loco, and the site has the lowest rate of brushing as well (Table 6.117). These measures, along with the percentage of wet paste decorations without brushing, are close to those at the Spradley site. Ceramic ratios for the Loco Fork site also favor the Spradley collection (see Table 6.122). One major difference between the sites is the presence of European trade goods. While they are present at the Spradley site in substantial amounts, thus far, efforts have recovered no European goods from the Loco Fork site.

**Table 6.117. Ceramic Wares and Types from the Loco Fork Site**

	Plain	Utility ware	Fine ware	Total
<b>Base</b>	7			7
<b>Body</b>	244	208	18	470
<b>Rim</b>	12	8	4	24

<b>Base</b>	2.7%			
<b>Body</b>	92.8%	96.3%	81.8%	
<b>Rim</b>	4.6%	3.7%	18.2%	
<b>Total</b>	263	216	22	501

Percentage		Ratios	
Plain	52.5%	Plain/Decorated	1.11
Utility ware	43.1%	Brushed/Plain	0.56
Fine ware	4.4%	Brushed/Wet Paste	2.06
Brushed*	61.3%		
Wet Paste*	29.8%		

Ceramic Types Present		
cf. Patton Engraved	1	50.0%
Patton Engraved	1	50.0%
<b>Total Typed Sherds</b>	2	

Grog is the primary inclusion used in sherds from the Loco Fork site, more than 85% of all sherds (Table 6.118). Nearly half of the sherds only have grog inclusions, but it frequently appears in combination with other inclusions. Bone is less likely to appear alone and more often occurs with other inclusions. It is present in close to 35% of all sherds, but only 11.1% of fine ware sherds. Likewise, the amount of hematite is greater in utility ware and plain sherds. The rate of bone is comparable from the Loco Fork and Spradley sites, but grog occurs much more frequently at Loco Fork.

**Table 6.118. Inclusions and Paste from the Loco Fork Site**

<b>Temper</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Bone	5	3	1	9	9.2%
Bone-grog		1		1	1.0%
Bone-hematite	1	2		3	3.1%
Bone-organics		1		1	1.0%
Grog	18	23	7	48	49.0%
Grog-bone	6	10		16	16.3%
Grog-hematite	4	8	1	13	13.3%
Grog-hematite-bone	3	1		4	4.1%
Grog-organics	1	1		2	2.0%
Shell		1		1	1.0%
<b>Total sample</b>	<b>38</b>	<b>51</b>	<b>9</b>	<b>98</b>	

				<b>Total</b>	<b>Percent*</b>
Total with bone	15	18	1	34	34.7%
Total with grog	32	44	8	84	85.7%
Total with hematite	8	11	1	20	20.4%
Total with organics	1	2		3	1.0%
Total with shell		1		1	3.1%
<b>Total occurrences</b>	<b>56</b>	<b>76</b>	<b>10</b>		

Total with bone	39.5%	35.3%	11.1%
Total with grog	84.2%	86.3%	88.9%
Total with hematite	21.1%	21.6%	11.1%
Total with organics	2.6%	3.9%	
Total with shell		2.0%	

<b>Paste</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>
Sandy	8	12	3	23

Carinated bowls and bottles are the only identifiable vessels forms from the Loco Fork site. All of the carinated bowls are body sherds with engraved decorations (Table 6.119). Only one of these has a simple horizontal line, the

others have complex decorative elements. These elements include hatched designs above horizontal brushing, a circle with tool punctations, horizontal and vertical elements, and a diagonal and triangular element. One bottle sherd is plain and the other has a hatched engraved circle element.

**Table 6.119. Ceramic Forms from the Loco Fork Site**

Vessel form	Plain	Fine ware	Total
Bottle	1	1	2
Carinated bowl		5	5
<b>Total</b>	1	6	7

Rim form-Lip form	Plain	Utility ware	Fine ware	Total
Direct-Interior beveled		1		1
Direct-Rounded	2	3		5
Direct-Rounded and folded outward	1			1
Everted-Rounded		2		2
Inverted-Rounded			1	1
-Rounded		1		1
<b>Total</b>	3	7	1	11

The majority of utility ware sherds have brushing, but unlike most sites, Loco Fork has no brushed rims (Table 6.120). This is not surprising taking into account the comparatively low number of brushed sherds. Utility ware rims sherds have incised (n=3) and punctated (n=5) decorations. The former have a diagonal incised line (n=2) or horizontal incised lines (n=1) on everted and direct rim forms, respectively. The latter are tool punctations in rows below the vessel lip; two of these sherds have small circular punctations. Three of the punctated sherds have direct rims and a fourth has an everted rim. All but one of the lips on these incised and punctated rims is rounded. The exception, a rim sherd with tool punctated rows, is a lip with a beveled interior.

**Table 6.120. Utility Ware Decorative Classes from the Loco Fork Site**

<b>Brushed</b>	<b>Body</b>	<b>Rim</b>	<b>Total</b>
Brushed	138		138
Brushed-Incised	4		4
Brushed-Punctated	3		3
<b>Wet Paste, non-brushed</b>			
Incised	23	3	26
Punctated	28	5	33
Incised-Punctated	8		8
Appliquéd	1		1
Appliquéd-Punctated	2		2
Appliquéd-Incised-Punctated	1		1
<b>Total</b>	<b>208</b>	<b>8</b>	<b>216</b>

Only two of the 22 fine ware sherds from the Loco Fork site are from Patton Engraved vessels (Table 6.121). Both of these are body sherds, one with linear and the other with triangular tick marks.

**Table 6.121. Fine Ware Decorations from the Loco Fork Site**

<b>Patton Engraved and cf. Patton Engraved</b>	<b>Body</b>	
engraved with row of triangular tick marks	1	
engraved with rows of linear tick marks	1	
<b>Not typed</b>		
	<b>Body</b>	<b>Rim</b>
horizontal engraved line		4
circular engraved element	1	
closely spaced curvilinear engraved lines	1	
crosshatched engraved triangular element	1	
curvilinear and opposed engraved lines	1	
engraved circle with tool punctated	1	
engraved triangular element	1	
hatched engraved circular element	1	
hatched engraved element	1	

Table 6.121 (continued)

hatched engraved element above horizontal brushed	1	
horizontal and curvilinear engraved lines	1	
horizontal and opposed engraved lines	1	
horizontal and vertical engraved element	1	
horizontal engraved line	1	
opposed engraved lines	1	
parallel engraved lines	1	
straight engraved line	1	
<b>Total</b>	18	4

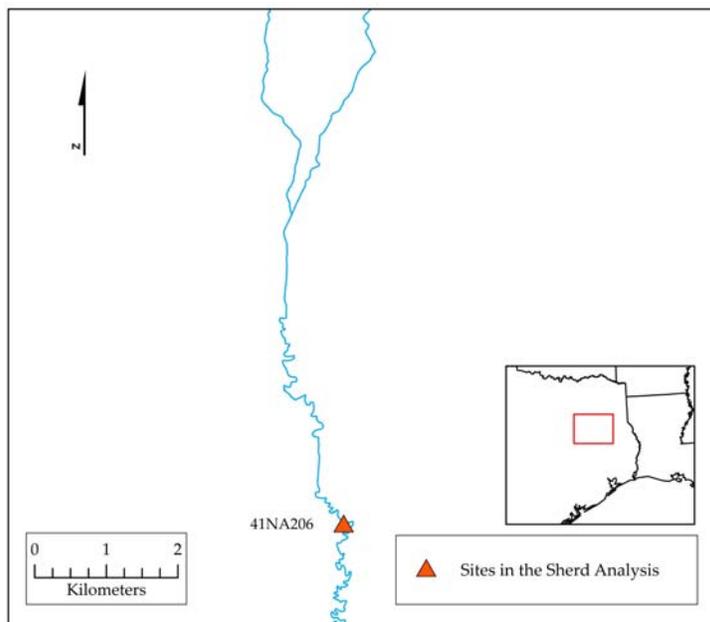
Most of the fine ware collection cannot be assigned to type. The fine ware rims (n=4) and one body sherd have a single horizontal line. Other simple designs include curvilinear, horizontal, opposed, and parallel lines. Besides those mentioned above, the various elements present in the collection are circular, crosshatched and triangular, as well as hatched. The latter motif is likely part of a curvilinear ladder.

#### **THE BAYOU LA NANA**

Bayou La Nana is a perennial stream in central Nacogdoches County, east of the Bayou Loco. The stream begins around 10 kilometers north of the city of Nacogdoches, flows south through the center of town, and then continues southwest for another 15 kilometers to its mouth on the Angelina River. The smaller Banita Creek runs roughly parallel and just west of Bayou La Nana, before joining it south of downtown Nacogdoches. Caddo groups occupied the area between these two sources of water for several hundred years before European contact. Unfortunately, archaeologists have only recently begun to identify sites potentially associated with the Nacogdoche Caddo.

Nacogdoches, publicized as the oldest town in Texas, has always been associated with the Hasinai Caddo group of the same name. It was near present-day Nacogdoches that the Spanish established Mission Nuestra Señora Guadalupe de los Nacogdoches in 1716 (Chapter 3). Shortly after the Spanish permanently abandoned the mission, a group led by Antonio Gil Ybarbo returned to the deserted buildings at the former settlement to form the modern town of Nacogdoches.

Archaeological sites and the archival records document considerable interaction between Caddo groups living around Nacogdoches and the Spanish missionaries and settlers. This is not surprising considering that Nacogdoches was an important local center of European commerce and trade (Ewers 1969; Marceaux and Perttula 2010). I identify seven Historic Caddo sites on Bayou La Nana and Banita Creek relevant to this study, but only one has a substantial assemblage of ceramic sherds (Figure 6.14).



**Figure 6.14. Sites along the Bayou La Nana**

## **41NA206 - Spradley**

The Spradley site (41NA206), around five kilometers south of modern Nacogdoches, is one of the few systematically excavated Historic Caddo settlements on Bayou La Nana. This makes the site, most likely associated with the Nacogdoche tribe, an important contribution to the study of Hasinai Caddo groups in the area.

Tom Middlebrook first recorded and conducted work at the Spradley site in 1998. Jim Corbin later directed the SFASU Field School there in 2001, and Victor Galan took over the fieldwork during the 2003 and 2005 seasons. Archaeologists and students have made several presentations at professional meetings (Bibby 2006; Galan 2006; Galan et al. 2004), but thus far there are no published reports of the archaeological investigations. Therefore, I have little information regarding the extent of early fieldwork. During the last SFASU Field School, investigations included the excavation of six 3 x 3 m units, and the water screening of six 1 x 1 m units through 1/16<sup>th</sup> inch window screen (Avery 2008).

Materials collected from the extensive excavations include Caddo ceramics, lithic tools and debris, and small amounts of faunal and floral remains. Excavations also recovered a substantial amount of European trade goods, including European-made ceramics, gun parts, spent lead bullets, forged nails, knife blade fragments, horse trappings, a Spanish spur, and 65 seed beads of various colors found during the water screening (Avery 2008).

As part of this study, we recorded the stylistic attributes of ceramic vessel sherds from the entire collection (Table 6.122). We also examined more than 20% of the large assemblage of sherds in detail. This includes information on inclusions, paste characteristics, vessel and rim form, oxidation conditions, and surface treatment.

Unlike many sites, plain body sherds outnumber the decorated body sherds. In fact, plain sherds make up 52% of the collection, much higher than nearly all of the previously mentioned sites. Brushing occurs on 56.6% of the decorated sherds at the Spradley site, a rate lower than most other sites. If the latter measure came from a site in the Neches River valley, or further west in the Angelina River valley, it would likely indicate a prehistoric occupation. However, the presence and number of European trade goods establish a Historic Caddo occupation. The use of brushing appears to be determined by stylistic preferences as well as chronological associations.

**Table 6.122. Ceramic Wares and Types from the Spradley Site**

	Plain	Utility ware	Fine ware	Total
<b>Base</b>	67	2		69
<b>Body</b>	4,399	3,046	803	8,248
<b>Rim</b>	184	181	124	489

<b>Base</b>	1.4%	0.1%		
<b>Body</b>	94.6%	94.3%	86.7%	
<b>Rim</b>	4.0%	5.6%	13.3%	
<b>Total</b>	4,650	3,229	927	8,806

<b>Percentage</b>	
Plain	52.8%
Utility ware	36.7%
Fine ware	10.5%
Brushed*	56.6%
Wet Paste*	21.2%

<b>Ratios</b>	
Plain/Decorated	1.12
Brushed/Plain	0.51
Brushed/Wet Paste	2.68

<b>Ceramic Types Present</b>		
cf. Hume Engraved	3	1.5%
cf. Killough Pinched	1	0.5%
cf. King Engraved	4	1.9%
cf. Patton Engraved	22	10.7%
cf. Poynor Engraved	4	1.9%

Table 6.122 (continued)

cf. Spradley Brushed-Incised	12	5.8%
Hume Engraved	1	0.5%
Keno Trailed	1	0.5%
Killough Pinched	2	1.0%
King Engraved	3	1.5%
LaRue Neck Banded	5	2.4%
Lindsey Grooved	8	3.9%
Patton Engraved	104	50.5%
Poynor-Patton Engraved	4	1.9%
Spradley Brushed-Incised	32	15.5%
<b>Total Typed Sherds</b>	<b>206</b>	

There are a wide variety of fine ware and utility ware types in the Spradley collection. Most of the fine ware sherds are from Patton Engraved vessels, but small amounts of Hume Engraved, Keno Trailed, King Engraved, and the hybrid Poynor-Patton are present as well. The newly established type Spradley Brushed-Incised makes up 15.5% of all utility ware types. Killough Pinched and Lindsey Grooved sherds are also in the collection.

Grog is the most common inclusion in the collection from the Spradley site (63.2%), followed in popularity by bone (39.5%), hematite (8.0%), shell (0.8%), and organics (0.4%). Grog occurs most often as the sole inclusion; this is particularly the case for utility ware (Table 6.123). Conversely, bone is often present with grog and favored in plain or fine ware sherds. Shell inclusions are rarely present at other sites in the study, but occur in seventeen sherds in the collection. Most of these sherds have shell as the sole inclusion, but shell is present with grog and hematite as well. Around 5% of the sherds have a sandy paste, and just over 5% of the sample contains no inclusions.

**Table 6.123. Inclusions and Paste from the Spradley Site**

<b>Inclusions</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Bone	215	290	109	614	27.4%
Bone-grog	75	76	13	164	7.3%
Bone-grog-hematite	4	2		6	0.3%
Bone-hematite	15	25	10	50	2.2%
Bone-organics		1	1	2	0.1%
Grog	306	663	128	1097	49.0%
Grog-bone	10	21	11	42	1.9%
Grog-bone-hematite		1		1	< 0.1%
Grog-bone-organics	1			1	< 0.1%
Grog-hematite	25	50	14	89	4.0%
Grog-hematite-bone			2	2	0.1%
Grog-hematite-organics	1			1	< 0.1%
Grog-organics	2		3	5	0.2%
Hematite	7	10	4	21	0.9%
Hematite-bone		1	1	2	0.1%
Hematite-bone-grog		1		1	< 0.1%
Hematite-grog	1	2		3	0.1%
Hematite-organics			1	1	< 0.1%
None	60	44	16	120	5.4%
Shell	7	5	1	13	0.6%
Shell-grog		1	1	2	0.1%
Shell-hematite	1	1		2	0.1%
<b>Total sample</b>	<b>730</b>	<b>1,194</b>	<b>315</b>	<b>2,239</b>	
				<b>Total</b>	<b>Percent*</b>
Total with bone	320	418	147	885	39.5%
Total with grog	425	817	172	1,414	63.2%
Total with hematite	54	93	32	179	8.0%
Total with shell	8	7	2	17	0.8%
Total with organics	4	1	5	10	0.4%
<b>Total occurrences</b>	<b>811</b>	<b>1,336</b>	<b>358</b>		

Table 6.123 (continued)

Total with bone	43.8%	35.0%	46.7%
Total with grog	58.2%	68.4%	54.6%
Total with hematite	7.4%	7.8%	10.2%
Total with shell	1.1%	0.6%	0.6%
Total with organics	0.5%	0.1%	1.6%

Paste	Plain	Utility ware	Fine ware	Total
Sandy	66	26	18	110

Fine ware carinated bowls and bottles are the dominant vessel forms identified at the Spradley site (Table 6.124). Patton Engraved decorations appear on eight carinated bowl sherds and one globular carinated bowl sherd. The Patton Engraved elements are primarily horizontal lines with triangular tick marks. Two of these have multiple lines and tick marks facing each other (i.e. Patton Engraved, *var. Fair* or *Freeman*). One Patton Engraved carinated bowl sherd has multiple curvilinear lines; one of the lines has triangular tick marks. Another Patton Engraved element appears to have an arched divider above the carination. This is another example of the combination of Patton Engraved and Poynor Engraved elements.

King Engraved decorations appear on a carinated bowl sherd and a globular carinated bowl sherd. Both of these sherds have large crosshatched zones; one has brushing on the body. There are also crosshatched elements on carinated bowl sherds not classified as King Engraved. For example, one body sherd has a crosshatched zone that is likely part of an oval motif. Hatched and curvilinear elements and scroll motifs occur on carinated bowl sherds as well.

Five plain sherds and three utility ware sherds are from carinated bowls. The utility ware has brushing in a couple of directions (diagonal and horizontal)

on the body, and not enough of the rim panels are intact to determine if engraved decorations were present.

The bottle sherds recognized at the Spradley site are from fine ware vessels. The only recognizable type among these is a Poynor Engraved body sherd with a crosshatched element (possibly an oval). Other fine ware bottles have various decorations with crosshatching and hatching (n=2), as well as curvilinear engraved lines (n=6), parallel and opposed elements (n=9), and elements with hatched triangles (n=2). Engraved motifs are more difficult to identify, they include a scroll, and what are likely concentric circles, a hatched triangle, and an oval. A utility ware sherd with tool punctations may be from a bottle. A simple bowl sherd has no decoration.

A rim and body sherd fit together, and this vessel likely has rim peaks, or perhaps a scalloped lip. These sherds have curvilinear incised lines above a zone with oval-shaped tool punctations. A third smaller body sherd from the same lot has curvilinear and straight lines forming multiple zones and may be from the same vessel. However, one zone has fingernail-shaped punctations, and in another zone, there are teardrop-shaped punctations. Still, another zone has no punctations.

**Table 6.124. Ceramic Forms from the Spradley Site**

Vessel form	Plain	Utility ware	Fine ware	Total
Bottle			23	23
cf. Bottle		1		1
Bowl	1			1
Carinated bowl	5	3	29	37
Globular carinated bowl			2	2
cf. Rim peaks		1		1
<b>Total</b>	6	5	54	65

Table 6.124 (continued)

Rim form-Lip form	Plain	Utility ware	Fine ware	Total
Direct-Flat	2	6	4	12
Direct-Folded outward	18	10	9	37
Direct-Rounded	47	38	30	115
Direct-Rounded and exterior thinned			2	2
Direct-Rounded and folded outward			1	1
Direct-Rounded and thinned	1			1
Direct-Thinned		1		1
Everted-Flat		1		1
Everted-Folded outward	5	5	2	12
Everted-Rounded	14	15	7	36
-Flat	2	3		5
-Folded outward	6	14	6	26
-Rounded	17	13	12	42
-Rounded and folded outward	1	1		2
-Rounded and thinned	1			1
<b>Total</b>	114	107	73	294

Direct or freestanding rims (n=169) make up the vast majority of identified rim forms. The lips on these rims are primarily rounded, but they are flat, folded outward, or thinned as well. Only 49 everted rims are present in the collection; most are from utility ware and plain vessels with rounded lips. However, as a percentage everted rims are only slightly more likely to occur on utility ware vessels than on fine ware vessels.

As noted, 56% of all decorated sherds have brushing (Table 6.125). The rate of brushing increases among the utility ware to 73%, but this is still lower than most sites discussed up to this point. Brushing does occur as the only decoration on 46% of the utility ware rims. Four rim sherds have tool punctated rows in addition to brushing.

One rim sherd from a LaRue Neck Banded vessel has brushing, and another has tool punctated rows. The remaining sherds have only neck banding. Except for one rim sherd with brushing, Lindsey Grooved sherds have only horizontal or parallel grooved decorations.

Around 4% of the utility ware sherds have brushed decorations with additional incised lines. Close to one-third of these have the distinctive combination of decorations recognized as Spradley Brushed-Incised (n=44). The decorative element consists of parallel brushing with overlapping straight incised lines opposed or perpendicular to the brushing.

**Table 6.125. Utility Ware Decorative Classes from the Spradley Site**

<b>Brushed</b>	<b>Body</b>	<b>Rim</b>	<b>Base</b>	<b>Total</b>
Brushed	2,101	83	2	2,186
Brushed-Incised	117	1		118
Brushed-Punctated	19	4		23
Appliquéd-Brushed	3			3
Appliquéd-Brushed-Punctated	18			18
Grooved-Brushed		1		1
Neck banded-Brushed		1		1

<b>Wet Paste, non-brushed</b>				
Incised	477	33		510
Punctated	226	33		259
Incised-Punctated	50	10		60
Appliquéd	7	2		9
Appliquéd-Punctated	9	1		10
Lip notched		4		4
Pinched	12	4		16

Grooved	6	1		7
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Neck banded	1	2		3
Neck banded-Punctated		1		1

<b>Total</b>	3,046	181	2	3,229
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Most of the rims with incising have simple horizontal or diagonal lines. A smaller number of rims have vertical and opposed incised lines. The only decorative element on an incised rim sherd is a curvilinear line with multiple diagonal radiating lines. Several of the diagonal lines terminate near the lip.

Decorations on incised-punctated utility ware rims are primarily horizontal and/or diagonal lines and tool punctated rows. In most cases, punctated rows occur at the lip and incised decorations appear below. However, in at least one case, a horizontal incised line is above the tool punctations. Incised lines frequently form zones, which the punctations fill.

Other non-brushed utility ware rim decorations include punctations (n=33), appliquéd (n=2), lip notching (n=4), and pinching (n=4). Tool and fingernail punctations occur on rims randomly or in rows. One appliquéd rim sherd has a horizontal ridge and the other has a single node. Lip notching, a form of incising, is present as the sole decoration on rim sherds and not together with other decorative classes. Pinching runs horizontally below the rim on all four rim sherds. Although not classified as a specific type, these are probably from Killough Pinched vessels.

A variety of decorative classes appears on the large number of utility ware body sherds. Appliquéd fillets are present on all but one of the sherds with appliquéd-brushed-punctated and appliquéd-punctated decorations. The exception is a body sherd with an appliquéd ridge adjacent to tool punctated rows. The Spradley site also has the only example besides Deshazo of an appliquéd strip of clay (without punctations). The appliquéd strip occurs as the sole decoration on 50 sherds at the Deshazo site, but the strip occurs alongside a crosshatched engraved scroll element on a single body sherd at the Spradley site.

The largest number of punctated elements, made using a number of different tools, occurs alone or in rows. Fingernail punctations occur on 59 different sherds, primarily alone but next to incised decorations as well. Cane and reed punctations are also present on a small number of sherds. Around two dozen body sherds have distinct circular punctations, several of these occur in rows that form a decorative design. It is possible that a couple of the sherds with small circular punctations are from the same vessel.

Punctated elements are also present alongside appliquéd, brushed, and incised decorations. Body sherds have elements consisting of tool punctated zones (or rows) adjacent to incised lines and elements. Many of the incised-punctated body sherds, like the rims, consist of punctations that fill incised zones. The incised zones may be complex, for instance, numerous curvilinear, parallel, and opposed lines may form a design element. The element may contain multiple zones, some filled with punctations and others without. In rare cases, different types of tool punctations occur in the separate zones. The Spradley site may be the only site in the study to have this unique type of decoration.

The majority of incised body sherds have simple curvilinear, straight, or parallel lines. They also have crosshatched, opposed, and perpendicular incised lines. Body sherds with parallel and opposed incised lines are parts of larger unidentified elements and motifs. Some of these appear similar to engraved decorative elements. For example, at least two incised sherds have chevron motifs and curvilinear lines on additional sherds may be part of spirals or concentric circle motifs. Another sherd has an incised line with linear tick marks (i.e. Patton Engraved).

Only three sites in the study, 41NA206, 41NA21, and 41SA116, have sherds with terminating parallel lines suspended from another line. This distinct

decoration appears on three sherds from the Spradley site, two engraved and one incised. Interestingly, one sherd has a straight line with a triangle on one side of the line and short terminating parallel lines on the other.

Patton Engraved, along with sherds that favor Patton Engraved, is the dominant fine ware type from the Spradley site (Table 6.126). Triangles are the dominant form of ticking on the Patton Engraved rim (n=25) and body (n=94) sherds. Linear ticking occurs on nine Patton Engraved sherds and another Patton Engraved rim sherd has large excised triangles. The majority of Patton Engraved body sherds have curvilinear or straight lines with triangular tick marks.

Numerous Patton Engraved sherds have identifiable elements and motifs. For example, eight sherds have the decorative element indicative of Patton Engraved, *var. Fair* or *Freeman* vessels (triangular ticking on lines and facing each other). One Patton Engraved rim sherd has a slanted scroll motif with triangular ticking and another has an element that includes diagonal lines suspended from a horizontal line. One of these diagonal lines has triangular tick marks.

Several sherds have distinctive and unusual decorative elements that compare favorably to Patton Engraved. For example, one rim has at least four horizontal lines, but only the second line from the top has upward pointing triangular tick marks. The others lines have no tick marks. This is very different from most Patton Engraved elements. Normally, if there are multiple lines and one or more has ticking, it will occur on an exterior line. Another sherd has triangular tick marks that are more like small triangles. Only ten sherds with ticking are not recognizable as Patton Engraved or Poynor-Patton Engraved.

**Table 6.126. Patton Engraved Decorations from the Spradley Site**

<b>Patton Engraved and cf. Patton Engraved</b>	<b>Body</b>	<b>Rim</b>
diagonal engraved line with downward pointing triangular tick marks		1
engraved element with linear tick marks		1
engraved element with triangular tick marks	5	2
engraved slanted scroll with triangular tick marks		1
horizontal engraved line with downward pointing triangular tick marks		9
horizontal engraved line with linear tick marks		1
horizontal engraved line with triangular tick mark		1
horizontal engraved lines one with triangular tick marks		1
horizontal engraved lines with downward pointing triangular tick marks		2
horizontal engraved lines with large excised triangles		1
horizontal engraved lines with triangular tick marks facing each other		7
opposed engraved lines one with triangular tick marks	1	1
crosshatched engraved element and parallel engraved lines with triangular tick marks	1	
curvilinear engraved element with triangular tick marks	3	
curvilinear engraved line with triangular tick mark(s)	19	
curvilinear engraved lines and straight engraved line with triangular tick marks	1	
curvilinear engraved lines one with linear tick marks	1	
curvilinear engraved lines one with triangular tick marks	2	
curvilinear engraved lines with triangular tick marks	6	
engraved line with triangular tick mark(s)	8	
engraved lines with triangular tick marks	1	
engraved with linear tick marks	2	
engraved with triangular tick mark(s)	9	
horizontal engraved line with triangular tick marks and diagonal engraved lines	1	
horizontal engraved line with upward pointing triangular tick marks	1	
opposed engraved lines with triangular tick marks	1	
parallel engraved lines one with triangular tick mark(s)	5	
parallel engraved lines with triangular tick marks	2	
parallel straight engraved lines with triangular tick marks facing each other	1	
straight engraved line with large triangular tick mark	1	
straight engraved line with linear tick marks	1	
straight engraved line with triangular tick mark	3	
straight engraved line with triangular tick marks	19	

Table 6.126 (continued)

straight engraved line with triangular tick marks and parallel brushed	1	
straight engraved line with triangular tick marks with white pigment	1	
straight engraved lines with triangular tick marks	2	
<b>Total</b>	98	28

Additional fine ware types from the Spradley site include Hume Engraved, Keno Trailed, King Engraved, Poynor Engraved, and Poynor-Patton Engraved (Table 6.127). The four Hume Engraved sherds have a hatched ladder and hatched triangles for decorative elements. Only one Keno Trailed sherd is present. Seven King Engraved rim and body sherds have large crosshatched zones.

Table 6.127. Fine Ware Type Decorations from the Spradley Site

<b>Hume Engraved and cf. Hume Engraved</b>	<b>Body</b>	
engraved ladder	1	
engraved with row of hatched triangles	1	
hatched engraved triangle	2	
<b>Keno Trailed</b>	<b>Body</b>	
broad curvilinear trailed engraved lines	1	
<b>King Engraved and cf. King Engraved</b>	<b>Body</b>	<b>Rim</b>
crosshatched engraved zone		3
crosshatched engraved zone	3	
crosshatched engraved zone above horizontal brushed	1	
<b>Poynor-Patton Engraved</b>	<b>Body</b>	<b>Rim</b>
engraved element with triangular tick marks	1	1
horizontal engraved line with triangular tick marks and vertical divider		1
horizontal engraved lines with triangular tick marks facing each other and vertical divider		1

Table 6.127 (continued)

<b>cf. Poynor Engraved</b>	<b>Body</b>	
crosshatched engraved element	1	
engraved divider element	1	
engraved element	1	
engraved element with hatched triangles	1	
<b>Total</b>	14	6

Two of the Poynor-Patton Engraved rim sherds have horizontal lines with triangular tick marks facing each other. One sherd has engraved curvilinear lines that form part of a hatched divider element between the horizontal lines. The other sherd has a vertical divider between the horizontal lines. The third rim sherd has a single horizontal line below the lip with triangular tick marks and a vertical divider. This sherd is missing the rest of the rim, but it likely had the same element as the previous sherd. The Poynor-Patton body sherd has an asymmetrical panel formed by two lines with triangular tick marks pointing towards each other. In between the two lines is a negative oval motif.

Three Poynor Engraved body sherds, besides the abovementioned bottle sherd, compare favorably to Poynor Engraved. Their engraved elements are an arched divider and hatched triangles around a negative oval. The final Poynor Engraved sherd has an engraved divider element with horizontal and vertical lines, perhaps from a Poynor Engraved, *var. Blackburn* vessel.

The Spradley site has a large number of rim (n=90) and body (n=691) sherds not assigned to a type (Appendix 5). Around half of the rim sherds have at least one horizontal engraved line. In addition to horizontal lines, a large number of sherds also have diagonal and vertical lines. Another rim sherd has an unusual decoration that consists of multiple diagonal lines extending from the lip down to a horizontal line. This is different from most sherds in the study with

horizontal and diagonal lines. On most sherds, the horizontal line is below the lip and the diagonal engraved lines radiate below it.

Only a small number of sherds have identifiable motifs such as concentric circles, panels and scrolls. However, a larger group of sherds has designs and elements that indicate motifs are common. For example, sherds with curvilinear engraved lines are probably part of a concentric circle motif. Several other sherds with perpendicular engraved lines likely form panel elements. A body sherd likely has a chevron motif. Other engraved rim sherds have elements with multiple diagonal and opposed lines that form triangles.

Although several rim sherds have crosshatched engraved zones, it is impossible to tell if they are from King Engraved vessels because the sherds are too small. More than 40 body sherds have crosshatched lines, elements, or zones. Some of these sherds have crosshatching that is part of divider and oval motifs; others are part of triangular elements. The assemblage also has sherds with narrow crosshatched zones and curvilinear lines that outline crosshatched elements. Another body sherd has two crosshatched divider elements between multiple parallel engraved lines.

Only nine sherds have tick marks, but are not classified as Patton Engraved. Most of these sherds are too small to determine a type. The other sherds have elements not normally associated with Patton Engraved vessels. For instance, one sherd has opposed lines (only one with triangular ticking) and an excised zone. The excised zone may be part of a scroll element with negative ovals. This sherd also has a straight engraved line on the interior of the vessel, a rare occurrence. Another sherd has a hatched element with triangular ticking that may be part of an oval or scroll motif.

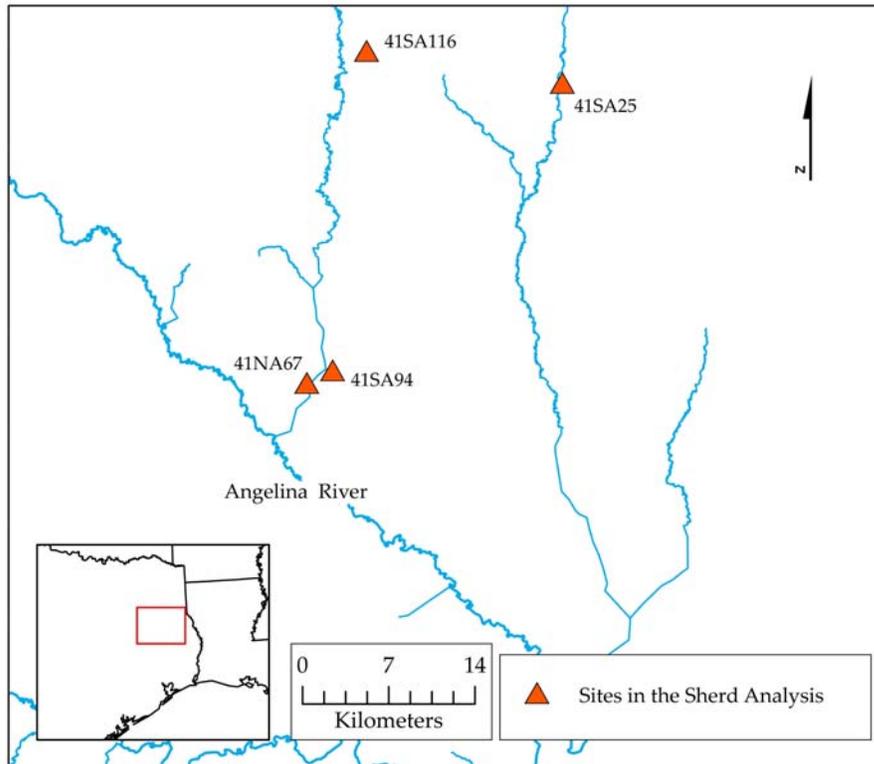
More than 400 engraved body sherds have curvilinear, opposed, parallel, or straight lines as the sole decorations. Fifty sherds have parallel and opposed lines that are parts of larger elements and motifs. Many of these are perhaps part of hatched zones or panel elements; others might be parts of the chevron motif. Some hatched elements are undoubtedly vertical and horizontal ladders. Body sherds have other engraved elements that include perpendicular lines, hatched triangles, and crosshatched ovals. In some cases, curvilinear elements in zones form arches.

#### **THE ATTOYAC RIVER AND AYISH BAYOU**

The Attoyac River forms the boundary between Nacogdoches, Shelby, and San Augustine Counties for much of its course. It forms in southeastern Rusk County and flows more than 90 kilometers (60 miles) southeast into the Angelina River. The Ayish Bayou runs roughly parallel, just to the east of the Attoyac River, and flows into the Angelina River as well. Many of the investigations in this area took place during the construction of the McGee Bend Reservoir and Dam (Jelks 1965), now renamed Lake Sam Rayburn. At present, both the Attoyac River and Ayish Bayou empty into the lake.

The historic archives contain little information about groups living on the Attoyac River. Conversely, a long record exists for groups living on the Ayish Bayou. This waterway takes its name from the Native Ais (or Ays) groups occupying the area at the time of contact. The Spanish established Mission Dolores de los Ais (1717), the eastern-most site in this study, for these groups. The Ais are not members of the Hasinai Caddo alliance, and instead belong more appropriately with the Red River Caddo (Bolton 1987; Griffith 1954).

I identify eight sites on the Attoyac River and Ayish Bayou relevant to this study. Half of these, including Mission Dolores, have substantial ceramic sherd collections (Figure 6.15).



**Figure 6.15 Sites along the Attoyac River and Ayish Bayou**

#### **41NA67**

Thomas Mayhew first recorded the site 41NA67 in 1973 (Notes on file at TARL). The site is on the southern reaches of the Attoyac River, around 5 kilometers from the mouth of the Angelina River. Currently, the site is on the west side of Lake Sam Rayburn, and Mayhew's reports indicate that frequent fluctuations of the lake are destroying the site. A surface collection from the early

1970s is the only assemblage from the site. It includes materials from a Historic Caddo, as well as earlier, occupations.

The pre-Caddo materials include several projectile points that date to the Archaic period and ceramic sherds from the Woodland period. The latter consist of Goose Creek Plain base (n=1), rim (n=6), and body (n=111) sherds, along with several sherds that have distinctive small circular punctated rows. Most of the collection belongs to the Caddo occupation. This includes a large assemblage of ceramic vessel sherds and Historic trade goods (oval blue glass bead and a brass tinkler cone). Non-vessel ceramics from the site include a spindle whorl (9.7 mm in diameter) with tool punctated rows near the bored hole and three pipe sherds.

Plain sherds make up the largest number of Caddo rim (n=18) and body (n=328) sherds in the collection (Table 6.128). This number of rims suggests a large number of plain vessels at the site. The assemblage has 16 utility ware rims, but the rate of brushing among decorated sherds is low (17.1%). I identify sherds from the two ceramic types Patton Engraved and Keno Trailed, plus sherds that compare favorably to King Engraved and Poynor Engraved. No identifiable utility ware types are in the collection.

**Table 6.128. Ceramic Wares and Types from 41NA67**

	Plain	Utility ware	Fine ware	Total
<b>Base</b>	18			18
<b>Body</b>	292	143	43	478
<b>Rim</b>	18	16	8	42
<b>Base</b>	5.5%			
<b>Body</b>	89.0%	89.9%	84.3%	
<b>Rim</b>	5.5%	10.1%	15.7%	
<b>Total</b>	328	159	51	538

Table 6.128 (continued)

Percentage		Ratios	
Plain	61.0%	Plain/Decorated	1.56
Utility ware	29.6%	Brushed/Plain	0.11
Fine ware	9.5%	Brushed/Wet Paste	0.29
Brushed*	17.1%		
Wet Paste*	58.6%		

**Ceramic Types Present**

cf. King Engraved	2	22.2%
cf. Patton Engraved	1	11.1%
cf. Poynor Engraved	1	11.1%
Keno Trailed	1	11.1%
Patton Engraved	4	44.4%
<b>Total Typed Sherds</b>	<b>9</b>	

More than 90% of the sherds from 41NA67 have grog inclusions, including the entire sample of fine ware (Table 6.129). The average is less among the utility ware. While grog appears in a large majority of sherds, it frequently occurs with additional inclusions such as bone and hematite.

Bone is present in nearly a quarter of all sherds, a rate that is consistent across the different wares. Hematite, the only other inclusion in the collection, occurs in 13.1% of sherds. It is also consistent across the different wares. A small number of sherds have no inclusions and 30% of the sample has sandy paste.

**Table 6.129. Inclusions and Paste from 41NA67**

Inclusions	Plain	Utility ware	Fine ware	Total	Percent
Bone	4	3		7	5.4%
Bone-grog	4	4		8	6.2%
Bone-grog-hematite	1			1	0.8%
Bone-hematite	1			1	0.8%
Grog	37	31	13	81	62.3%
Grog-bone	6	4	4	14	10.8%

Table 6.129 (continued)

Grog-hematite	7	6	2	15	11.5%
None	3			3	2.3%
<b>Total sample</b>	63	48	19	130	

				<b>Total</b>	<b>Percent*</b>
Total with bone	16	11	4	31	23.8%
Total with grog	55	45	19	119	91.5%
Total with hematite	9	6	2	17	13.1%
<b>Total occurrences</b>	80	62	25		

Total with bone	25.4%	22.9%	21.1%
Total with grog	87.3%	93.8%	100.0%
Total with hematite	14.3%	12.5%	10.5%

<b>Paste</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>
Sandy	19	14	6	39

At least seven carinated bowl and seven bottle sherds are in the collection from 41NA67 (Table 6.130). All of the bottle sherds are from fine ware vessels. One engraved bottle sherd has simple curvilinear lines, but the others have complex decorative elements. These include a circular element with hatched lines, crosshatched elements (n=2), curvilinear and opposed elements (n=2), and an element with opposed lines and a triangular excised zone.

Most of the carinated bowl sherds are from fine ware vessels, but two utility ware sherds are from carinated bowls as well. Decorations from the latter group include a horizontal incised line (n=1) and a straight line with a tool punctated zone (n=1). Fine ware decorations on carinated bowls include closely and widely spaced vertical lines (n=1), horizontal and diagonal lines (n=1), and curvilinear lines (n=1). Two fine ware bottle sherds have hatched elements. One

hatched element is probably a vertical ladder, and the other is a panel element with hatching in the corners.

**Table 6.130. Ceramic Forms from 41NA67**

Vessel form	Utility ware	Fine ware	Total
Bottle		7	7
Carinated bowl	2	5	7
Rim peaks	1		1
<b>Total</b>	3	12	15

Rim form-Lip form	Plain	Utility ware	Fine ware	Total
Direct-Flat		1		1
Direct-Rounded	5	5	4	14
Direct-Rounded and folded outward		1	4	5
Everted-Rounded	5	7		12
-Rounded	8	2		10
<b>Total</b>	18	16	8	42

One utility ware sherd has rim peaks. The decorative element on this sherd consists of curvilinear incised zones in at least two different shapes filled with small circular punctations.

Direct rims make up a slight majority of the different forms at 41NA67. Most of these rims have rounded lips, some of which fold outward. Only one utility ware sherd has a direct rim and flat lip. Everted rims with rounded lips are numerous, and they only occur on plain and utility ware vessels.

Like most of the remaining sites in this chapter, decorated sherds from 41NA67 have a distinct lack of brushing. Only one rim sherd has brushing, along with a row of punctations (Table 6.131). Several rim sherds have punctations as the sole decoration; most of these have multiple horizontal rows of tool punctations. Two rim sherds have rows of small circular punctations. Incised

rims decorations include diagonal, horizontal, and vertical lines. At least one rim sherd has an incised chevron motif. An opposed incised element on a body sherd may also be a chevron motif.

**Table 6.131. Utility Ware Decorative Classes from 41NA67**

<b>Brushed</b>	<b>Body</b>	<b>Rim</b>	<b>Total</b>
Brushed	34		34
Brushed-Punctated	1	1	2
<b>Wet Paste, non-brushed</b>			
Incised	47	5	52
Punctated	42	8	50
Incised-Punctated	19	2	21
<b>Total</b>	143	16	159

As with the rim sherds, most of the punctated body sherds have tool punctated rows. Five body sherds have fingernail punctations. Incised decorations on body sherds are primarily straight and parallel lines.

Besides those noted, several other body sherds have incising and punctations that form broader elements. For example, a sherd has a row of small circular punctations in one of the zones formed by two perpendicular lines. Another body sherd has two crosshatched incised lines with punctations in two of the opposing zones. Finally, one sherd has a horizontal interlocking scroll with tool punctations at particular intersections in the motif.

The smaller assemblage of fine ware has several identifiable types (Table 6.132). The two Patton Engraved rims have horizontal lines with triangular ticking. It is clear the sherds are from separate vessels. It is unclear if these are from Patton engraved, *var. Allen* vessels.

One body sherd has an unusual Patton Engraved element similar to a sherd from the Spradley site. The element is a group of parallel lines that has only one interior line with ticking. As noted above, the ticking normally occurs on an exterior line.

A single sherd with curvilinear trailed engraved lines is from a Keno Trailed vessel. Another sherd with an oval motif is probably from a Poynor Engraved vessel. Of the five body sherds with crosshatching, at least two are likely from King Engraved vessels.

**Table 6.132. Fine Ware Decorations from 41NA67**

<b>Patton Engraved</b>	<b>Body</b>	<b>Rim</b>
horizontal engraved lines with triangular tick marks		1
widely spaced horizontal engraved lines with triangular tick marks		1
curvilinear engraved lines with triangular tick marks	1	
straight engraved line with triangular tick marks	1	
parallel engraved lines one with triangular tick marks	1	
<hr/>		
<b>Keno Trailed</b>	<b>Body</b>	<b>Rim</b>
curvilinear trailed engraved lines	1	
<hr/>		
<b>cf. King Engraved</b>	<b>Body</b>	
parallel engraved lines and crosshatched engraved zone	2	
<hr/>		
<b>cf. Poynor Engraved</b>	<b>Body</b>	<b>Rim</b>
engraved oval element		1
<hr/>		
<b>Not typed</b>	<b>Body</b>	<b>Rim</b>
diagonal and opposed engraved lines		1
engraved element with linear and triangular tick marks		1
hatched engraved element		1
horizontal and curvilinear engraved lines		1
horizontal engraved lines		1
circular engraved element with hatched lines	1	
crosshatched engraved element	2	
crosshatched engraved lines	1	

Table 6.132 (continued)

curvilinear and opposed engraved element	2	
curvilinear and opposed engraved lines	3	
curvilinear engraved lines	5	
curvilinear engraved lines and small hatched triangle	1	
engraved scroll element	1	
hatched engraved element	3	
hatched engraved panel element	1	
hatched engraved triangular element	1	
horizontal and diagonal engraved lines	1	
horizontal and rectilinear engraved lines	1	
opposed engraved lines and excised zone	1	
parallel engraved lines	4	
rectilinear engraved element	1	
red slip	1	
straight engraved line	5	
straight engraved line with hatched triangle	1	
vertical engraved lines	1	
<b>Total</b>	43	8

The group of sherds unassigned to type has one sherd with an element suggestive of Patton Engraved. This rim sherd has element with a vertical line below the lip with linear tick marks. In addition, there are horizontal lines with triangular tick marks and the line nearest the lip terminates. The sherd is broken, so it is unclear if the other line terminates as well.

One rim and seven body sherds have hatched elements. The hatching occurs in a panel motif and in elements that form triangles and other geometric shapes. Other decorative elements have curvilinear, opposed, and rectilinear lines. I suspect several of these, including the opposed engraved lines and excised zone, are small parts of triangular elements.

## 41SA94 - Wylie Price

The Wylie Price site (41SA94) is located on the edge of the Attoyac River floodplain about three miles west of Broadus, Texas in San Augustine County. The site occupies one of several sandy ridges along a small stream at the edge of the bottomland. Timbered areas surrounded the site at the time of its first recording by R. L. Stephenson of the National Park Service in 1948. A second National Park Service team headed by Edward Jelks investigated the site during the McGee Bend Reservoir survey in 1957. At the time, Jelks (1965) determined the site had components representing Archaic, Early Caddo, and Historic Caddo occupations.

Concerning the latter occupation, Jelks encountered two burials and five pits during excavations of several trenches and test units. Burial 1 had an adult female with simple blue glass beads encircling the neck, accompanied by three untyped pottery vessels (Appendix 1; Table 6.133). The second burial (Burial 2) contained two pottery vessels, a large fragment of a third vessel, two bird bone flutes, a pitted stone, and lithic knives.

The two vessels found in Burial 1 are both jars with vertical incised lines from the rim to the base (i.e. Karnack Brushed-Incised). The only difference is that the shorter, squatter jar has trailed lines. Burial 2 contained a jar as well as a bowl and a carinated bowl. The jar has an incised-punctated element on the rim usually associated with the Red River and the Belcher phase. It is also the only vessel in the collection with shell inclusions. As noted, shell inclusions are rare at sites in the study. The bowl has a short rim with grog inclusions and an engraved hooked arm and horizontal scroll motif repeating around the vessel. The carinated bowl has diagonal brushing on the rim and overlapping brushing on the body, as well as bone inclusions.

**Table 6.133. Vessels from the Wylie Price Site**

41SA94-107-1	jar	UnID incised-punctated design
41SA94-171-1	bowl with short rim	UnID engraved design
41SA94-171-2	carinated bowl	UnID brushed design
41SA94-172a-1	jar	UnID incised design
41SA94-1726-2	jar	UnID trailed incised design

The Wylie Price site is one of a few sites that yielded whole vessels along with a substantial collection of vessel sherds. The whole vessels are definitely a result of Jelks excavations, but the vessel sherd collection is likely a combination of the Stephenson and Jelks investigations. Both of the ceramic collections, along with just over a dozen blue glass trade beads and fragments, and lithic material are stored at TARL.

The numbers of plain and utility ware sherds are comparable, but there are far fewer fine wares (Table 6.134). The only recognizable types are fine ware Hume Engraved, King Engraved, Patton Engraved, and Poynor Engraved. Fine ware also has the highest rate of rims. While this might indicate engraved designs occur primarily on the rims, leaving vessel bodies plain or brushed, this is not the case for the engraved vessel in the collection. In my opinion, the body sherds, along with some of the rim sherds, are on average larger than most collections examined in this study. This makes the identification of specific elements and motifs easier, but detailed descriptions more difficult. The only non-vessel sherd, likely a spindle whorl, is plain with a drilled hole.

**Table 6.134. Ceramic Wares and Types from the Wylie Price Site**

	Plain	Utility ware	Fine ware	Total
<b>Base</b>	51			51
<b>Body</b>	803	834	245	1,882
<b>Rim</b>	26	64	52	142

<b>Base</b>	5.8%	0.0%	0.0%	
<b>Body</b>	91.3%	92.9%	82.5%	
<b>Rim</b>	3.0%	7.1%	17.5%	
<b>Total</b>	880	898	297	2,075

Percentage		Ratios	
Plain	42.4%	Plain/Decorated	0.74
Utility ware	43.3%	Brushed/Plain	0.68
Fine ware	14.3%	Brushed/Wet Paste	2.00
Brushed*	50.1%	Middlebrook ratio	0.41
Wet Paste*	25.0%		

Ceramic Types Present		
cf. Hume Engraved	3	16.7%
cf. King Engraved	3	16.7%
cf. Patton Engraved	5	27.8%
cf. Poynor Engraved	3	16.7%
King Engraved	1	5.6%
Patton Engraved	3	16.7%
<b>Total Typed Sherds</b>	<b>18</b>	

Around 80% of the sherds from the Wylie Price site have grog inclusions (Table 6.135). Though this is a large number, many of these sherds have other inclusions in addition to grog. Only 48.2% of sherds have grog as the sole inclusion.

Sherds with bone inclusions make up 40.8% of the sample. Shell and organics also occur in minor amounts. Other than bone and shell, the rates of

inclusions are reasonably consistent across the different wares. The percentage of bone is just slightly lower in plain sherds, and shell only occurs in plain sherds. Only 14% of sherds have a sandy paste at the Wylie Price site, but these too occur in the various wares.

**Table 6.135. Inclusions and Paste from the Wylie Price Site**

<b>Inclusions</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Bone	5	28	5	38	14.0%
Bone-grog	3	11	2	16	5.9%
Bone-grog-hematite		1		1	0.4%
Bone-grog-organics		1		1	0.4%
Bone-hematite	2	6	3	11	4.0%
Grog	38	75	18	131	48.2%
Grog-bone	14	20	6	40	14.7%
Grog-bone-hematite		1		1	0.4%
Grog-hematite	8	10	4	22	8.1%
Grog-hematite-bone	3			3	1.1%
Grog-hematite-organics		1		1	0.4%
Grog-organics	1	2	1	4	1.5%
None	1			1	0.4%
Shell	2			2	0.7%
<b>Total sample</b>	<b>77</b>	<b>156</b>	<b>39</b>	<b>272</b>	

	<b>Total</b>	<b>Percent*</b>
Total with bone	27	40.8%
Total with grog	67	80.9%
Total with hematite	13	14.3%
Total with shell	2	0.7%
Total with organics	1	2.2%
<b>Total occurrences</b>	<b>110</b>	<b>213</b>

Table 6.135 (continued)

Total with bone	35.1%	43.6%	41.0%
Total with grog	87.0%	78.2%	79.5%
Total with hematite	16.9%	12.2%	17.9%
Total with shell	2.6%		
Total with organics	1.3%	2.6%	2.6%

Paste	Plain	Utility ware	Fine ware	Total
Sandy	15	15	9	39

The Wylie Price site has nearly an equal number of bottle and carinated bowl sherds, as well as a small number of globular carinated bowls (Table 6.136). The rim sherd with the Redwine mode lip (Walters 2010) has a horizontal line below the lip with an engraved hatched triangle. All identifiable vessel forms come from fine ware vessels.

Rim sherds from bottles have horizontal lines, but body sherds have a wide variety of decorative elements. A number of body sherds have simple crosshatched, curvilinear, parallel, or opposed lines. The remaining bottle sherds have elements composed of circular, curvilinear, parallel, and opposed lines. Eight of these have hatched elements, three of which are triangular. Another sherd, likely from a Hume Engraved vessel, has a horizontal line with hatched triangles. There is one bottle sherd with opposed lines and an excise zone, and another has crosshatched and hatched zones.

All of the carinated bowl sherds are from the bodies of vessels. Five of these are likely from Patton Engraved vessels. For example, beginning at the carination and up the rim panel, one body sherd has at least three horizontal lines with triangular tick marks. It is unclear if the lines run all the way up to the lip (i.e. Patton Engraved, *var. Allen*). Another carinated bowl body sherd has at

least two horizontal lines, but only the line nearest the carination has ticking. Two carinated bowl body sherds have a horizontal line at the carination and three lines running diagonally up the vessel rim. In both cases, only the middle line has triangular tick marks. This might be similar to a Patton Engraved scroll motif that occurs at several sites in the study.

The remaining carinated bowl sherds have various decorations such as crosshatched, curvilinear, diagonal, horizontal, parallel, and opposed lines. Hatching is present as part of triangular elements (n=2), negative oval (n=1) and scroll (n=2) motifs. A triangular element and scroll motif each appear on a globular carinated bowl sherd.

**Table 6.136. Ceramic Forms from the Wylie Price Site**

<b>Vessel form</b>	<b>Fine ware</b>	<b>Total</b>
Bottle	26	26
Carinated bowl	27	27
Globular carinated bowl	2	2
Redwine mode lip	1	1
<b>Total</b>	56	56

<b>Rim form-Lip form</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>
Direct-Flat	2	11	8	21
Direct-Flat and folded outward		1	4	5
Direct-Rounded	18	9	16	43
Direct-Rounded and folded outward	6	4	9	19
Everted-Rounded	2	5		7
Everted-Rounded and folded outward		1		1
Inverted-Rounded	2			2
Inverted-Rounded and folded outward			1	1
-Rounded		4		4
-Rounded and folded outward			2	2
<b>Total</b>	30	35	40	105

Most of the plain and fine ware sherds have direct rims and rounded lips. In some cases, the lips fold outward. Direct rims with flat lips are the dominant forms for utility ware. Everted rims only occur on plain and utility ware sherds. Inverted rims, on the other hand, are present on plain and fine ware sherds.

Around half of the decorated sherds have brushing in the decoration, including 61% of the utility ware (Table 6.137). Roughly one-third of the utility ware rims have brushing as the sole decoration, including diagonal brushing (n=1) and horizontal brushing (n=21). An additional nine rims have brushing along with incising (n=1) and punctations (n=8). Decorations on the former sherd have vertical incised lines that overlap horizontal brushing. The latter sherds decorations are primarily tool punctated rows above or through brushing.

One-quarter of the decorated sherds have non-brushed wet paste decorations; this includes more than half of the utility ware rims. Most of the rims with incising have diagonal lines, but crosshatched and horizontal lines are also present. One rim sherd has diagonal and opposed lines that form an element. Punctated rims usually have rows of tool punctations below the vessel lip. Several sherds have an incised line above rows or zones of tool punctations. Like other incised-punctated rim elements, the incised lines form zones filled with tool punctations.

Appliquéd decorations are uncommon and only occur on body sherds. All of the appliquéd-brushed-punctated body sherds have fillets along with parallel brushing. The two non-brushed appliquéd body sherds have nodes. Pinching is present on three body sherds. I suspect these are from Killough Pinched vessels, but their classification remains uncertain.

**Table 6.137. Utility Ware Decorative Classes from the Wylie Price Site**

<b>Brushed</b>	<b>Body</b>	<b>Rim</b>	<b>Total</b>
Brushed	528	21	549
Brushed-Incised	11	1	12
Brushed-Punctated	23	8	31
Appliquéd-Brushed-Punctated	7		7
<b>Wet Paste, non-brushed</b>			
Incised	138	12	150
Punctated	71	12	83
Incised-Punctated	51	9	60
Appliquéd	2		2
Lip notched-Punctated		1	1
Pinched	3		3
<b>Total</b>	<b>834</b>	<b>64</b>	<b>898</b>

Patton Engraved body (n=6) and rim (n=2) sherds are the dominant type from the Wylie Price site (Table 6.138). The rim sherds have horizontal lines with triangular tick marks, and one rim has linear tick marks as well. As noted above, five Patton Engraved body sherds are from carinated bowls. Only one Patton Engraved body sherd is not recognizable as a carinated bowl. The decoration on this sherd is an element with two parallel lines, one with triangular tick marks and the other with a hatched zone.

In addition to Patton Engraved, there are sherds that favor the types Hume Engraved, King Engraved, and Poynor Engraved. The two rims sherds likely from Hume Engraved vessels have horizontal lines below the lips with hatched triangles. The body sherd is from a bottle and has the same decoration. Three body sherds and one rim sherd with crosshatched zones are likely from King Engraved vessels. The sherds that compare favorably to Poynor Engraved

include a rim decorated with a crosshatched oval element, and body sherds with a hooked arm and an oval decorative element.

**Table 6.138. Fine Ware Type Decorations from the Wylie Price Site**

<b>Patton Engraved and cf. Patton Engraved</b>	<b>Body</b>	<b>Rim</b>
horizontal engraved line below lip with downward pointing triangular tick marks		1
horizontal engraved line with linear and triangular tick marks		1
horizontal engraved lines with triangular tick marks	1	
engraved element with triangular tick marks	1	
horizontal and diagonal engraved lines one with triangular tick marks	2	
horizontal engraved lines one with triangular tick marks	1	
parallel engraved lines with triangular tick mark	1	
<b>cf. Hume Engraved</b>		
	<b>Body</b>	<b>Rim</b>
horizontal engraved line below lip with hatched triangle(s)		2
horizontal engraved line with hatched triangle	1	
<b>cf. King Engraved</b>		
	<b>Body</b>	<b>Rim</b>
cross-hatched engraved zone	3	1
<b>cf. Poynor Engraved</b>		
	<b>Body</b>	<b>Rim</b>
cross-hatched engraved oval element		1
engraved hooked arm element	1	
engraved oval element	1	
<b>Total</b>	<b>12</b>	<b>6</b>

The Wylie Price site has a large and diverse assemblage of engraved rim (n=46) and body (n=233) sherds (Appendix 5). In terms of decorations, twenty rims have no more than a horizontal line or lines. As noted, one rim with a Redwine mode lip has a horizontal line with a hatched triangle. Other rims have horizontal lines in addition to curvilinear (n=10), diagonal (n=2), and vertical

(n=2) lines. Excising occurs in the curvilinear lines on four of these rim sherds. At least two of these probably form the negative oval motif.

Besides another rim sherd decorated with closely spaced diagonal lines, the remaining engraved rim sherds have complex decorative elements and motifs. For example, one rim has a zone with two rows of tool punctations above horizontal and diagonal engraved lines. Many of the decorative elements have hatched zones. The shapes of hatched zones are not always clear, but several rim sherds have triangular and curvilinear hatched elements. Sixteen body sherds also have hatched triangular elements. Two sherds, a rim and a body sherd, have a hatched zone that forms a negative oval.

Like rims sherds, there is a wide variety of decorations on body sherds. Fewer than half of the body sherds have simple curvilinear, opposed, parallel or straight lines. More than twenty sherds have crosshatched lines or zones. In some cases, crosshatching occurs in the context of separate hatched zones and elements. A large number of sherds have hatched elements and motifs (i.e. hooked arm, ovals and negative ovals, triangles, and panels). Five body sherds have excised zones in different shapes and forms. As noted, the size of sherds from the Wylie Price site makes the description of some elements difficult.

#### **41SA116 - McElroy**

The McElroy site (41SA116) is around 30 kilometers north of Wylie Price, and half that distance to the west of Mission Dolores. The McElroy site occupies a point overlooking Black Branch Creek, a small tributary of the Attoyac River, near the northern limit of Lake Sam Rayburn. Duffield briefly tested the site in 1960 while with the Texas Archeological Salvage Project. After determining the zone with cultural deposits was limited, he ceased investigations (Jelks 1965).

Previous reports from local informants indicate glass beads were found on the surface, and recent reports suggest the landowner has a substantial collection of European trade goods from the McElroy site.

The artifact assemblage recovered by Duffield and stored at TARL consists of several thousand Native-made items, including ceramic vessel sherds, projectile points, and lithic debris. Excavations recovered half of a glass bead, but it possessed no close associations with the other Native materials (Jelks 1965: 106-107). The large assemblage of ceramic sherds includes 14 Bear Creek Plain sherds and several incised Woodland period sherds from earlier occupations, as well as numerous other ceramic types from subsequent Caddo occupations (Table 6.139). Like the Wylie Price site, numerous sherds are large enough to determine the details of elements and motifs.

Plain sherds make up 60% of the collection, including more than 100 rims. This indicates a large number of plain vessels. Utility and fine wares make up smaller percentages, but fine ware has the highest rate of rims. Brushing occurs on 32.7% of the decorated sherds, and non-brushed wet paste sherds make up nearly half of the assemblage. Sherds that favor Patton Engraved are the most common, but several utility ware types are also present.

**Table 6.139. Ceramic Wares and Types from the McElroy Site**

	Plain	Utility ware	Fine ware	Total
<b>Base</b>	35			35
<b>Body</b>	1,651	900	218	2,769
<b>Rim</b>	103	58	34	195
<hr/>				
<b>Base</b>	2.0%			
<b>Body</b>	92.3%	93.9%	86.5%	
<b>Rim</b>	5.8%	6.1%	13.5%	
<b>Total</b>	1,789	958	252	2,999

Table 6.139 (continued)

Percentage		Ratios	
Plain	59.7%	Plain/Decorated	1.48
Utility ware	31.9%	Brushed/Plain	0.22
Fine ware	8.4%	Brushed/Wet Paste	0.70
Brushed*	32.7%		
Wet Paste*	46.5%		

Ceramic Types Present		
Belcher Ridged	1	3.8%
cf. King Engraved	1	3.8%
cf. Patton Engraved	11	42.3%
Karnack Brushed-Incised	1	3.8%
Killough Pinched	5	19.2%
Patton Engraved	1	3.8%
Patton Engraved, var. Freeman	1	3.8%
Pease Brushed-Incised	3	11.5%
Spradley Brushed-Incised	2	7.7%
<b>Total Typed Sherds</b>	<b>26</b>	

Around two-thirds of the sherds in the sample have grog, frequently with other types of inclusions (Table 6.140). The rate of grog is highest in plain sherds (78.8%), and occurs in smaller amounts in utility (60.5%) and fine (59.4%) wares. Bone is present in 40% of all sherds, but nearly half of these sherds have at least one other type of inclusion. Though bone is highest in utility ware, there is little change between the different wares. Conversely, hematite is greater in fine ware (32.1%) than it is in utility (15.6%) or plain (6.9%) wares.

Four sherds among the plain and utility ware have shell inclusions, and thirty sherds appear to have no inclusions. Around 15% of the sampled sherds have a sandy paste.

**Table 6.140. Inclusions and Paste from the McElroy Site**

<b>Inclusions</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Bone	39	91	25	155	22.8%
Bone-grog	46	41	7	94	13.8%
Bone-grog-hematite		3	1	4	0.6%
Bone-hematite	3	10	7	20	2.9%
Bone-organics	1	1	1	3	0.4%
Grog	140	107	29	276	40.6%
Grog-bone	5	7	4	16	2.4%
Grog-bone-hematite			2	2	0.3%
Grog-hematite	12	31	19	62	9.1%
Grog-hematite-bone	1	1		2	0.3%
Grog-organics	1			1	0.1%
Hematite	2	3	2	7	1.0%
Hematite-bone		1	2	3	0.4%
Hematite-grog			1	1	0.1%
None	8	16	6	30	4.4%
Shell	2	2		4	0.6%
<b>Total sample</b>	<b>260</b>	<b>314</b>	<b>106</b>	<b>680</b>	

				<b>Total</b>	<b>Percent*</b>
Total with bone	95	155	49	299	44.0%
Total with grog	205	190	63	458	67.4%
Total with hematite	18	49	34	101	14.9%
Total with shell	2	2		4	0.6%
<b>Total occurrences</b>	<b>320</b>	<b>396</b>	<b>146</b>		

Total with bone	36.5%	49.4%	46.2%
Total with grog	78.8%	60.5%	59.4%
Total with hematite	6.9%	15.6%	32.1%
Total with shell	0.8%	0.6%	

<b>Paste</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>
Sandy	26	51	26	103

The majority of identifiable bottles and carinated bowl sherds have engraved decorations (Table 6.141), and all of these sherds are from the bodies of vessels. Most of the bottles sherds are broken at the neck and the carinated bowl sherds are broken at the point of carination.

Decorations on carinated bowl and bottle sherds are primarily horizontal, diagonal, parallel, or opposed lines, but these sherds also have larger circular, curvilinear, triangular, crosshatched, hatched, and opposed elements. Two bottle sherds have elements that include triangular ticking. One has a crosshatched zone that surrounds a circle with triangular tick marks. The other sherd has what is likely a hatched zone near a curvilinear line with triangular tick marks. Only one carinated bowl sherd has triangular tick marks. The ticks are attached to a horizontal line above the carination. Several sherds, including carinated bowl and bottle sherds, have terminating parallel lines as part of the element.

**Table 6.141. Ceramic Forms from the McElroy Site**

<b>Vessel form</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>
Bottle	3	1	12	16
cf. Bottle	1			1
Carinated bowl	1		19	20
<b>Total</b>	5	1	31	37
<b>Rim form-Lip form</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>
Direct-Flat	3	2	4	9
Direct-Rounded	16	10	15	41
Direct-Rounded and folded outward	1	0	1	2
Everted-Flat	1	0	0	1
Everted-Rounded	7	7	1	15
Everted-Rounded and folded outward	0	1	0	1
-Flat	0	1	2	3
-Rounded	6	10	4	20
-Rounded and folded outward	2	1	2	5
<b>Total</b>	36	32	29	97

Three-quarters of the assemblage has direct rims, most of these have rounded lips or rounded lips folded outward. These rim and lip forms are present across the different wares. The same is true of vessel sherds with direct rims and flat lips. In contrast, everted rims occur primarily on plain and utility ware sherds. The everted rims have rounded lips, and one is folded outward.

Around 41% of the utility ware has brushing, but non-brushed wet paste rims (86%) far outnumber the rim sherds with brushing (Table 6.142). This is an unusual pattern, which indicates brushing was far less common. Four rims have horizontal brushing. One rim with vertical brushed-incised lines is from a Karnack Brushed-Incised vessel. There are also rim sherds with diagonal brushed-incised elements. Two body sherds have parallel incised lines that overlap with parallel brushing (i.e. Spradley Brushed-Incised).

The Belcher Ridged rim sherd has vertical appliquéd ridges. Four other body sherds have appliquéd fillets, the three with brushing are from Pease Brushed-Incised vessel(s). Five Killough Pinched body sherds have pinched fingernail impressions. The pinching forms a spiral on one sherd.

Most of the incised-punctated rim sherds have diagonal and horizontal lines that form zones filled with punctations. Incised zones with punctations frequently occur on body sherds as well, curvilinear and triangular zones are the most common.

Punctations on rim and body sherds occur in zones, and less frequently in rows. The number of punctated rows may be higher, but some sherds are small and others are unclear. Besides nondescript tool punctations, nineteen body sherds have fingernail punctations and a few sherds have small circular punctations.

**Table 6.142. Utility Ware Decorative Classes from the McElroy Site**

<b>Brushed</b>	<b>Body</b>	<b>Rim</b>	<b>Total</b>
Brushed	374	4	379
Brushed-Incised	7	4	10
Brushed-Punctated	4		4
Appliquéd-Brushed-Punctated	3		3
<b>Wet Paste, non-brushed</b>			
Incised	317	23	340
Punctated	127	18	145
Incised-Punctated	62	8	70
Appliquéd		1	1
Appliquéd-Punctated	1		1
Pinched	5		5
<b>Total</b>	<b>900</b>	<b>58</b>	<b>958</b>

Rim and body sherds that favor Patton Engraved are the most common fine ware types (Table 6.143). One Patton Engraved rim sherd has a horizontal engraved line with triangular tick marks. The other Patton Engraved rim has the same decoration in addition to a vertical divider. The latter is likely from a Patton Engraved or Poynor Engraved, *var. Freeman* vessel. Body sherds decorated with multiple parallel lines, and only one with triangular tick marks, are possibly from Patton Engraved, *var. Patton* vessel(s). Only two of the Patton Engraved sherds have linear tick marks and the remaining have triangular ticking. Only one body sherd decorated with a crosshatched element favors the type King Engraved.

**Table 6.143. Fine Ware Type Decorations from the McElroy Site**

<b>Patton Engraved and cf. Patton Engraved</b>	<b>Body</b>	<b>Rim</b>
horizontal engraved line below lip with triangular tick marks		1
horizontal engraved line with triangular tick marks and vertical divider		1
curvilinear engraved line with linear tick marks	1	
engraved line with triangular tick marks	2	
engraved lines with linear tick marks	1	
engraved lines with triangular tick marks	1	
horizontal engraved line with triangular tick marks	1	
parallel engraved lines one with triangular tick mark	1	
parallel engraved lines one with triangular tick marks	2	
parallel engraved lines one with triangular tick marks with white pigment	1	
parallel engraved lines with triangular tick marks	1	
<b>cf. King Engraved</b>	<b>Body</b>	
crosshatched engraved element	1	
<b>Total</b>	12	2

A large number of fine ware rim (n=32) and body (n=206) sherds from the McElroy site are not assignable to type (Appendix 5). The only decorations on eleven rim sherds are horizontal line(s). One rim has a horizontal line with hatched pendant triangles. Diagonal lines also appear on numerous rim sherds. They occur as the sole decoration and in addition to a diagonal ladder element, and several sherds have additional curvilinear, horizontal, and opposed lines. One sherd has a diagonal line on the interior of the vessel.

Other rim sherds have more complex circular, crosshatched, curvilinear, and hatched decorative elements. For example, one rim has a crosshatched element surrounding part of two concentric circles. This engraved element also has white pigment rubbed into the lines. There are 11 body sherds with

crosshatching in zones and as parts of larger elements. Several of these might be related to the type King Engraved.

Several body sherds have engraved elements, seemingly not Patton Engraved, but with triangular tick marks. Two sherds have crosshatched elements in addition to lines with triangular tick marks. One sherd has a straight line with triangular ticking and the other a circle with ticking. Among this group, most sherds have triangular tick marks but linear and oval ticking occurs as well.

At least 16 body sherds have hatched engraved elements and zones. There are also more than 30 sherds with parallel and opposed lines. Most of these are likely parts of hatched or triangular elements. Three body sherds are decorated with curvilinear and opposed lines that form oval motifs, and another sherd has a circle and cross motif.

#### **41SA25 - Mission Dolores de los Ais**

As noted in previous chapters, this site is the location of Mission Nuestra Señora Dolores de los Ais. Locals in the area long suspected the area known as mission hill to be the site of an early Spanish mission. At the request of the San Augustine Historical Society (SAHSoc), Kathleen Gilmore of North Texas State University first excavated the site between 1972 and 1973 (Corbin et al. 1980: Appendix 1). The inconclusive results led the SAHSoc to enlist the help of Jim Corbin who, with the help of SFASU students and the NASoc, excavated the site from 1976-1978 (Corbin et al. 1980).

Corbin's excavations initially focused on the north side of State Highway 147 in modern San Augustine, Texas. Though they recovered artifacts dating from the colonial period, the scarcity of intact features or architectural remains left the identification of the site unresolved. Later investigations on the south

side of SH 147 located a well and construction that appeared to be a jacal-type adobe housing structure. Among other materials, the excavations recovered 835 European ceramics (earthenware, stoneware, and porcelain), 20 glass trade beads, 12 gunflints, and close to 10,000 Native sherds (Corbin et al. 1980). These results positively identified the site as Mission Dolores, the first mission in east Texas identified in the archaeological record.

Since its discovery, archaeological investigations continue to take place intermittently at Mission Dolores. Corbin worked at the site for the Texas Department of Highways and Public Transportation once more in 1984 (Corbin et al. 1990). Recent efforts included limited excavations, geophysical surveys and mapping research related to *El Camino Real*. Historical research also produced a comprehensive catalog of archival documents and maps related to the mission (Benavides 1998). A visitor center and museum, along with an RV park, are now part of the site. The center houses interactive and interpretive displays, as well as small collections available for research.

Excavations from the site now known to be the 18<sup>th</sup> century Mission Dolores de los Ais (41SA25) produced another significant collection of Historic Caddo ceramics. I briefly examined the ceramic assemblages at the Mission Dolores Visitor Center, and conducted a more detailed analysis of the larger collections stored at SFASU (Table 6.144). The analysis focused on the decorated sherds, and I rely on the counts for plain sherds provided in prior reports (Table 6.143, in brackets). These reports note that plain rims in the collection are large enough to support the assumption that they come from at least 30 plain vessels (Corbin et al. 1990).

**Table 6.144. Ceramic Wares and Types from the Mission Dolores Site**

	Plain	Utility ware	Fine ware	Total
<b>Base</b>	1		1	2
<b>Body</b>	138	776	1,038	1,952
<b>Rim</b>	1 [30+]	35	90	126

<b>Base</b>	0.7%		0.1%	
<b>Body</b>	98.6%	95.7%	91.9%	
<b>Rim</b>	0.7%	4.3%	8.0%	
<b>Total</b>	140 [3,704]	811	1,129	2,080 [5,644]

<b>Percentage</b>	
Plain	6.7% [65.6%]
Utility ware	39% [14.4%]
Fine ware	54.3% [20.0%]
Brushed*	0.7%
Wet Paste*	41.1%

<b>Ratios</b>	
Plain/Decorated	1.91
Brushed/Plain	0.004
Brushed/Wet Paste	0.02

<b>Ceramic Types Present</b>		
cf. Natchitoches Engraved	6	5.4%
cf. Patton Engraved	24	21.6%
Natchitoches Engraved	46	41.4%
Patton Engraved	35	31.5%
<b>Total Typed Sherds</b>	111	

The totals for ceramic types also include Natchitoches Engraved (n=16) and Patton Engraved (n=6) sherds from a Mission Dolores Visitor Center and Museum inventory. Most of these sherds were not on display at the time, and I did not collect information related to them (see Table 6.148).

Previous researchers conducted detailed studies on paste characteristics and the use of inclusions (Corbin et al. 1980; Corbin et al. 1990). After verifying the types of inclusions in a large number of sherds, I decided to rely on the

identifications listed with artifact bags. One key difference is that I do not use the sand classification system used by others (see Corbin et al. 1980:159).

I did not examine the sherds under the same levels of magnification, and in order to make comparisons between sites more effective, I do not adopt the method of quantifying the amount of sand in every sherd. Corbin and others also note that selenite is present in all sherds. I was unable to confirm this, potentially because my analysis does not use higher magnifications. My table also overstates the number of plain sherds with shell inclusions because of sampling bias.

More than 80% of all the sampled sherds from Mission Dolores have some amount of bone (Table 6.145), the highest rate of bone in this study. However, only 12.8% of sherds have bone as the sole inclusion. In other words, bone is more frequently present in conjunction with grog, hematite, quartzite, and shell. The rate of bone is likely highest in fine ware, but it occurs in large numbers in utility and plain wares as well. Unlike most sites in the study, grog appears in a small number of sherds. In fact, the rate of grog at Mission Dolores (7%) is lower than any other site.

Quartzite is only recognizable at one other site in the study (41AN21). Yet at Mission Dolores, it occurs in close to 60% of the sherds. I did not recognize quartzite inclusions in many sherds, but again, this may relate to the use of high magnification in the previous study. Hematite is also present in 44% of sherds, one of the highest rates in the study.

**Table 6.145. Inclusions from the Mission Dolores Site**

<b>Inclusions</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Bone	1	120	119	240	12.8%
Bone-grog		5	35	40	2.1%
Bone-grog-hematite		2	3	5	0.3%
Bone-grog-hematite-quartzite	1	16	18	35	1.9%
Bone-grog-quartzite		4	7	11	0.6%
Bone-grog-shell			2	2	0.1%
Bone-hematite	1	71	153	225	12.0%
Bone-hematite-grog		10		10	0.5%
Bone-hematite-quartzite		76	239	315	16.8%
Bone-quartzite	1	138	348	487	26.0%
Bone-quartzite-hematite		90	46	136	7.3%
Bone-shell			2	2	0.1%
Bone-shell-grog-hematite-quartzite			1	1	0.1%
Bone-shell-hematite		6		6	0.3%
Bone-shell-hematite-quartzite		6	2	8	0.4%
Bone-shell-quartzite		1	1	2	0.1%
Grog	4	3	2	9	0.5%
Grog-bone-hematite			1	1	0.1%
Grog-hematite	3		1	4	0.2%
Grog-quartzite	1	4	6	11	0.6%
Hematite		13		13	0.7%
Hematite-quartzite		35	3	38	2.0%
Hematite-quartzite-shell		2		2	0.1%
Quartzite		21	26	47	2.5%
Quartzite-hematite			3	3	0.2%
Quartzite-shell			1	1	0.1%
Shell	122	48	7	177	9.5%
Shell-bone		2	1	3	0.2%
Shell-bone-hematite		5		5	0.3%
Shell-bone-quartzite			2	2	0.1%
Shell-hematite		5	5	10	0.5%
Shell-hematite-quartzite		1		1	0.1%
Shell-quartzite		15	2	17	0.9%
Shell-quartzite-hematite		3		3	0.2%
<b>Total sample</b>	134	702	1,036	1,872	

Table 6.145 (continued)

				<b>Total</b>	<b>Percent*</b>
Total with bone	4	552	980	1,536	82.1%
Total with grog	9	44	76	129	6.9%
Total with hematite	5	341	475	821	43.9%
Total with quartzite	3	412	705	1,120	59.8%
Total with shell	122	94	26	242	12.9%
<b>Total occurrences</b>	143	1,443	2,262		
<hr/>					
Total with bone	3.0%	78.6%	94.6%		
Total with grog	6.7%	6.3%	7.3%		
Total with hematite	3.7%	48.6%	45.8%		
Total with quartzite	2.2%	58.7%	68.1%		
Total with shell	91.0%	13.4%	2.5%		

Ceramic sherds likely represent bowls, carinated bowls, bottles, and jars, but I did not identify specific vessel forms from the collection. Direct rim forms are more popular than everted rims, particularly for fine ware vessels (Table 6.146). The lip forms on direct rims are flat, folded outward, and rounded. Everted rims have lips that are rounded or folded outward. One fine ware vessel sherd has an inverted rim with a flat lip.

Table 6.146. Ceramic Forms from the Mission Dolores Site

<b>Rim form-Lip form</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>
Direct-Flat		2	2
Direct-Folded outward		3	3
Direct-Rounded	4	13	17
Everted-folded outward		2	2
Everted-Rounded	2	4	6
Everted-Rounded and folded outward		1	1
Inverted-Flat		1	1

Table 6.146 (continued)

-Rounded		3	3
-Rounded and folded outward		1	1
-Thinned		1	1
<b>Total</b>	6	31	37

One of the most striking differences between the collection from Mission Dolores and other sites in the study is the small number of brushed rim (n=1) and body (n=12) sherds (Table 6.147). The rim has horizontal brushing, and eleven body sherds have parallel or overlapping brushed decorations. One body sherd has a tool punctated row through parallel brushing.

Another major difference is that Mission Dolores has the highest rate of incised decorations. This includes a large number of both rim (n=26) and body (n=665) sherds. Ten rims have a single horizontal incised line, and another rim sherd has multiple horizontal lines. Fourteen rim sherds have diagonal incised lines (n=7) or horizontal and diagonal lines (n=7). Two from the former group have opposed lines as well. The remaining incised rim sherd has a hatched element possibly associated with a scroll.

More than 500 of the incised body sherds only have straight and/or parallel lines. The decorations on close to 100 others sherds are opposed lines, or parallel and opposed lines. Nearly all are most likely parts of larger hatched elements. Hatched zones and elements are readily apparent on other sherds. A small number of sherds have curvilinear (n=36), crosshatched (n=8), curvilinear and opposed (n=5), or triangular elements.

Three small rim sherds have single punctations below the lip. The other punctated rim sherds have punctations in rows; three of these sherds have horizontal fingernail punctated rows. Most of the punctated body sherds also

have tool punctated rows. Six sherds favor the constricted neck punctated vessel sherds from the presidio Los Adaes (16NA16) near Natchitoches, Louisiana (see Gregory and Avery 2007). Only one sherd has an appliqué element. The body sherd has opposed incised lines that encircle an appliqué node.

**Table 6.147. Utility Ware Decorative Classes from the Mission Dolores Site**

<b>Brushed</b>	<b>Body</b>	<b>Rim</b>	<b>Total</b>
Brushed	11	1	12
Brushed-Punctated	1		1
<b>Wet Paste, non-brushed</b>			
Incised	665	26	691
Punctated	83	8	91
Incised-Punctated	15		15
Appliqué-Incised	1		1
<b>Total</b>	<b>776</b>	<b>35</b>	<b>811</b>

I only identified two fine ware types at Mission Dolores, Natchitoches Engraved and Patton Engraved (Table 6.148). Previous reports indicate Ebarb Engraved and Womack Engraved may be present (Corbin et al. 1990), but I did not make these identifications. Crosshatched elements and zones, many with triangular ticking, are the most common decorations on Natchitoches Engraved sherds. The elements are likely parts of scrolls, S-shaped elements, and negative ovals surrounded by crosshatching. Natchitoches Engraved rim and body sherds also have hatched elements with triangular tick marks. A large number of sherds not assigned to type, but with crosshatching and hatching decorative elements, may also be from Natchitoches Engraved vessels. In other words, Natchitoches Engraved may be underrepresented.

**Table 6.148. Fine Ware Type Decorations from the Mission Dolores Site**

<b>Natchitoches Engraved and cf. Natchitoches Engraved</b>	<b>Body</b>	<b>Rim</b>
crosshatched engraved element	2	3
crosshatched engraved element with triangular tick marks	11	1
engraved element		1
hatched engraved element with triangular tick marks	4	2
crosshatched engraved zone and curvilinear line with triangular tick marks	1	
crosshatched engraved zone and straight line with triangular tick marks	1	
curvilinear engraved lines with triangular tick marks	2	
engraved element with triangular tick marks	2	
hatched engraved element	1	
hatched engraved element and curvilinear engraved line with triangular tick marks	1	
hatched engraved element with triangular tick marks with red pigment	1	
rectilinear engraved element with triangular tick marks	3	
no description, museum inventory	16	
<b>Patton Engraved and cf. Patton Engraved</b>	<b>Body</b>	<b>Rim</b>
horizontal engraved line with upward pointing triangular tick marks		1
curvilinear and opposed engraved lines one with triangular tick marks	1	
curvilinear and straight engraved lines with triangular tick marks	3	
curvilinear engraved lines one with triangular tick marks	1	
curvilinear engraved lines with triangular tick marks	5	
engraved element with triangular tick marks	1	
engraved lines with triangular tick marks	1	
opposed engraved lines one with triangular tick marks	1	
opposed engraved lines with triangular tick marks	2	
parallel engraved lines one with linear tick marks	2	
parallel engraved lines one with triangular tick marks	11	
parallel engraved lines with linear and triangular tick marks	2	
parallel engraved lines with linear and triangular tick marks with red pigment	1	
parallel straight engraved lines one with triangular tick marks	3	
straight engraved line with linear tick marks and curvilinear engraved line with triangular tick marks	1	
straight engraved lines with linear tick marks	5	
straight engraved lines with triangular tick marks	12	
no description, museum inventory	6	
<b>Total</b>	103	8

The Patton Engraved rim in the collection stored at SFASU has a horizontal line with upward pointing triangular tick marks. Patton Engraved body sherds have a variety of decorative elements composed of curvilinear, straight, parallel or opposed lines with ticking. Sherds with multiple curvilinear, opposed, or parallel lines, and at least one line with triangular ticking, are likely part of concentric circle or spiral motifs. Only eleven Patton Engraved sherds have linear tick marks, and four of these have triangular ticking as well.

The great majority of engraved rim (n=82) and body (n=958) sherds from Mission Dolores are not assignable to type (Appendix 5). Most of the rims have diagonal, horizontal, or vertical lines, some alone and others with lines in multiple directions. Like the incised sherds, decorations on engraved body sherds are primarily straight and/or parallel lines (400+). Some of the more complex rim decorations include a chevron and a vertical ladder. Numerous body sherds have intricate designs as well, such as an excised triangular zone or rectilinear elements.

More than 100 sherds, including four rims, have triangular tick marks but are not recognizable as Natchitoches Engraved or Patton Engraved. Both types have ticking and most of these sherds are small, which makes distinguishing between the two types difficult. Curvilinear, rectilinear, parallel, and opposed lines, as well as engraved and hatched elements, have triangular ticking. Ten sherds have linear tick marks, and one sherd has an element with linear and triangular tick marks.

As noted, crosshatched engraved lines, zones, and larger elements occur on a number of rim (n=6) and body (n=110) sherds. Straight and curvilinear lines outline crosshatched zones and panels. They likely form ovals and various

geometric shapes. One sherd has a decorative element with a crosshatched and a hatched zone. Another sherd has crosshatching around a negative oval.

Another distinctive characteristic of Mission Dolores assemblage is the amount of hatching on fine ware, the highest rate among sites in this study. Curvilinear, opposed, and straight lines outline hatched elements on more than 120 body sherds. Hatching fills numerous large and small elements of various shapes (i.e. circular, triangular). In most cases, the larger assembled motifs, and certainly the type of vessels, are unclear.

## Chapter Seven: Historic Sites Not in the Detailed Sherd Analysis

In this chapter, I discuss sites relevant to the study, but not included in the sherds analysis. More than twice as many sites appear in this chapter than in the previous, but regrettably, none meets the criteria established in Chapter 5.

### THE UPPER NECHES

Like the sites in the previous chapter, with one exception (41SM77), all of the upper Neches sites are in northeastern Anderson and northwestern Cherokee counties (Figure 7.1). As a group, there are more sites in the upper Neches than any other area under discussion. Only three sites are in the detailed sherds analysis, so I briefly discuss the remaining 16 sites below. Several of these sites have extensive collections of whole vessels, which I documented for this study (Appendix 1). Many of these large collections are also the basis for previous studies (Cole 1975; Kleinschmidt 1982).

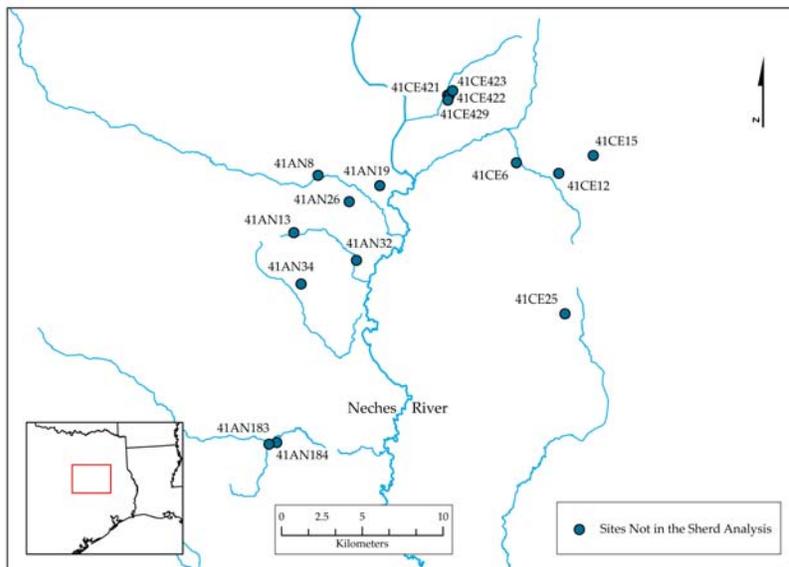


Figure 7.1. Additional Sites along the Upper Neches River

### **41AN8 - Cecil Farm**

The L. Cecil Farm site is a campsite with a small cemetery just east of the town of Frankston in Anderson County. Initially recorded as two sites, 41AN8 and 41AN30, TARL released the latter number and combined the notes for the burial-campsite in 1980. This is on the basis that both are “on the same land,” and to correct a common WPA practice of referencing multiple sites (Kleinschmidt 1982).

Local farmer Richard Patton excavated two burials at the Cecil Farm site in 1933. At that time, he recovered five vessels, a pipe, and around 25 narrow flint knives (presumably Jowell). No photos or drawings are available for these items, which Patton sold to a private citizen in Corsicana. In the same year, A. T. Jackson put a trench in the area of the extensive campsite, and noted that brushing was the predominant decoration on the thicker heavy wares (Jackson 1933:46-7, Notes on file at TARL). Woolsey also dug 10 trenches in the cemetery area in 1935, but recovered very little and found no other burials.

Not including the artifacts recovered by Richard Patton, materials listed on the Specimen Inventory (SI) and Component Analysis Form (CAF) for the Cecil Farm site include 166 sherds [Nancy Cole (1975:83-89) listed 171 sherds], two additional Jowell knives, and a Cuney (or Bonham) arrow point. Notes on file at TARL indicate several sherds submitted by Perttula for Instrumental Neutron Activation Analysis (INAA) are not available. Cole also used several sherds in a refiring experiment. I examined the existing sherds, but the sample is too small for inclusion.

Jackson's note on brushing is supported by the total of brushed sherds listed on the site form, n=69 (or 41.5%). However, during this study, I was only able to locate around 50 sherds and only 14% of them have brushing. At least 15 of the sherds are from Patton Engraved vessels. Among these are the Patton Engraved varieties Freeman and Allen. Two sherds have horizontal lines with triangular tick marks facing each other and a vertical divider (Poynor Engraved, *var. Freeman*). Poynor Engraved, LaRue Neck Banded, and Killough Pinched sherds are also present at the site. There are no reports of European trade goods by amateurs or professionals.

#### **41AN13 - Jowell Farm**

The Jowell Farm site is around four kilometers south of Frankston, on an upland slope near Kickapoo Creek. A local farmer dug burials at the site, and the University of Texas later purchased the artifacts in 1933. No records of the excavations or associations of artifacts are available. The ceramic collection consists of 17 whole or large portions of vessels (Appendix 1; Table 7.1), but no vessel sherd collection. A mostly complete ceramic pipe is currently missing.

Vessels identified by type are Patton Engraved (n=11), Poynor Engraved (n=1), and Bullard Brushed (n=2). Additional vessels unassigned to type have decorations that include brushing (n=1), brushing and excised areas (n=1), and engraving (n=1). Kleinschmidt (1982) identifies five of the Patton Engraved vessels as the hybrid Poynor-Patton Engraved. Following Perttula (2008c), I classify the vessels as Patton Engraved, *var. Patton*. Motifs recognizable as Patton Engraved, *var. Fair* and *Freeman* are also present. Twenty sherds make up one of the Patton Engraved vessels (41AN13-7).

**Table 7.1. Vessels from the Jowell Site**

<b>Vessel number</b>	<b>Vessel form</b>	<b>Type or decorations</b>
41AN13-X1	bowl	Patton Engraved, <i>var. Patton</i>
41AN13-1	carinated bowl	Patton Engraved, <i>var. Patton</i>
41AN13-2	carinated bowl	Patton Engraved, <i>var. Patton</i>
41AN13-3	carinated bowl; rim cut down	UnID brushed-excised design
41AN13-4	carinated bowl	Patton Engraved, <i>var. Patton</i>
41AN13-5	globular bowl	Patton Engraved, <i>var. Freeman</i>
41AN13-6	carinated bowl	Patton Engraved, <i>var. Patton</i>
41AN13-7	N/A	Patton Engraved
41AN13-8	globular bowl; rim missing	Patton Engraved, <i>var. Fair or Freeman</i>
41AN13-9	globular bowl	Patton Engraved, <i>var. Fair</i>
41AN13-10	carinated bowl	UnID engraved design
41AN13-11	carinated bowl; rim cut down	Patton Engraved
41AN13-12	carinated bowl	Poynor Engraved, <i>var. Cook</i>
41AN13-13	small bowl	Patton Engraved
41AN13-14	bowl with lug handles	UnID brushed design
41AN13-15	jar	Bullard Brushed
41AN13-16	jar with lug handles	Bullard Brushed

The Jowell site collection contains 35 Jowell knives and eight arrow points, including a possible Cuney and Alba, a Turney and Perdiz, and four unidentified arrow points. European trade goods are also present, including 10 trade beads (currently missing) and a metal knife recovered from inside one of the Patton Engraved vessels (41AN13-1).

#### **41AN19 - Saunders**

The A.C. Saunders site is located in northeastern Anderson County on the west side of the Neches River. The site, first investigated by A.T. Jackson in 1931, contains a small mound, midden and structure. Jackson's trench testing in the mound revealed a thick layer of hard-packed ash with very few artifacts. The results from the trench and midden are in an unpublished report at TARL

(Jackson 1931:16-23). A couple of years later E.B. Sayles placed a test pit in the midden (Sayles 1935). Jackson returned and resumed trenching in the mound and removed the rest of the midden in 1935 (Jackson 1935, 1936). These, the final excavations, resulted in the majority of the materials available for study.

Saunders was the likely location for a special type of site noted in the early historic records (Hatcher 1927). Accumulation of ash in a low mound, along with a large structure and evidence from an extensive midden deposit, indicate that activities at the site included maintaining a perpetual fire (Jackson 1936; Kleinschmidt 1982). According to Espinosa (Hatcher 1927:160-161), the *xinesí* was in charge of maintaining the fire and the site would have been an important place where the elite met, consulted and made decisions related to communities in the region.

Ulrich Kleinschmidt completed a detailed study of the Late Caddo Saunders site in his Master's Thesis at the University of Texas (see Chapter 4). Identifying ceramic forms, motifs and elements within specific pottery types, Kleinschmidt organizes sherds into vessel batches and ultimately into a vessel count. His research also uses ceramic data from cemeteries in the upper Neches basin to create a tentative regional chronology of four phases: three Frankston phase groups (Late Caddo) preceding the Allen phase group (Historic Caddo) (Kleinschmidt 1982:218-228). The primary ceramic attributes used to construct the chronology are vessel form and decorative motif, particularly from Patton Engraved and Poynor Engraved vessels.

The Saunders site has only one Patton Engraved sherd, though several sherds have ticking. However, most of the assemblage (including the only whole vessel) is clearly from Poynor Engraved vessels (Kleinschmidt 1982:175). Several sherds have designs that approximate newly recognized Poynor Engraved

varieties. Around three-quarters of the sherds have brushing, and the extensive excavations recovered no European trade goods. Therefore, Kleinschmidt places the Saunders site in Frankston phase II and suggests it probably dates to just prior to historic contact in the early 17<sup>th</sup> century (Kleinschmidt 1982:240). For these reasons, I do not use the sherd collection in the detailed analysis.

#### **41AN26 - Patton**

The Richard Patton site, around two miles southeast of Frankston, is an extensive site with a midden and cemetery. Richard Patton discovered the site in 1932 after erosion exposed a ceramic vessel and pipe, along with several arrow points. Patton determined the materials were from a burial, and shortly after, he and George Adams removed the materials from a cemetery that included another 11 burials. The University of Texas by A. T. Jackson purchased twenty-six whole vessels and major portions of several broken vessels from these burials in 1933 (Appendix 1; Table 7.2). Later in the same year, Jackson investigated three of the undisturbed burials but found no new graves. Jackson did locate a habitation area around 90 meters from the cemetery, where he presumably recovered the 92 ceramic sherds in the TARL collection.

The number of sherds at TARL is consistent with the specimen inventory, but the sample size is too small to be included here. In addition, more than half of the sherd collection is fine wares, which may indicate a sampling bias. The fine ware includes more than 30 Patton Engraved sherds. Among these are several sherds likely to be from Patton Engraved, *var. Patton* vessels.

Typed ceramic vessels from the site are primarily Patton Engraved (n=21) or compare favorably to Patton Engraved (n=3). The Patton Engraved vessels include several identifiable varieties, such as Patton Engraved *var. Freeman* (n=9),

*var. Patton* (n=5), *var. Allen* (n=4), and *var. Fair* (n=1). One of the vessels that compares favorably to the type Patton Engraved has incised (versus engraved) decorations. The decoration on another vessel is similar to *var. Patton*, but does not have tick marks. The last of the vessels to favor Patton Engraved is similar to Patton Engraved, *var. Allen*, but it contains vertical dividers in addition to horizontal lines with triangular tick marks.

**Table 7.2. Vessels from the Patton Site**

Vessel number	Vessel form	Type or decorations
41AN26-1	carinated bowl	Patton Engraved, <i>var. Patton</i>
41AN26-3	carinated bowl	Patton Engraved, <i>var. Patton</i>
41AN26-4	carinated bowl	Patton Engraved, <i>var. Patton</i>
41AN26-5	carinated bowl	Patton Engraved, <i>var. Patton</i>
41AN26-6	carinated bowl	cf. Patton Engraved
41AN26-9	bowl	Plain
41AN26-10	bowl miniature	Plain
41AN26-11	square bowl with lug handles	Patton Engraved
41AN26-13	globular bowl	Patton Engraved, <i>var. Freeman</i>
41AN26-15	bottle	UnID engraved design
41AN26-16	globular bowl	Patton Engraved, <i>var. Freeman</i>
41AN26-17	globular bowl	Poynor Engraved, <i>var. Freeman</i>
41AN26-18	globular bowl	Patton Engraved, <i>var. Freeman</i>
41AN26-19	globular bowl	Patton Engraved, <i>var. Freeman</i>
41AN26-20	globular bowl	Patton Engraved, <i>var. Fair</i>
41AN26-21	globular bowl	Patton Engraved, <i>var. Freeman</i>
41AN26-22	globular bowl	Patton Engraved, <i>var. Freeman</i>
41AN26-24	globular bowl	Patton Engraved, <i>var. Freeman</i>
41AN26-26	globular bowl	Patton Engraved, <i>var. Freeman</i>
41AN26-28	globular bowl	Patton Engraved, <i>var. Allen</i>
41AN26-29	globular bowl	Patton Engraved, <i>var. Allen</i>
41AN26-30	globular carinated bowl	Patton Engraved, <i>var. Allen</i>
41AN26-31	globular bowl	cf. Patton Engraved
41AN26-79	globular bowl	Patton Engraved
41AN26-83	bowl with lug handles	cf. Patton Engraved (Incised)

Table 7.2 (continued)

41AN26-91	globular bowl	Patton Engraved, <i>var. Freeman</i>
41AN26-92	globular bowl	Patton Engraved, <i>var. Allen</i>
41AN26-120	carinated bowl	Patton Engraved, <i>var. Patton</i>
41AN26-121	globular bowl	Poynor Engraved, <i>var. Freeman</i>

Three are also a small number of Poynor Engraved, *var. Freeman* (n=2) vessels. One vessel with circular crosshatched engraved zones and two plain vessels are not assignable to type.

Numerous arrow points from the investigations have been identified by Cole (1975:129-147) including three Turney, three Cuney, nine Bonham, a Fresno an Alba, and six unidentified types. The TARL specimen inventory also has records and sketches for two blue trade beads and several ceramic pipes and pipe fragments. I was only able to locate three of the pipes during this study.

#### **41AN32 - McKee**

The Fred McKee site is around five miles southeast of Frankston and approximately a mile from the Neches River. A.M. Woolsey with the University of Texas excavated the site in 1935, at which time he located a cemetery with four burials and a nearby habitation area with a large midden. In addition to the materials from Woolsey's burial excavations, Fred McKee loaned artifacts from his collection to the University of Texas. Unfortunately, there is no provenience for some of the important European goods such as trade beads and brass bells. The excavations and private collection also include two nearly complete pipes and four pipe sherds, as well as 11 Perdiz arrow points.

According to Pegi Jodry's notes (TARL form), 25 vessels exist for the McKee site collection. Perttula recently analyzed 23 of these vessels (Perttula and Kelley 2009), and the results have been made available for the following study

(Table 7.3). Vessel forms identified in his analysis include 15 carinated bowls, two bowls, three bottles, and three jars. The type Poynor Engraved dominates vessels from the collection, and several recently defined varieties are present. This includes Poynor Engraved, *var. Blackburn* (n=2), Poynor Engraved, *var. Cook* (n=3), Poynor Engraved, *var. Freeman* (n=3), and Poynor Engraved, *var. Hood* (n=3). Perttula identifies additional Poynor Engraved varieties based on specific design motifs (Perttula and Kelley 2009). He also notes that two plain vessels compare favorably Poynor Engraved vessel forms.

**Table 7.3. Vessels from the McKee Site**

Vessel number	Vessel form	Type or decorations
41AN32-1	carinated bowl	Poynor Engraved, <i>var. Blackburn</i>
41AN32-2	bottle	Hume Engraved
41AN32-3	bottle	Plain
41AN32-4	globular carinated bowl	Poynor Engraved, <i>var. Blackburn</i>
41AN32-5	carinated bowl	Poynor Engraved, <i>var. Cook</i>
41AN32-6	effigy bowl	Hood Engraved
41AN32-7	globular carinated bowl	Poynor Engraved, <i>var. Freeman</i>
41AN32-8	carinated bowl	Poynor Engraved, <i>var. Cook</i>
41AN32-21	globular carinated bowl	Poynor Engraved, <i>var. Freeman</i>
41AN32-22	carinated bowl	Poynor Engraved
41AN32-23	globular bowl	Poynor Engraved, <i>var. Hood</i>
41AN32-24	jar	Bullard Brushed
41AN32-26	globular carinated bowl	Poynor Engraved, <i>var. Freeman</i>
41AN32-27	globular carinated bowl	Poynor Engraved, <i>var. Hood</i>
41AN32-28	carinated bowl	Poynor Engraved
41AN32-29	carinated bowl	Poynor Engraved, <i>var. Hood</i>
41AN32-30	bottle	Plain
41AN32-31	carinated bowl	Poynor Engraved, <i>var. Cook</i>
41AN32-32	jar	UnID brushed-punctated design
41AN32-46	small globular carinated bowl	cf. Poynor Plain
41AN32-47	jar with lug handles	probably Bullard Brushed
41AN32-Extra-1	small globular carinated bowl	cf. Poynor Plain
41AN32-Extra-2	globular carinated bowl	Patton Engraved

The remaining vessels include at least one (and more likely three) that can be typed as Bullard Brushed. One of these has three rows of tool punctations below the lip and vertical brushing that extends from the rim-body juncture to near the base. Patton Engraved (n=1), Hood Engraved (n=1), Hume Engraved (n=1), and plain vessels (n=2) were documented as well (Perttula and Kelley 2009).

The site files list 341 ceramic sherds, but my analysis concludes that many of these are from the same vessel. For example, one bag (#35) contains 80 sherds, but it appears they come from only two vessels. Therefore, I record these as sherd sections and the groups count as just two sherds. Due to this count, and the absence of several sherds submitted by Perttula for INAA, there is difference between the specimen inventory and my total count (n=124). Poynor Engraved is the only identifiable type among the sherds. There are also 76 plain sherds, and therefore, less than 100 decorated sherds.

The types of ceramics indicate a Late Caddo period occupation, and according to Kleinschmidt (1982:226), the McKee site is part of the Frankston Phase III group. However, the European trade goods donated by the landowner support the existence of a historic Allen phase component. This is an interesting collection because suggests the site's occupation may extend from the late prehistoric through the Historic period.

#### **41AN34 - Freeman Farm**

The Pierce Freeman Farm is around five miles south of Frankston where Jackson excavated four burials and carried out a small surface collection in 1931. According to Pegi Jodry's notes, the site is a cemetery with no known associated habitation area. During Jackson's work, he recovered twenty vessels from the

burials (Appendix 1; Table 7.4). All of these vessels are still complete except for one, which now consists of around 100 sherds. This group of sherds is all presumably from one Patton Engraved vessel. No other types are recognizable among the 34 remaining sherds.

The vessels in the collection are primarily Poynor Engraved (or have designs that closely approximate the type Poynor Engraved). Many of these vessels favor Poynor Engraved varieties such as *Freeman* (n=6), *Cook* (n=1), *Hood* (n=2), and *Blackburn or Hood* (n=1). Other fine ware types identified at the site are Patton Engraved (n=1), Hume Engraved (n=1) and Hood Engraved (n=1). One vessel has design motifs much like Patton Engraved, *var. Patton*, but without tick marks. The only other recognizable types are Bullard Brushed utility ware vessels (n=2). Three vessels, one plain and two with engraved decorative elements, are unidentified as to type.

**Table 7.4. Vessels from the Freeman Farm Site**

Vessel number	Vessel form	Type or decorations
41AN34-1	bottle	Hume Engraved
41AN34-4	jar with lug handles	Bullard Brushed
41AN34-5	carinated bowl	cf. Patton Engraved
41AN34-6	globular bowl	Poynor Engraved, <i>var. Hood</i>
41AN34-7	carinated bowl	Poynor Engraved
41AN34-8	globular bowl	UnID engraved design
41AN34-9	globular bowl	Poynor Engraved, <i>var. Freeman</i>
41AN34-10	small globular bowl	Plain
41AN34-11	globular bowl	Poynor Engraved, <i>var. Freeman</i>
41AN34-16	globular bowl	Poynor Engraved, <i>var. Freeman</i>
41AN34-17	effigy vessel	Hood Engraved
41AN34-22	carinated bowl	Poynor Engraved, <i>var. Cook</i>
41AN34-23	globular bowl	Poynor Engraved, <i>var. Hood</i>
41AN34-24	globular bowl	cf. Poynor Engraved, <i>var. Freeman</i>
41AN34-27	jar with lug handles	Bullard Brushed
41AN34-28	globular bowl	Poynor Engraved, <i>var. Freeman</i>

Table 7.4 (continued)

41AN34-29	carinated bowl	Patton Engraved, <i>var. Patton</i>
41AN34-30	globular bowl	UnID engraved design
41AN34-31	globular bowl	cf. Poynor Engraved, <i>var. Freeman</i>

Additional ceramic materials reported from the burials include a whole pipe and a punctated pipe stem fragment. The TARL specimen inventory lists 68 sherds, presumably from the surface collection. Several of these are part of sherd sections, which account for my lower total (n=33). Regardless, the sample size is too small to be included in the detailed ceramic sherd analysis. Lithic materials consist of three arrow points, one unidentified and two tentatively identified as Cuney and Perdiz. There are no European trade goods reported or recovered from the site.

#### **41CE6 - Hackney**

The E.W. Hackney site is on a tributary of Killough Creek in Cherokee County. The site was discovered in 1935 after a landowner's mule fell into a hole, exposing a ceramic vessel (Cole 1975:101-110). Shortly after, A. M. Woolsey from the University of Texas excavated two burials at the site. Woolsey noted a midden area in close proximity to the burials but never tested it. The specimen inventory lists six arrow points, including three Bonham, a Cuney, and two unidentified. Other items recovered from the burials include two Anderson knives, 12 conch columnella beads, 18 olivella beads, a possible gunflint and a brass hawk bell.

Ceramic materials present in the site collection include one plain elbow pipe. A short-stemmed elbow pipe with a conical bowl and crosshatched design is currently missing. Woolsey collected only 17 sherds, so the site will not be

included in the detailed ceramics analysis. However, he recovered eight whole vessels, the majority of which are Patton Engraved (Appendix 1; Table 7.5).

**Table 7.5. Vessels from the Hackney Site**

Vessel number	Vessel form	Type or decorations
41CE6-1	globular bowl	Patton Engraved
41CE6-3	carinated bowl	Patton Engraved, <i>var. Patton</i>
41CE6-7	effigy bowl	Hood Engraved
41CE6-8	bottle	UnID engraved design
41CE6-9	bottle	UnID brushed design
41CE6-11	globular bowl	Patton Engraved
41CE6-12	bottle	Hodges Engraved
41CE6-13	jar or deep bowl	Patton Engraved

Three Patton Engraved vessels are unspecified as to variety, but all likely relate to *var. Fair* or *Freeman*. The other typed vessels include Patton Engraved, *var. Patton* (n=1), Hodges Engraved (n=1), and Hood Engraved (n=1). The latter is a bowl with an effigy head on the rim of one side of the vessel, and a tail rider on the other (Appendix 1). Two bottles are unidentified as to type. The first vessel has triangular tick marks on a horizontal line below the lip and another engraved element at body-neck juncture. The other bottle has brushing across the majority of the vessel in multiple directions.

#### **41CE12 - Allen**

Less than a mile from Killough Creek is the Jim Allen site (41CE12), the namesake for the Allen phase. Woolsey excavated the habitation site with an associated cemetery in 1935. Nineteen burials were excavated, one by the landowner. Although they identified three midden concentrations, few or no artifacts appear to be collected from those areas. Cole (1975:37) proposed the cemetery groups fit into three sections, but whether they were associated with

the middens is unknown. One of the burials (AH-10) contained European trade goods, including eight blue glass trade beads and a brass tinkler. There were also two whole elbow pipes, but one is currently missing.

The site has one of the only collections of osteological material from Allen phase sites in the area. However, the assemblage does not appear to represent a normal biological demographic population, and therefore comparison or interpretations resulting from the study are tentative at best (Story 1990:410).

Only ten sherds are present in the collection at TARL, but excavations recovered sixty-two whole vessels. During the course of this study, I documented 55 of the whole vessels from the Allen site (Appendix 1; Table 7.6). The difference in the counts is because some of the vessels are in the Texas Memorial Museum, and others might be missing (TARL site files).

The Allen site (41CE12) exceeds all others in terms of the number of vessels and the diversity of established types. Cole describes the vessels and other funerary materials in detail (1975:35-83), therefore, I only briefly list the vessels here. Five of these are Bullard Brushed vessels, four of which are jars and one is a poorly made bowl. One bottle with a short and bulbous neck compares favorably to the type Keno Trailed. All but one of the four effigy bowls is Hood Engraved, *variety Allen*. The other is a Hood Engraved, *variety Hood* vessel (Perttula 2008c).

**Table 7.6. Vessels from the Allen Site**

Vessel number	Vessel form	Type or decorations
41CE12-1	jar	Bullard Brushed
41CE12-2	bottle with short neck	Hume Engraved, <i>var. Allen</i>
41CE12-3	bottle with short bulbous neck	cf. Keno Trailed
41CE12-4	globular bowl	Patton Engraved, <i>var. Allen</i>
41CE12-6	carinated bowl	Poynor Engraved, <i>var. Blackburn</i>

Table 7.6 (continued)

41CE12-7	globular bowl	Patton Engraved
41CE12-8	effigy bowl	Hood Engraved, <i>var. Hood</i>
41CE12-10	bottle with short neck	Hume Engraved, <i>var. Hume</i>
41CE12-12	bottle with short neck	Hume Engraved
41CE12-13	bottle	Killough Pinched
41CE12-15	globular bowl	Poynor Engraved, <i>var. Freeman</i>
41CE12-16	double globular bowl	Patton Engraved
41CE12-17	globular bowl	Patton Engraved, <i>var. Allen</i>
41CE12-63	carinated bowl	Simms Engraved, <i>var. Darco</i>
41CE12-64	carinated bowl	UnID engraved design
41CE12-66	deep bowl	UnID engraved design
41CE12-67	bowl	Bullard Brushed
41CE12-68	carinated bowl	Patton Engraved
41CE12-69	carinated bowl	Simms Engraved, <i>var. Darco</i>
41CE12-70	bottle	Plain
41CE12-71	bottle with short neck	Killough Pinched
41CE12-76	large bowl or carinated bowl	UnID brushed design
41CE12-132	bottle with short neck	Hume Incised
41CE12-136	carinated bowl	Simms Engraved, <i>var. Darco</i>
41CE12-138	globular bowl	Patton Engraved
41CE12-161	globular bowl	Patton Engraved, <i>var. Allen</i>
41CE12-162	small jar	Bullard Brushed
41CE12-164	bottle	Hume Engraved
41CE12-165	globular bowl	Patton Engraved, <i>var. Freeman</i>
41CE12-167	bottle with short neck	UnID engraved-brushed design
41CE12-168	bottle with narrow neck	Hume Engraved, <i>var. Hume</i>
41CE12-169	effigy bowl	Hood Engraved, <i>var. Allen</i>
41CE12-171	globular bowl	cf. Poynor Engraved, <i>var. Freeman</i>
41CE12-172	globular bowl	Patton Engraved, <i>var. Allen</i>
41CE12-173	carinated bowl	Poynor Engraved, <i>var. Blackburn</i>
41CE12-174	jar	Bullard Brushed
41CE12-175	globular bowl	Poynor Engraved, <i>var. Freeman</i>
41CE12-176	effigy bowl	Hood Engraved, <i>var. Allen</i>
41CE12-178	carinated bowl	UnID brushed design
41CE12-179	globular bowl	Poynor Engraved, <i>var. Freeman</i>
41CE12-180	globular bowl	Poynor Engraved, <i>var. Freeman</i>
41CE12-181	effigy bowl	Hood Engraved, <i>var. Allen</i>
41CE12-182	carinated bowl	Simms Engraved

Table 7.6 (continued)

41CE12-183	jar	Bullard Brushed
41CE12-184	bottle with narrow neck	Killough Pinched
41CE12-185	bottle	Hume Engraved
41CE12-186	carinated bowl	Patton Engraved, <i>var. Patton</i>
41CE12-188	globular bowl	Patton Engraved, <i>var. Freeman</i>
41CE12-189	globular bowl	Poynor Engraved, <i>var. Freeman</i>
41CE12-190	globular bowl	Patton Engraved
41CE12-191	globular bowl	Patton Engraved
41CE12-192	globular bowl	Poynor Engraved, <i>var. Hood</i>
41CE12-193	bottle	Hume Engraved
41CE12-194	bottle with collared neck	Hume Engraved, <i>var. Hume</i>
41CE12-195	globular bowl	Patton Engraved

Among the nine Hume Engraved bottles, there are at least two different varieties, *variety Allen* (n=1) and *variety Hume* (n=3). The specific varieties on four of the Hume Engraved vessels are not recognizable. One Hume Engraved vessel has decorations with incising instead of engraving. Other bottles include three Killough Pinched vessels.

Patton Engraved vessels from the site have at least three different varieties, *variety Allen* (n=4), *variety Freeman* (n=2), and *variety Patton* (n=1). Seven of the Patton Engraved vessels are unrecognizable as to variety. Eleven of the Patton Engraved vessels are globular bowls and two are carinated bowls. One vessel is a unique double globular bowl (41CE12-16).

The Poynor Engraved vessels include the *varieties Blackburn* (n=2), *Freeman* (n=6), and *Hood* (n=1). Two of these vessels are carinated bowls and the remaining are globular bowls. Four Simms Engraved carinated bowls, potentially acquired through trade, are in the collection as well.

Three vessels, a bottle, a carinated bowl and a deep bowl, have engraved decorations but are not recognizable as types. The remainder of the vessels

includes a plain bottle, and two brushed vessels (one is likely the bottom part of the body and base of a Patton Engraved vessel).

The majority of the vessels are Patton Engraved, but a variety of other types is present as well. Jan Guy notes that although this is the type-site for the Historic period Allen phase, the main use of the cemetery may have taken place in the proto-historic (Notes on file at TARL). The evidence for this includes the presence of trade goods in only one burial on the periphery of the cemetery and the wide variety of ceramic types.

#### **41CE15 - Reagor**

Less than three kilometers to the northeast of the Allen site is the A.H. Reagor site. Locals discovered the site when a whole vessel appeared during plowing in 1935. Woolsey excavated two burials at the site, and there were three vessels recovered from the site in total. There is a Patton Engraved, *var. Allen* globular bowl and a Poynor Engraved carinated bowl. The remaining vessel has vertical brushing over the entire surface.

Testing and trenching located a midden at the site around fifty meters west of the cemetery, but apparently, no excavations took place in this area (Cole 1975:147-151). The SI from TARL notes that only fourteen sherds are in the collection from the Reagor site, all from the work by Woolsey. Nine of the sherds are from Patton Engraved vessel(s), and the others are unidentified in terms of type. Four of the Patton Engraved body sherds are likely from the same vessel. These include a rim sherd section with downward pointing triangular tick marks attached to horizontal engraved lines and a body sherd with a concentric circle motif and node in the middle. Another body sherd, possibly the shoulder of a bowl, has an engraved element with triangular tick marks. Body sherds

definitely from other vessels include one with an interior and exterior red slip, and one from a vessel that may have neck banding.

#### **41CE25 - Fair**

The R. J. Fair site is north of Lake Jacksonville on a tributary of Gum Creek. One burial was reported and ten others excavated by Woolsey and UT in 1935. Although there are reports of a midden, apparently investigations never took place in it. Woolsey lists sixty-three arrow points from the burials, but according to the CAF, there are now only forty-five. This includes twenty-nine Perdiz, five possible Bassett, and five possible Fresno or Turney.

The ceramic collection is primarily 27 vessels, and there are only ten sherds. All of these were associated with the human remains. Perttula has recently analyzed the large collection of mostly Poynor Engraved (n=12) vessels (Perttula, *in press*). According to Kleinschmidt (1982), the Fair site dates to Frankston sub-phase 3 (ca. 1560-1650).

The Poynor Engraved varieties from among the vessel collection includes *Blackburn* (n=1), *Freeman* (n=3), and *Hood* (n=6). Three Patton Engraved carinated bowls, Patton Engraved, *var. Fair* (n=2) and Patton Engraved, *var. Allen* (n=1), are present as well. There are no reports of European trade goods and the site is thought to date to the late prehistoric.

#### **41CE421, 41CE422, 41CE423, and 41CE429 - The Faulkinberry Farm Sites**

John Faulkinberry contacted Mark Walters in early 2009 about several sites located on his property. Walters visited, conducted a surface collection, and recorded nine sites (41CE421-429) in an area just to the east of Lake Palestine on Stone Chimney Creek. Several of the sites appear to be Historic Caddo sites and have significant research potential. It is my hope that collaboration with the

landowner will continue in the future. I briefly describe two of the more extensive sites and assemblages.

The Faulkinberry site (41CE421) is on an upland slope less than a kilometer from Stone Chimney Creek. The main occupation appears to be from the Historic period Allen phase, and likely has permanent structures, distinct work areas, and a nearby cemetery (Walters 2009, personal communication). Based on the presence of Gary dart points and sandy paste ceramics there is also a minor earlier Woodland component.

Along with the Walters' surface collection, the landowner has a large sherd collection (n=1500+) that was briefly examined. Walters noted that the assemblage contains Patton Engraved and Poynor Engraved fine wares. There is also several decorated elbow pipe fragments and other distinctive ceramics in the collection, this includes the types Lindsey Grooved, Spradley Brushed-Incised, and LaRue Neck Banded.

Just south of the Faulkinberry site on a sandy upland setting that slopes west towards Chimney Creek is 41CE429. Walters collected artifacts from the surface, excavated twenty positive shovel tests, and collected a sample for fine screening in late February 2009. The material culture recovered from these investigations is listed on the TARL site form and included two decorated pipe fragments and a lithic tool that is likely a gunflint. There are over one hundred ceramic vessel sherds including several identified as Patton Engraved. Over 80% of the sherds have brushing and the inclusions are primarily grog and hematite with very little bone (Walters 2009, personal communication).

#### **41CEXXD, 41CEXXE and 41CEXXF**

I received information from an anonymous source regarding several Allen phase sites on the upper Neches River in Cherokee County near Flat Creek. One of these sites has a collection of over 460 vessel sherds, dominated by brushed wares, as well as obsidian sourced to northern New Mexico. Most of the typed sherds are from Patton Engraved vessels, but Hume Engraved and Poynor Engraved sherds are also present. There are also engraved elbow pipe sherds typical of Allen phase sites and other Hasinai Caddo contexts in east Texas (see Napoleon 1995). I hope that at some point in the future these sites and the materials recovered from them can be made public.

#### **41AN183 and 41AN184**

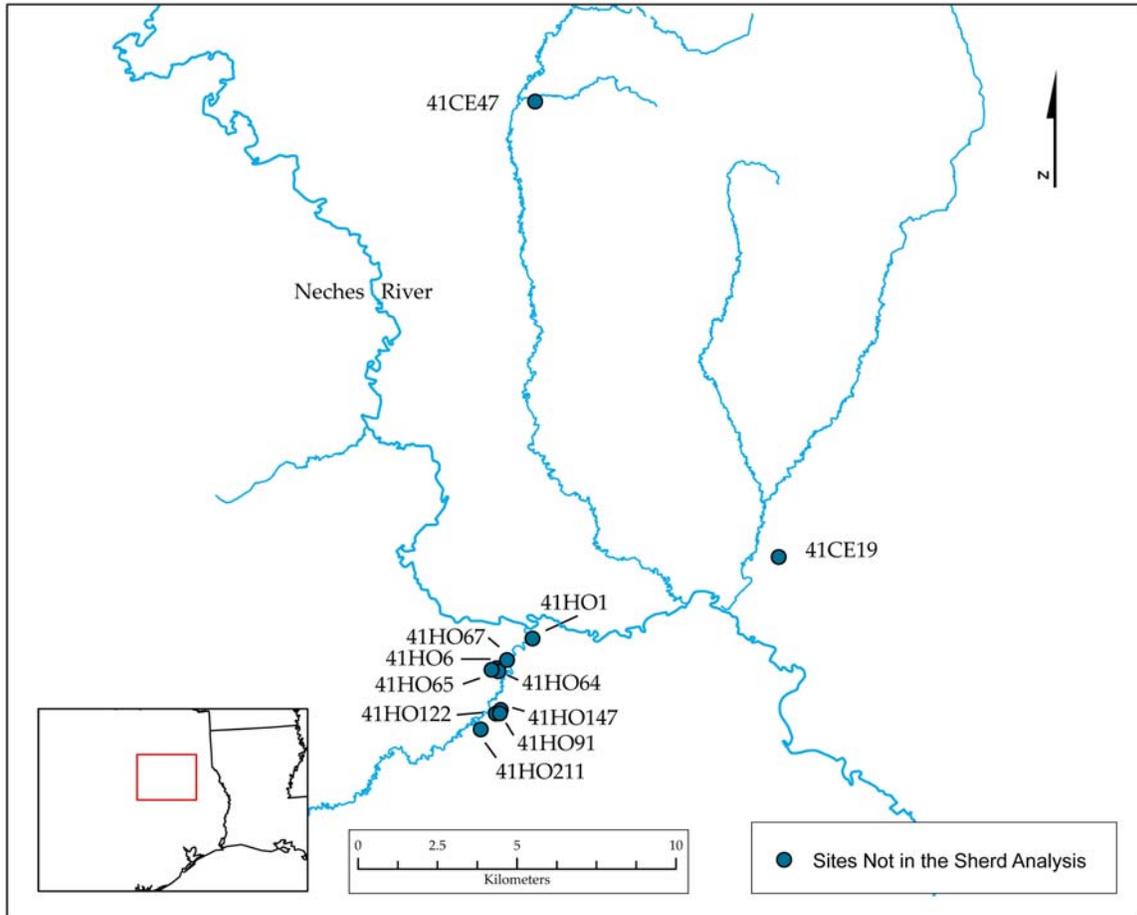
Just south of the Upper Neches cluster, and north of sites around San Pedro Creek, are AN183 and AN184. As a teenager in 1960, Ron Green and a group of friends found a site in an abandoned field on the upper Neches in Anderson County (Perttula 2010b). For many years prior, Green's father leased the land for agricultural purposes, and told his son that he had seen ceramics in the area. Green and friends recovered various materials from the sites including four Caddo ceramic vessels, five European glass trade beads, four stemmed and corner-notched arrow points (2 Cuney), and one large biface. Unfortunately, there is no information as to the association or provenience of the artifacts.

Green donated the artifacts to the Caddo Nation of Oklahoma in 2007. In a letter to the Caddo, Green stated that "[n]othing can undo what has been done, but I know that the Caddo Nation will ensure these artifacts are given the proper respect and honor they would get no where else" (Green 2007:2). The ceramic vessels that were repatriated include large a Patton Engraved bowl, a Poynor

Engraved carinated bowl, an untyped engraved carinated bowl, and an engraved bottle. Reports from Green also include a ceramic pipe from the burial feature, but it was lost.

#### **THE MIDDLE NECHES RIVER**

As noted in Chapter 6, the areas around the Middle Neches River near Bowles and San Pedro creeks are the location where the Spanish established the first mission in east Texas, San Francisco de los Tejas. Historical accounts establish the mission close to the west bank of the Neches River, along San Pedro Creek, and in the middle of the Nabadache village (Chapter 3). The Neche groups occupied areas nearby, east of the Neches River. I identified twelve sites and a private collection relevant to the study but without substantial sherd collections (Figure 7.2).



**Figure 7.2. Additional Sites along the Middle Neches River**

**41CE19 - George C. Davis**

Investigations at the George C. Davis site led to many influential studies on the Caddo in east Texas (Newell and Krieger 1949; Story 1972, 1981, 1998). This incredibly important Early Caddo site is only mentioned here because of isolated finds that are potentially part of a much later occupation. These finds include a single Patton Engraved sherd from the surface on the north side of the site (Creel 2010, personal communication). A few years later, minor excavations took place in the area but recovered nothing else related to Historic period. Finally, one piece of majolica (1720-1750) was also found several hundred meters

south of Mound A (Kenmotsu and Perttula 1993:152). Ceramic sherds from the site are not included because years of extensive work at the site have still not identified any significant Historic period Caddo occupation.

#### **41CE27 - One-Eye**

The One-Eye site is located in central Cherokee County around two miles south of Rusk on Box Creek. Thomas Hester and others recorded it in 1968. The CAF lists sixteen ceramic sherds recovered during the UT surface survey. Most of the sherds have brushing and two sherds are likely from Patton Engraved vessels. The site has not been located on the maps at TARL, and no UTM's are available. Notes indicate the site is around 9 kilometers northeast of 41CE47, but it does not appear on my maps.

#### **41CE47 - Ross**

Kegley and Witter recorded the Ross site, located on a floodplain near the confluence of Box Creek and Walnut Branch, in 1969. Reports from the visit state the site was largely in the gravels of, and rapidly eroding into, Walnut Branch (Notes on File at TARL). Locals described an Indian mound within the same sixty-acre field as the site. The mound had yielded projectile points at one point, but it is now plowed down to barely above the floodplain. A burial with complete vessels was located in the mid 1960s, but there is no documentation of the finds. There are no European trade goods, reported or otherwise.

The landowner Mr. John Ross owns a collection of sherds and a pipe, but the ceramics artifacts that I examined come from a surface collection and two small test pits apparently excavated by Kegley and Witter. Seventy-four sherds from this collection are stored at TARL and include two pinkware sherds, and three Patton Engraved sherds. My count differs from the specimen inventory by

eight sherds, and I could not resolve the difference. Regardless, this sample is too small for consideration.

#### **41HO1 - Plev Cutler**

The Plev Cutler site is one of several sites within the boundaries of Mission Tejas State Park (MTSP) in Houston County, Texas. The site is located on the north bank of San Pedro Creek, approximately two miles northwest of the town of Weches. The first MTSP manager Plev Cutler led Edward Jelks to the site during the survey for the Rockland Reservoir. According to informal reports from MTSP staff, for years Cutler rode on horseback from his home in Grapeland down through the creek valley to the park. Cutler would frequently climb down off his horse to collect artifacts from sites on his way to work (see MTSP collection below). Cutler reportedly had a collection from 41HO1 of glass beads, lead bullets, gunflints and gun parts from the site, including a modified gun barrel (Kenmotsu and Perttula 1993:152).

I could not definitively assign any ceramics materials to the Plev Cutler site. Jelks collected five or six small ceramic sherds from the surface, but those non-diagnostic sherds were discarded in 1964 (TARL site files). Kenmotsu and Perttula (1993) note there was Patton Engraved found at the site, but I was unable to find it mentioned in the files at TARL.

#### **41HO6**

This is the first of several sites recorded by Alex Krieger and Dr. H. B. Stenzel in April of 1944. In search of Mission Tejas, they surveyed plowed fields on both sides of San Pedro Creek a mile or two from the confluence of the Neches River. The site 41HO6 was the first of three sites recorded as George A.

Moore Site 1a, 1b, and 1c. We now know these sites are 41HO6, 41HO64, and 41HO65, respectively (Newell and Krieger 1949:13-14; Perttula et al. 2004:86-87).

The site 41HO6 was once thought to be the site of Mission San Francisco de los Tejas founded in 1690. In fact, a cannon was found at the site by George Moore around 1923 and was later donated to the San Jacinto Monument and Museum. It is a Spanish swivel mounted hand cannon with an iron interchangeable breach block and is currently on display in the gallery at the museum. No reports or collections of ceramic materials exist for the site.

#### **41HO64**

The site 41HO64, or Moore site 1b, is less than two kilometers southwest of the confluence of San Pedro Creek and the Neches River. Situated on a minor terrace, the site overlooks the west side of the San Pedro Creek floodplain. On Krieger and Stenzel's visit to the site, they visited the area where Mr. Moore plowed through a group of seven or eight burials (Report by Krieger on file at TARL). Prior to the visit "Mr. Moore had found several hundred glass beads, a ceramic pipe fragment, a Perdiz arrow point, and fragments of human remains at site (41HO64) during plowing, along with a number of large basally-notched dart points" (Perttula et al. 2004:86).

Along with a few fragments of human bone, Krieger and Stenzel found sherds of several types including Bullard Brushed, La Rue Neck Banded, Killough Pinched, Maydelle Incised, and Patton Engraved. They also found two glass beads, one blue, and the other tiny and white (Report by Krieger on file at TARL).

After passing through the hands of private collectors, some of the materials have recently been examined in detail and published (Perttula et al.

2004:87-99). The collection of European trade goods includes more than 7,640 glass trade beads, all drawn beads and either tubular or round in shape. There were also gun parts and ammunition, such as an iron gun cock and two pieces of lead shot and a gunflint made from "honey-yellow to blond-colored flint, possibly from a French source" (Perttula et al. 2004:95). Native-made artifacts include a decorated ceramic pipe fragment and several dart points.

#### **41HO65**

A couple of hundred meters to the west of 41HO64 is the site 41HO65, or Moore site 1c. The only artifact other than a few fragments of human bone recovered from the site was a catlinite pipe. The pipe, the smokestack type of catlinite pipe (see Brain 1979:248), was likely obtained from the French and would have been used in the calumet, or peace pipe, ceremony (Perttula et al. 2004:96, Figure 9). Krieger's notes also mention that a pistol was reported from near the site, but as far as I know, it was never been documented.

#### **41HO67**

Krieger identified the site 41HO67, on a slight knoll just above the floodplain and near to 41HO64, during 1944 survey as well. The records at TARL files mention "two glass beads were in a surface collection from the site" (Perttula et al. 2004:87). There were only eight sherds listed on the inventory, and two were sandy paste and presumably from an earlier occupation. Of the other six, four have brushed decorations, one is pinched, and the final is plain. Recently, professionals and avocationalists visited the site and collected a small number of sherds (n=10) from the surface. No diagnostic or engraved wares are in these collections and half of the sherds have brushing.

## **41HO91**

Erickson and Corbin (1996) recorded 41HO91, along with 41HO122 and 41HO147, at the edge of the San Pedro Creek floodplain during a survey in MTSP. In addition to recovering glass trade beads, they also found a Perdiz point, a lithic tool and debitage, a pipe bowl sherd, and several decorated sherds including one from a Patton Engraved vessel.

Archeological and Environmental Consultants, LLC more recently relocated and further investigated this site and others (Perttula and Nelson 2007). I, along with several interested archaeologists, volunteered for the shovel testing and metal detecting survey. The investigations discovered that the exact locations from Erickson and Corbin were a bit different from the site description. Therefore, they decided to assign two locations for the site (Perttula and Nelson 2007:6). The first, 41HO91, is in a wooded area, and the second 41HO91b is in an overgrown pasture or field.

Several of the shovel tests produced metal artifacts, but most contained only Caddo ceramics and lithics. We recovered a Hume Engraved sherd, a possible gunflint fragment of honey-colored chert, and several metal artifacts including an iron trigger from a French flintlock musket from the site. We also recovered a Poynor Engraved sherd, a Killough Pinched sherd, a Patton Engraved sherd from a bowl, and another honey-colored chert flake tool that may be from a broken gunflint from 41HO91b (Perttula and Nelson 2007:6-16).

## **41HO122**

Early reports from 41HO122 by Woldert (1937:207-211) include a brass epaulet and silver cane head along with human bones, likely indicating a Historic period Caddo burial. The cane head would likely have been a batton de

commandment given to the principal *caddi* or *xinesí*. Erickson and Corbin (1996) later recorded the site, and like 41HO91, Archeological and Environmental Consultants, LLC conducted investigations there as well (Perttula and Nelson 2007). These later works recovered small collections of ceramics that include a decorated elbow pipe bowl and less than 100 sherds.

The thirty-two ceramic sherds recovered from the most recent testing include two with decoration usually associated with Poynor Engraved vessels and one potentially from a Hume Engraved vessel (Perttula and Nelson 2007:16). Perttula and Nelson note that the high frequency of brushing at all three sites (41HO91, 41HO91b, 41HO122), in conjunction with a low plain to decorated ratio, are consistent with Allen phase ceramic assemblages. Recent investigations also recovered several artifacts of European manufacture including a cut nail and iron artifacts. One of the iron artifacts is unidentified, but the other two appear to date to the colonial period. The first is a frizzen, perhaps from an eighteenth century French musket. The second is a U-shaped piece that may be equipment related to riding a horse, possibly a bridle.

#### **41HO147**

The last site located by Erickson and Corbin (1996:30) to be included here is 41HO147. They discovered the site on a small sandy rise while trying to relocate 41HO91. Just north of north of 41HO91, Mr. and Mrs. Howard Moore had collected Caddo ceramics and glass trade beads (n=3) from 41HO147 when the land was cleared for pasture (Erickson and Corbin 1996).

Thick underbrush and grasses at the site hampered efforts during recent investigations (Perttula and Nelson 2007). Consequently, we only recovered two sherds, one from a Poynor Engraved vessel, and no European trade goods.

#### **41HO211 - Nabedache Blanco**

Galan (2003) located the Nabedache Blanco site during a short survey, and reported finding brushed Caddo ceramics, a possible Cuney point and a Perdiz perform, lithic debris, animal bone, and fire cracked rock from shovel tests. Another survey by Cooper and Cooper (2005) recovered a comparable collection of artifacts. Archeological and Environmental Consultants, LLC (A&E, LLC) conducted more thorough investigations after the TPWD acquired the tract of land adjacent to the MTSP and containing the Nabedache Blanco (41HO211) and Nabedache Azul (41HO214) sites (Perttula and Nelson 2006).

This latest work, including a metal detector survey, shovel testing, and excavation units, identified two separate areas at the site. Area A of the Nabedache Blanco site (41HO211) contained the highest concentration of Caddo ceramics along with a Spanish spur fragment, a French-like iron hoe, a possible iron strike-a-light, lead sprue, ten glass beads, and a few gun parts (Perttula and Nelson 2006:40). In Area B, the same area where Galan found the Cuney arrow point, they recovered a gunflint and a Turney arrow point. A&E, LLC found evidence for an earlier Woodland occupation, but the main occupation of the site took place after around A.D.1650, as confirmed with radiocarbon dates (Perttula and Nelson 2006).

A&E, LLC submitted two radiocarbon samples from charred hickory nutshells. One has a 2 sigma age range of A.D. 1510-1600 and the latter has a 2 sigma age range of A.D. 1660-1950. The dates are problematic (see Chapter 4), but suggest the Nabedache Blanco (41HO211) site was occupied in the early Allen phase (Perttula and Nelson 2006:46).

Perttula and Nelson (2006: Table 6) outline differences in the representation of certain decorative methods and decorative elements at the Nabadache Blanco and Nabadache Azul sites. They note that:

Because the historic Caddo component at the Nabadache Azul site appears to date to the mid-18th century and the Nabadache Blanco site several decades (or more) before that, it is possible that these differences may have temporal and stylistic implications. Thus, they would be useful in further refining the ceramic chronological sequence of Allen phase components based on comparisons of sherd assemblages (Perttula and Nelson 2006:69).

Unfortunately, the sample size of ceramic sherds (n=94) from the Nabadache Blanco site is too small to be included in the detailed analysis. Fine wares included Patton Engraved (n=3) and an engraved bottle with triangular tick marks. The only other represented type is Bullard Brushed.

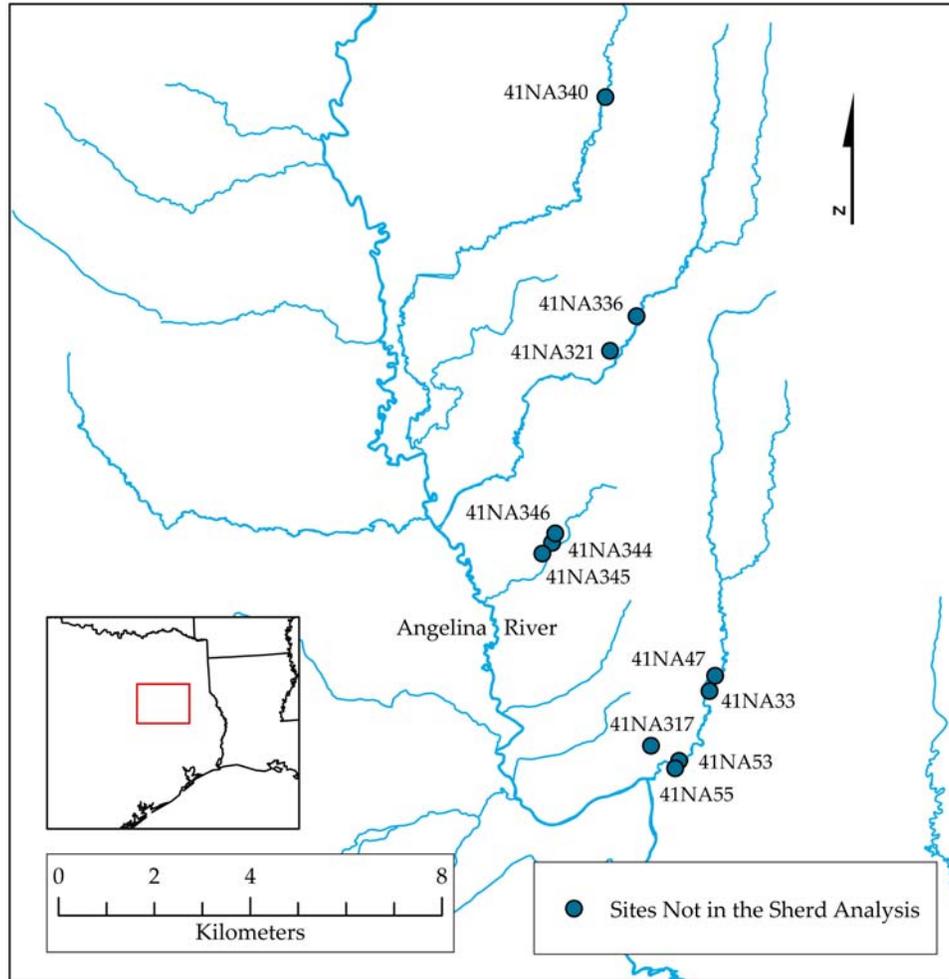
### **Mission Tejas State Park Collection**

As part of a trip to east Texas, Tim Perttula, Mark Walters, Bo Nelson and I visited Mission Tejas State Park (MTSP). We documented a small assemblage collected by Plev Cutler during his years as manager of the MTSP. The collection is stored at the park office and included prehistoric and Historic period Caddo ceramic sherds. Though no exact provenience exists for these sherds, Historic Caddo types such as Patton Engraved are present.

### **THE MIDDLE ANGELINA RIVER**

The area around the Middle Angelina River has eleven sites relevant to this study but without substantial sherds collections (Figure 7.3). Avocational archaeologists located nearly all of the sites, many while searching for site of

Mission Concepción (41NA344). As noted in the previous chapter, the location of Mission Concepción indicates that at least some of these sites are associated with the Hainai Caddo.



**Figure 7.3. Additional Sites along the Middle Angelina River**

#### **41NA33 - Legg Creek #1**

Legg Creek #1, or 41NA33, is one of several sites located during surveys by Thomas and Janice Mayhew in the early 1970s around Legg Creek in Nacogdoches County. Their reports place 41NA33 on a rise in a formerly cultivated field just east of the Legg Creek floodplain. The site apparently

remains intact, but the assemblage consists of just thirty-five sherds from the surface. I examined the small collections from the Mayhew's work now stored at TARL. Most of these have brushing, and there are three Patton Engraved and one Patton-Poynor Engraved sherds. One sherd from a carinated bowl has an engraved scroll element.

#### **41NA47 - Legg Creek #5**

Legg Creek #5, or 41NA47, is a site located by the Mayhews on the west side of the floodplain of Legg Creek near the confluence of it and a main tributary. The site form lists 50 sherds, three from Patton Engraved vessels. However, I could only locate 41 sherds, more than half of which have brushing but none appeared to be from Patton Engraved vessels. Kenmotsu and Perttula (1993) classify the site as Late Caddoan, but confirming this requires further investigation.

#### **41NA53 - Legg Creek #10**

The Mayhews located Legg Creek #10, or 41NA53, on the west side of the floodplain of Legg Creek as well. Erosion and road construction had partly destroyed the site, but small portions of it were still intact in the 1970s. The only collection from the site consists of 60 sherds. More than two-thirds of these have brushed decorations, but there are few fine ware sherds and no recognizable types.

#### **41NA55 - Legg Creek #12**

Legg Creek #12, or 41NA55, occupies a slightly higher area of pasture just 20 yards north of Legg Creek. At the bottom of the west side of the Legg Creek floodplain, it sits only 150 yards away from Legg Creek #11 (41NA53). The

Mayhews located Legg Creek #12 in a survey conducted in 1973. They performed a surface survey and acquired a small collection of artifacts. I examined 60 ceramic artifacts from TARK: 15 plain, one incised, two engraved, and 42 brushed sherds. Decorations on the two engraved sherds consist of an unidentified element (from a carinated bowl) and a crosshatched zone. Additionally, they collected one chert flake, six petrified wood flakes, one bone fragment, and one battered chert stone. Due to the lack of diagnostic material and small sample size available for component classification, analysis potential for Legg Creek #12 remains tenuous. An undifferentiated Caddo component is the only classification made for the site.

#### **41NA317**

SWCA, Environmental Consultants located 41NA317 during the Keystone Pipeline project. Perttula recently analyzed the eight Caddo vessel sherds, and the small collection includes a Patton Engraved rim sherd, a brushed rim sherd, and several plain and decorated body sherds (Perttula 2009). Although based on a relatively small sample, the site likely has a Historic Caddo Allen phase occupation.

#### **41NA321 - David King**

The David King site (41NA321) is located 200 meters to the southeast of King Creek and within 1 km of the J. T. King site (41NA15). It consists of a pasture and woodland setting that slopes gently to the east toward the creek. Tom Middlebrook and Morris Jackson recorded and conducted archaeological investigations at the site in 2009, determining it probably represents a Historic Caddo occupation.

During excavations, they found Caddo ceramics, some lithic debitage, charcoal, and bone fragments. The ceramic sherd assemblage from the David King site includes 12 plain, 70 brushed (67% of the decorated), seven pinched and appliqué-pinched, two Spradley Brushed-Incised, three incised, four Patton Engraved, two linear engraved, one crosshatched engraved, and 34 sherdlets. There is also a possible gunflint from the site. The number of sites along King Creek, along with the preservation and assortment of ceramics, offers research potential for understanding the structure of Caddo villages.

#### **41NA336 - Wes Wisener**

The Wes Wisener site (41NA336) is a historic farmstead and possibly makes up a portion of a larger Historic Caddo village that may include the J. T. King site (41NA15) to the north and the David King site (41NA321) to the south. Tom Middlebrook recorded the site in 2009, and in 2010, he, Mark Walters, and Bo Nelson conducted shovel testing there. Their findings indicate Historic Caddo, French Colonial, and Spanish Colonial occupations.

The artifacts recovered at 41NA336 include approximately 200 Caddo sherds, lithic debitage, a crude petrified wood arrow point, a smooth pitted stone, a white barrel-shaped glass bead, seven square nails, and a possible gunflint. The majority of the Caddo pottery fragments are brushed, and approximately ten of the sherds have Patton Engraved decorations.

#### **41NA340 - A. L. Self**

Until recently, only a handwritten note in the TARL site files documented the collection from 41NA340, the A. L. Self site (see Chapter 4). The landowners originally found the materials in 1933 after floodwaters exposed a Historic Caddo burial containing ceramic vessels and a pipe, an Anderson blade, and

European trade goods. Recently, Tom Middlebrook tracked down surviving family members of the landowner, and though they no longer own the property, most of the collection is still in their possession.

Middlebrook documented the artifacts, which included one vessel that compares favorably to Patton Engraved. He also recorded an oral history related to the site and collection. Then, he used the information to locate and record the A. L. Self site, as well as conduct minor testing.

#### **41NA344 - Mission Concepción**

Recently, Middlebrook and a group of others located several sites on the slopes of the first terrace above, and less than 2 kilometers (about a mile) east of, the Angelina River. The initial survey in May 2010 identified three sites no more than one-half a kilometer apart with artifacts consistent with Historic Caddo sites. Additional work this year at the Gallant Falls site (41NA344) makes it a very likely candidate for Mission Nuestra Señora de la Purísima Concepción, only the third mission to be located archaeologically in east Texas. Establishing this location as the mission will allow us to triangulate better the locations of Hasinai Caddo groups in the future.

Recent work at the proposed site of Mission Concepción (41NA344) included a magnetometer survey of a 60 x 60 meter area, metal detector work, and minor testing. During these surveys, they identified a 30 x 60 meter concentration of nails. The materials from 41NA344 consists of more than 300 nails, around 30 gun parts, 4 pieces of horse-related gear, and additional lead and copper fragments. However, no European ceramics or trade beads have yet to be recovered. Investigations also produced a small number of Caddo sherds, but up to this point, no recognizable types.

### 41NA345 - Hainai Hayfield

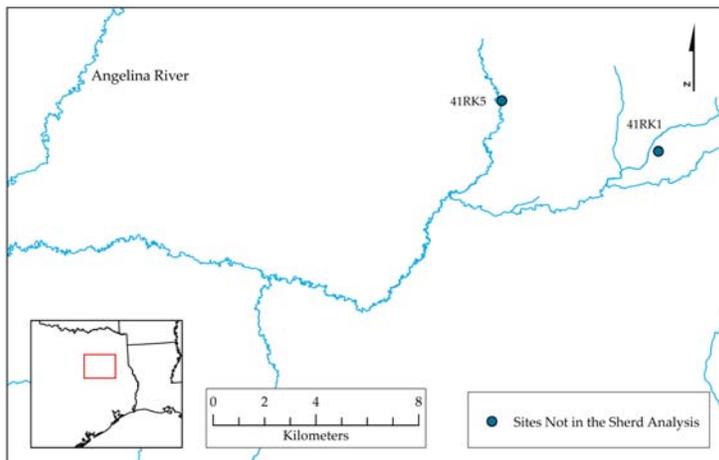
South of the proposed site of the Mission Concepción is the Hainai Hayfield site (41NA345). Perhaps this is the village of the Hainai principal leader Cheocas mentioned by the Spanish in 1721 (see Chapter 3). Preliminary surface collections include Patton Engraved sherds, but no European trade goods.

### 41NA346 - Belle Gallant

Just north of the Mission Concepción is the Belle Gallant site (41NA346), apparently an Anglo domestic occupation of the late 19<sup>th</sup> or early 20<sup>th</sup> century. The site also has a small collection of Caddo sherds including Patton Engraved, which suggests it is likely associated with the nearby mission.

### THE EAST FORK OF THE ANGELINA RIVER

Sites in the previous chapter that are located around the east fork of the Angelina River include Mission Nasonis (41RK200), 41RK191, and 41RK197. To the east of these sites, I identified two additional Caddo sites in the area that date to the historic period (Figure 7.4). Both sites have European trade goods, but neither has a substantial collection of ceramics.



**Figure 7.4. Additional Sites along the East Fork of the Angelina River**

## **41RK1 - Gatlin**

The W. M. Gatlin Site (41RK1) is just south of Mount Enterprise in Rusk County. Mr. Gatlin reported finding a grave at the site around the turn of the twentieth century. He discovered a fairly well preserved skeleton along with two extra skulls, each with a drilled hole through one side. The grave also contained what Gatlin believed to be offerings to the dead, including several projectile points, ceramic vessels, a pistol, and a rifle barrel. According to a 1935 account of Gatlin's discovery, the bones were reburied and the remainders of the artifacts were discarded.

The land was in cultivation at the time of Gatlin's discovery. Later, when he attempted to relocate the find, the land had become overgrown with trees. After considerable testing, he could not relocate the grave. However, further investigation of the vicinity did lead to the location of a campsite situated on a hillside about 50 yards west of a spring. A relatively sparse midden deposit was identified that extended to a depth of eight inches. The midden consisted of the following materials: broken animal bones, a few fragments of mussel shells, lithic debris, fragments of both Indian and European pottery, a few small pieces of glass, and a piece of a brass vessel bearing a rivet.

Gatlin presumed the European articles came from the Spanish mission at Nacodgoches, located approximately 24 miles to the south. At the surface near the campsite, there was a metate showing much use on one side. A small polished rubbing stone was also found about seven inches below the surface. The metate and rubbing stone were reported missing in the late-1970s during an attempt to locate the collection.

I examined the collections at TARL, which include European ceramics that primarily date to the early and mid-19<sup>th</sup> century (pearlware, whiteware, shell-

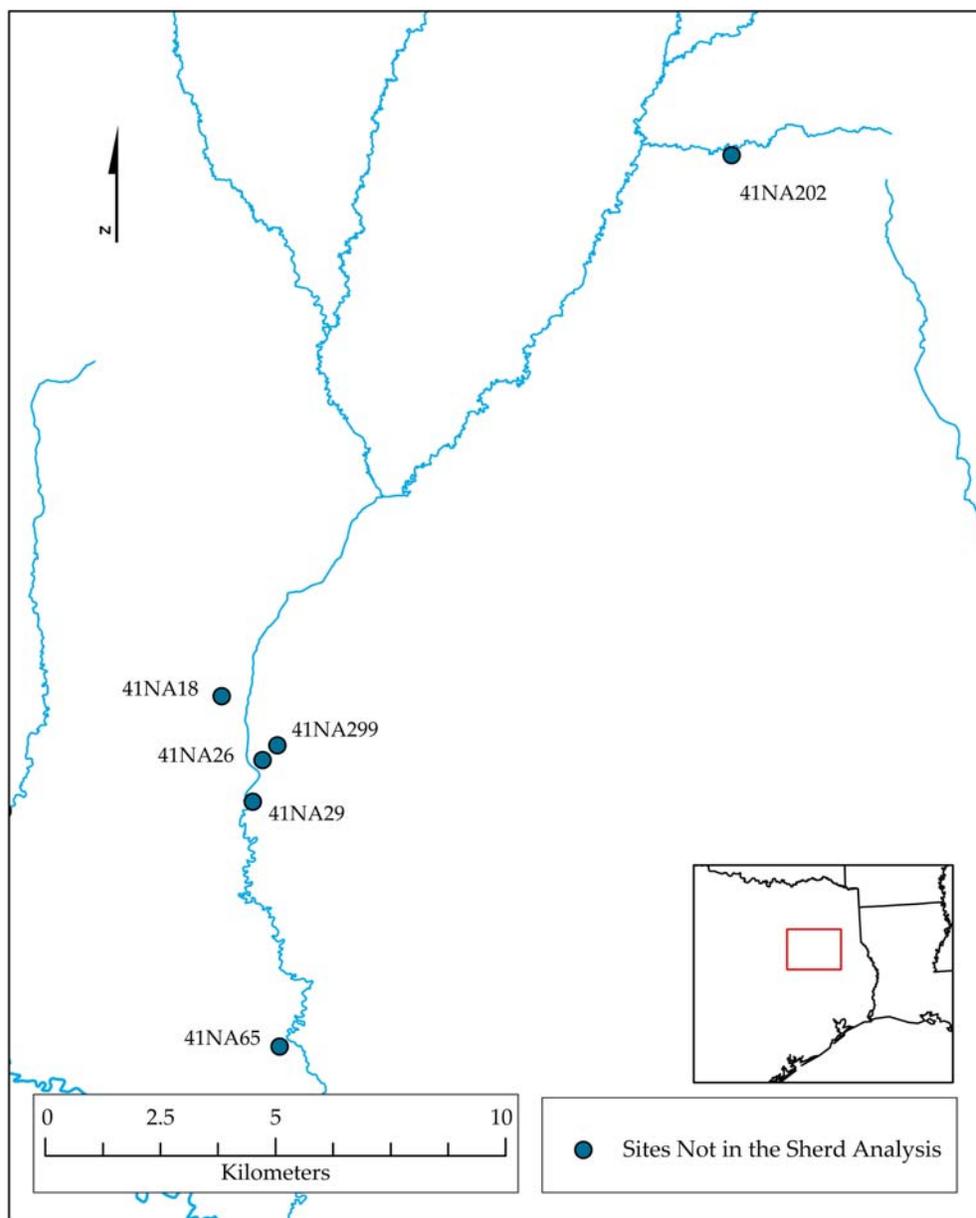
edged impressed, and earthenware), a brass kettle fragment, olive green bottle glass, and seven Native-made sherds. The latter are all Caddo sherds and non-diagnostic, except for one Woodland period Goose Creek Plain sherd.

#### **41RK5 - Sam Rider**

The Sam Rider Farm site, or 41RK5, is four miles west of Mount Enterprise, on the east side of the Angelina River. A. T. Jackson located the site in 1935 and found a small earthen mound, roughly 75 feet in diameter and three feet high, with a campsite nearby. Artifacts discovered at the Sam Rider Farm site include a pitted mano, a metate, a broken projectile point, and an unidentified petrified wood projectile point. I also examined 84 Caddo sherds from the collection that are currently stored at TARL. The majority of these are plain (40%) and brushed (37%), but there are incised, punctated and engraved as well. None of these ceramics is an established type, but the presence of a trade bead indicates European contact. The scarcity of materials and lack of diagnostic ceramic types prohibits more specific classification and analysis at this point.

#### **THE BAYOU LOCO**

The area around Bayou Loco has six sites relevant to this study but without substantial sherds collections (Figure 7.5). Like sites in the previous chapter, avocational archaeologists located most of these sites during surveys in the early 1970s for the Bayou Loco Reservoir. Most of these collections are the result of surface collections, and limited testing took place at few sites.



**Figure 7.5. Additional Sites along Bayou Loco**

**41NA18**

The Log Shed site, 41NA18, occupies a small, low, eroded rise projecting eastward into the floodplain on the west side of Bayou Loco. It rises almost ten feet above the surrounding bottomlands. Mayhew first located the late

prehistoric Caddo site, but Brown and Prewitt officially recorded it in 1972. Investigations in the late-1970s noted a small, collapsed log cotton house on the southeast edge of the site.

The most significant artifacts collected include 193 pottery sherds, half of which feature brushed decorations, a Clifton and two Perdiz arrow points. The scarcity of materials and the absence of diagnostic ceramic types prohibit further analysis at this point.

#### **41NA26**

The site 41NA26 was located on a rise on the eastern edge of the Bayou Loco floodplain during the Bayou Loco Reservoir Survey in 1972. It is possible that Bob Turner conducted investigations at the site before the survey. Artifacts from the site include one arrow point and around 20 sherds. Twelve of the sherds have brushing and one rim sherd is from a Patton Engraved vessel. They also recovered an expanding stem archaic projectile point.

#### **41NA29**

Brown recorded 41NA29 in 1972 during the Bayou Loco Reservoir survey, but little else is known about the site. The only materials from the site are a small collection at TARK of Caddo sherds, lithic debris and one Clifton arrow point.

#### **41NA65 - Loco Bayou #109**

Loco Bayou #109, or 41NA65, is in a densely forested area on the western edge of the Bayou Loco floodplain. Thomas Mayhew recorded the site in 1973 as part of the Bayou Loco Survey and it yielded a very small collection of sherds. One of these is from a Spradley Brushed-Incised vessel.

It is unclear, but Arnold may have been previously recorded this site, then, later designated as 41NA197, the Sam Stripling Site. Materials from the Sam Stripling site suggest an Early to Middle Caddo occupation. Additional testing is necessary at 41NA65 to provide a conclusive classification.

#### **41NA202 - Stephens Farm**

The Stephens Farm site (41NA202) is located just north of Nacogdoches, Texas. Bob Turner and his father excavated the site in late 1940 and early 1941. The site occupies an area inside and along the floodplain of Bailey Creek, approximately eight kilometers west of Central Heights in Nacogdoches, County. Two areas were identified within the site, Area A, located within pasture, and Area B, located within woodlands. The Turners acquired materials from Area A during the first half of the 20<sup>th</sup> century from agricultural fields that were visible after plowing. Turner indicated that he believed a shallow burial had been exposed and disturbed from regular plowing, leaving only scattered offerings across the surface (Turner 2008). However, he reported no evidence of a burial pit.

The Area A collection includes Middle to Late Archaic points (Wells, Morrill, and Gary dart points), a columella shell pin, and historic glass trade beads. From the surface of Area B, Turner collected over 7,400 historic glass trade beads of 21 varieties, and two silver beads, as well as 27 plain and fine wares sherds. The silver beads could possibly come from special rosaries. The six vessels from the Stephens Farm site include both fine wares and plain wares. The plain ware vessels consist of a small plain bowl and three small plain bottles. The engraved fine wares include two vessels, a Natchitoches Engraved bowl and Patton Engraved bowl (Perttula et al. 2010).

## 41NA299

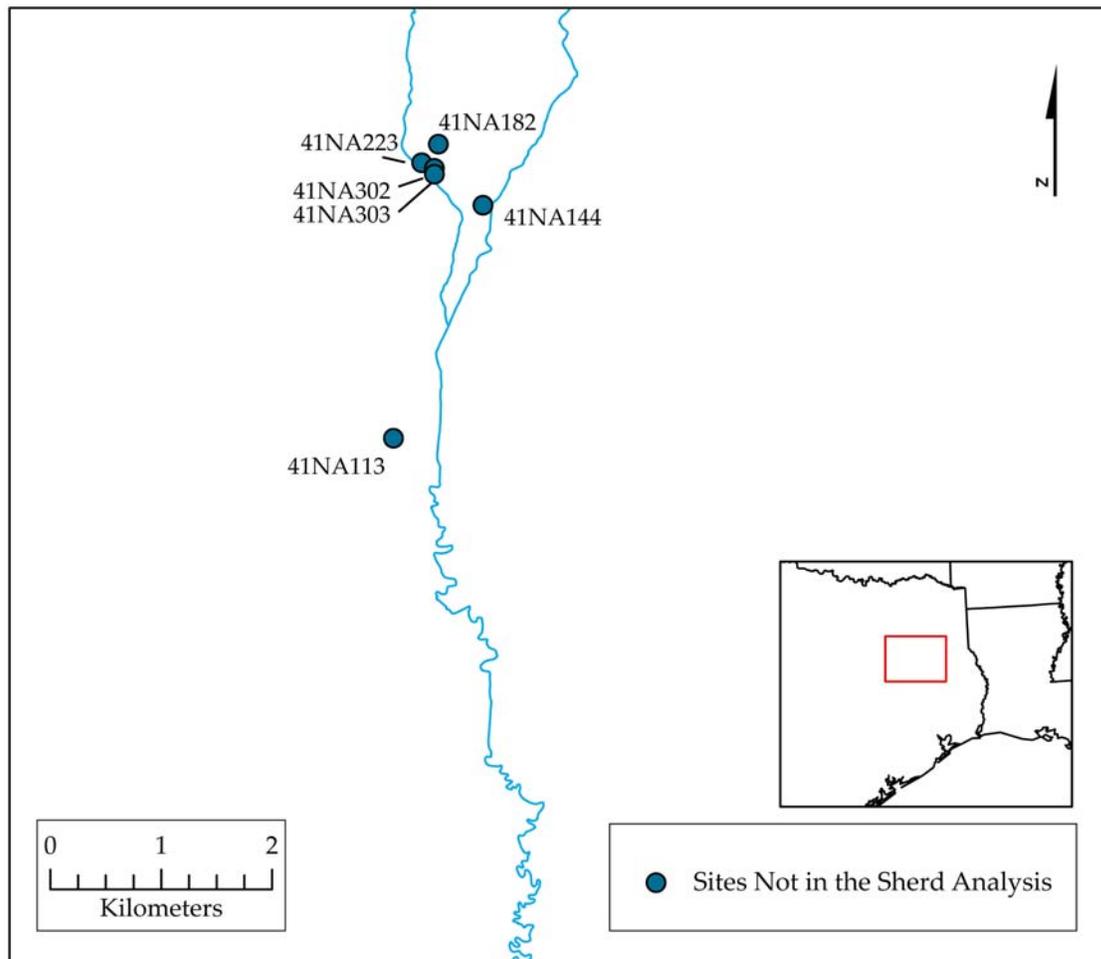
The D'Ortolon Ranch (41NA299) is a residential occupational area related to the 1790s to 1830s Spanish *rancho*, known prior to archaeological investigations as Rancho San Bernando del Loco. It occupies a bench along the Bayou Loco, overlooking the eastern shores of Lake Nacogdoches. Tom Middlebrook located and identified the *rancho* in 2003. His research revealed the presence of aboriginal Caddo ceramic sherds at the *rancho* which appeared in contexts indicating they were used during the *rancho* occupation. The D'Ortolon Ranch likely obtained the vessels through trade or purchase with one of the Caddo groups in the Angelina River valley after the 1790s. The pottery sherds recovered from site 41NA299 are among the few that represent the latest aboriginal Caddo ceramic wares known in East Texas (Perttula 2008a, 2008b).

The collection of Caddo pottery fragments from D'Ortolon Ranch includes 24 sherds (Perttula 2008a). The two rims and 22 body sherds are the result of surface collections, shovel tests, and excavations within Structure 1. The only three decorated sherds originate from inside Structure 1, the main *rancho* structure. They consist of a horizontally brushed rim sherd and two body sherds with opposed brushing. A large amount of the Caddo ceramics, 79% of those recovered, has bone temper, an attribute similar to the Caddo pottery found at the 1804 mission church Guadalupe del Pilar (41NA223) and at the Mayhew site (41N21). Additionally, 12.6% of the sherds from the D'Ortolon site are grog-tempered, and 8.3% are shell-tempered (Perttula 2008a).

## THE BAYOU LA NANA

Only one site in the area around Bayou La Nana has a substantial collection of Historic Caddo sherds, but six other sites in the area are relevant to

the study (Figure 7.6). Most of these sites are in or around downtown Nacogdoches, Texas, an area that has always been associated with the Hasinai Caddo group of the same name. As noted, the Spanish established Mission Guadalupe de los Nacogdoches in 1716 (Chapter 3).



**Figure 7.6. Additional Sites along Bayou La Nana**

### **41NA113**

The Mayhews located 41NA113 in 1975, but Jim Corbin recorded the site two years later. The site is on a rise near La Nana Creek and contained a burial

with two vessels, two glass beads, and one shell bead. The vessels consisted of two bowls, one unidentified as to type, and the other Patton Engraved, representing the Historic Caddo period (Table 7.6). I only have photographs for the latter vessel (Appendix 1).

**Table 7.7. Vessels from 41NA113**

41NA113-1	bowl	UnID engraved design
41NA113-2	bowl	Patton Engraved

In addition, 21 Native-made ceramic sherds are plain, brushed, and incised. Other artifacts recovered from the site include 40 19<sup>th</sup>-century European ceramic fragments, including transfer print, hand-painted Mocha, and edgeware. Finally, a single dart point documents an earlier Archaic occupation as well.

#### **41NA144**

Students from SFASU worked at the nineteenth-century Adolphus Sterne home (41NA144) in the town of Nacogdoches in 1982 (Corbin and Kisling 1983). Subsequently, the Texas Archeological Society (TASoc) held a field school at the site, and recovered artifacts including a small number of Caddo ceramics. We examined a selection of the small collection stored at SFASU to highlight the presence of Patton Engraved. Besides Patton Engraved carinated bowls, there are fine ware bottles and body sherds with hatched engraved elements.

#### **41NA182**

We examined a small sample of ceramics stored at SFASU from the site 41NA182 as well. The site 41NA182, a lot associated with the Acosta-Taylor House, is located approximately 200 meters north of the intersection of US-95 and SH-21 within the city limits of Nacogdoches, Texas. Considered one of the

most intact late Spanish Colonial sites in Nacogdoches, it was continuously occupied from as early as 1809 and perhaps from an even earlier date, ca. 1780, through 1989.

Corbin conducted investigations at the Acosta-Taylor House from 1989 through 1991. Artifacts recovered during an excavation in 1991 reflect multiple periods of occupation, including Historic Caddo, Mexican period, French Colonial, Spanish Colonial, and Republic of Texas. The ca. 1826 house is the primary cultural feature found at the site. A compact dirt floor from an earlier “palisado” house exists under the extant structure. Other archaeological features discovered include pits, post holes, midden debris, gardens and drip lines.

The recovered artifacts consist of ceramics that date from ca. 1780 to 1950. This include vessel sherds with Patton Engraved decorations, glass from ca. 1780 to 1950, and various metal artifacts dating from 1780 to 1950. Locations of the materials that date from ca. 1780 to 1830 are limited to the original lot of the Acosta-Taylor House, while later materials were much more widespread.

#### **41NA223**

The site 41NA223 is believed to be the 1804 Guadalupe del Pilar church. It sits immediately southwest of the intersection of US-59 and SH-21. The extent of the original site includes the areas between SH-21 and Pilar Street as well as US-59 and Banita Creek. The current extent of the site is unknown, but it appears to be situated immediately west of the current Nacogdoches County Courthouse parking lot. Corbin conducted investigations at site 41NA223 in 1999, which included a short trench and minimal hand excavations.

The artifacts recovered during excavation reflect multiple periods of occupations. Cultural features found at the site include a pit that contains

charcoal flecks and Caddo pottery sherds, remains of a large Historic (early 20<sup>th</sup> century) dirt pile that contains Proto-historic/Historic Caddo pottery sherds, late Spanish Colonial ceramics and glass, and animal bones.

Perttula recently analyzed the 112 Caddo ceramic artifacts (Perttula 2008). Among the 22 fine ware sherds, his analysis identified Patton Engraved (n=4) and Natchitoches Engraved (n=6) sherds (Perttula 2008). The utility ware sherds include brushed (n=17), brushed-incised (n=2), brushed-appliquéd (n=1), incised (n=5) and neck banded (n=1) decorations. There are also 63 plain sherds. Additionally, the European artifacts (which date to ca. 1790 to 1820) include: one iron S-link from a horse bridle, three dark green bottle glass sherds, two plain majolica sherds, three plain pearlware sherds, five plain creamware sherds, one blue shell-edged creamware sherd, one hand-painted pearlware sherd, one blue transfer-printed creamware sherd, four plain whiteware sherds, and one stoneware sherd. Corbin purportedly found a collection of other items in a pit feature, but no detailed record of its specific contents exists.

#### **41NA302 - Reese Andrews**

The Reese Andrews site (41NA302) occupies the site where an extant building, the Wettermark Bank, currently stands. It is located at the northwest corner of Plaza Principal, the downtown square in Nacogdoches, Texas. In 2006, after a pedestrian pointed out a few glass fragments, nails, and bricks on the ground surface inside the building, archaeological investigations ensued. Tom Middlebrook recorded and excavated the Reese Andrews site in 2006 and 2007, and intermittently ever since. A range of artifacts indicate multiple periods of occupation, including Historic Caddo, French Colonial, Spanish Colonial, Mexican, and Republic of Texas. Investigation at site 41NA302 represents some

of the first archaeological work conducted at Plaza Principal in downtown Nacogdoches.

The artifact assemblage recovered at the site consists of the following: forged and machine-cut metal, 20<sup>th</sup>-century wire nails, copper wire, screws, latches, Liberty nickels, bones, human teeth, glass from bottles ranging from A.D. 1800 to 2000, European and American ceramic vessel sherds, leather from shoe repair, coal, and a Victorian bisque doll body. Caddo ceramic vessel sherds occur in most excavated units and the assemblage includes plain, brushed, punctated, incised, and engraved sherds.

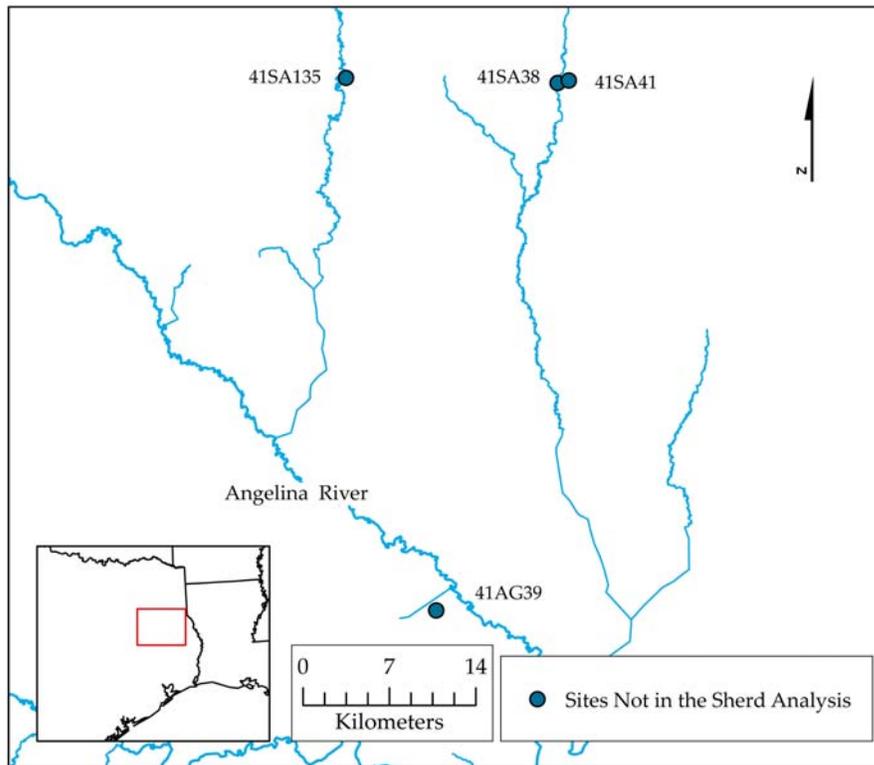
#### **41NA303 - Colonel and Mrs. Robert Parker Andrews**

The Colonel and Mrs. Robert Parker Andrews Site (41NA303) is situated in a small pocket park just south of the Wettermark building (41NA302). It occupies the second lot from the north on the west side of Plaza Principal, the downtown square of Nacogdoches, Texas. Similar to the occurrence of observations made by a pedestrian at the adjacent Wettermark building site, a passer-by noted ceramic sherds, glass fragments, nails, and bricks in the flower beds of the pocket park. Tom Middlebrook and Morris Jackson recorded and began excavations at site 41NA303 in 2007. They found artifacts representing the Historic Caddo, French Colonial, Spanish Colonial, Mexican, and Republic of Texas periods of occupation.

The artifacts recovered during excavations at site 41NA303 include forged nails, a metal lance, metal clasps, unidentified metal items, bone, glass ranging from A.D. 1780 to 1870, European and American ceramic fragments, bone and shell buttons, French and English gunflints, and Kaolin pipes. The Caddo ceramics include plain, brushed, punctated, incised, and engraved sherds.

## THE ATTOYAC RIVER AND AYISH BAYOU

There are four notable sites, in addition to the four sites noted in the previous chapter, from the Attoyac and Ayish bayous area (Figure 7.7). This includes one site near the Attoyac River and two sites along the Ayish Bayou. A fourth site south on a small tributary of the Angelina River is included as well.



**Figure 7.7. Additional Sites along Attoyac River and Ayish Bayou**

### 41SA38

The site 41SA38 consists of the remains of a village located on the southwest edge of the city of San Augustine, Texas. The site occupies an area of bottomland in a bend of the Ayish Bayou. G. E. Arnold recorded the site in 1940, but conducted no excavations. However, some surface materials were noted,

including a honey-colored chert gunflint, which could be Native-American or European, five ceramic sherds, and one quartz scraper.

#### **41SA41**

G. E. Arnold recorded the site 41SA41 in 1939. He recorded the presence of several artifacts, but at the same time noted an absence of occupational evidence. The site sits about 300 yards east of Ayish Bayou, a quarter of a mile south of San Augustine on the east side of the road to Broaddus. The possible burial site occupies bottomland and rises to the east. During the leveling for a small roadside park on the site, pottery sherds and trade beads were found. However, there are no indications as to the character or amounts of artifacts.

#### **41AG39**

Stephenson recorded the D.O. Mott site, 41AG39, during the River Basin Surveys for the McGee Bend Reservoir in 1948. The site is on a sandy terrace around 40 kilometers south of 41SA41, and just south of a large spring adjacent to Caney Creek, a small tributary of the Angelina River. The owner of the site reported ceramic sherds, spear points, arrow points, and trade beads, but context and associations are unclear. Stephenson collected very little material, only two sherds are in the collection at TARL, and there was no additional work done. The site is currently under Lake Sam Rayburn.

#### **41SA135**

Jim Corbin recorded the Jack Walton site (41SA135) in 1980. Shortly after, Tom Middlebrook conducted excavations that recovered hundreds of Caddo sherds, including a few from Patton Engraved vessels (Middlebrook 2007). The multi-component site also had hundreds of lithic flakes, as well as arrow and

dart points. The latter indicates an Archaic occupation, and presumably, the sherds represent a Late Caddo or Historic Caddo occupation. I did not examine the collection for this study, so little else is known about the site.

### THE NACONICHE CREEK

I identified two sites near Naconiche Creek, east of the Attoyac River and west of Bayou Loco, with Historic Caddo ceramics. Both are sites that have minor amounts of Patton Engraved sherds, but are believed to predate the Historic period (Figure 7.8).

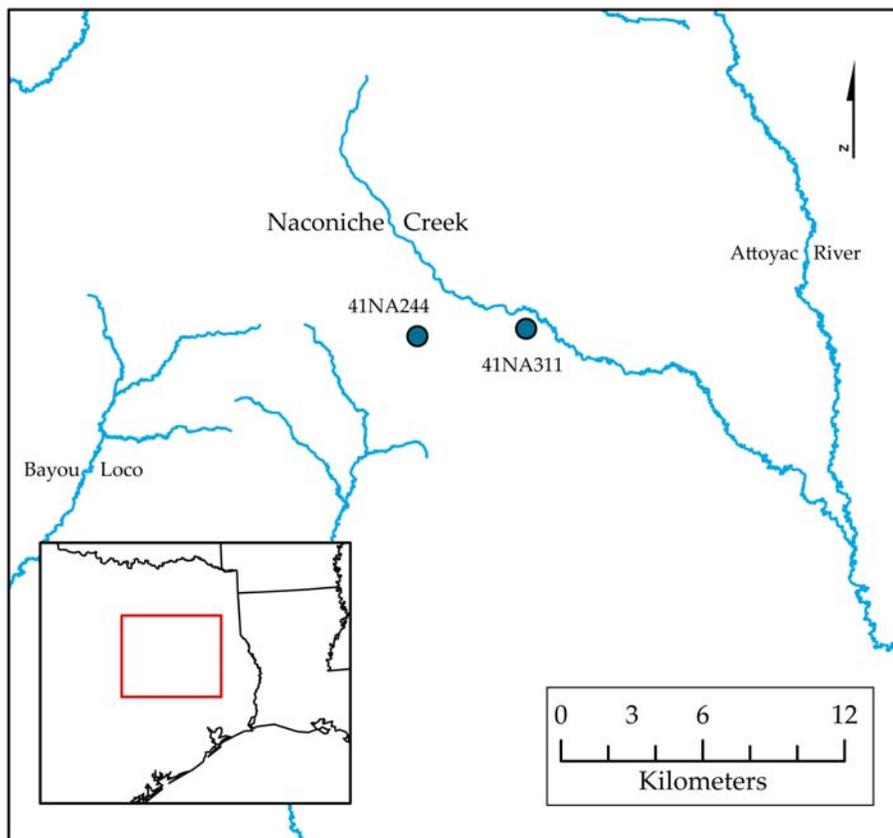


Figure 7.8. Sites along Naconiche Creek

#### **41NA244 – Cedar Branch**

Bo Nelson of A&E, LLC located the Cedar branch site (41NA244) in 1999. One Patton Engraved sherd was recovered during the test excavations, which “indicates a transitory use of the Telesco Creek valley after ca. A.D. 1650 by the Naconichi (or Nacaniche)” (Perttula 2011:10). Otherwise, the occupation appears to date earlier than the Historic period.

#### **41NA311 - Andy Gardener**

The Andy Gardener site (41NA311) occupies an elevated landform on a deep sandy ridge overlooking the floodplain of Crawford Creek, a tributary to Naconiche Creek. Deep East Texas Archaeological Consultants recorded the site in 1999 and found 44 ceramic sherds, diagnostic dart points, an arrow point, animal bone, and lithic debitage during shovel testing. The artifact assemblage recovered by Deep East Texas Archaeological Consultants at the Andy Gardener site consists of chert, ironstone, quartzite, and petrified wood flakes; one Morrill dart point and one Kent-like stem; one knife; one graver; one Clifton-like arrow point; 44 ceramic fragments; and 16 bone fragments.

A single 1 x 1 test unit was excavated by Andy Gardener and Tom Middlebrook in 2010. They recovered 164 artifacts from the unit including ceramic vessel sherds, three arrow points (Colbert fragment, Perdiz point, and unidentified fragment), a dart point fragment, lithic tools and debris, fire-cracked rock, and nutshell/wood charcoal (Perttula 2011).

In the ceramic assemblage, there are five sandy paste Woodland Period ceramic sherds. Four of these are Goose Creek Plain body sherds, and the fifth is a rim sherd from a jar decorated with linear and curvilinear punctations. The remaining ceramics are plain and decorated sherds from the Caddo tradition.

Sixty-seven percent of the utility ware has brushing, and Spradley Brushed-Incised is present. Among the fine ware, there is a carinated bowl sherd from a Patton Engraved vessel (Perttula 2011). The limited investigations and materials indicate multiple occupations at the site including the Woodland period, possibly the Early Caddo, and a Historic Caddo occupation as well. The latter appears to be the most substantial, but this is based on preliminary work and a relatively small sample.

## SECTION 3 INTERPRETATIONS AND CONCLUSIONS

## **Chapter Eight: Ceramic Seriation and Chronology**

In Section 3, I examine the ways in which ceramic collections, and other materials, reflect the chronology of Historic Caddo sites. The section also compares the characteristics of ceramic style and technology to the potential locations of the Hasinai Caddo. It will present and discuss 10 clusters of archaeological sites. The section uses these clusters of sites and their collections to help clarify the locations of the Hasinai Caddo in the upper Neches and Angelina River basins.

The main objective of Chapter 8 is to use the results of the ceramic analysis to construct a chronological sequence of assemblages in the study area. The hope is to identify the relative position of Historic sites within the Allen phase, ca. A.D. 1650-1800. I rely on attributes of material from the sites, including the presence of European trade goods and the results of the ceramic analyses.

### **EUROPEAN TRADE GOODS**

The presence of European trade goods remains a primary means of identifying Historic Caddo occupations. As noted, early archaeological research used the direct association of European trade goods with human remains and distinct ceramic materials to identify Historic Caddo groups (see Chapter 4). The presence of established ceramic types and/or European goods remains the criteria for identifying Hasinai Caddo sites in the archaeological record.

Acidic soils in East Texas normally prevent perishable items such as cloth, food, and other dry goods from being preserved. Therefore, the collections of European trade goods consist primarily of glass, metals, and European-made ceramics (Table 8.1). Gunflints of local and non-local lithic materials are one of

the few other durable materials indicative of post-European contact. One of the more temporally sensitive items is glass trade beads, and the origin and dating of these is well-discussed (Kidd and Kidd 1970; Harris and Harris 1967). I identify and classify numerous trade beads from the collections, but their chronological ranges do little to establish precise dates for the sites. Generally, large blue beads are some of the earliest trade beads introduced by Europeans, and smaller seed beads occur later in time (Figure 8.1).

The majority of the sites in this study are Allen phase sites (ca. 1650-early 1800s). Regrettably, few collections of European trade goods from these sites provide enough evidence to determine a date within this 150-year period. Therefore, the presence and quantity of European trade goods contribute most to the chronology of sites.

**Table 8.1. Presence of European Trade Goods in the Study Area**

Site	European Trade Goods	Investigations
41CE354	Iron fragment and two gunflints	Significant excavations
41HO214	Numerous items (beads, European ceramics, metal)	Significant excavations
41NA15	Beads and metal	Significant excavations
41NA206	Numerous items (beads, European ceramics, metal)	Significant excavations
41NA21	Numerous items (beads, European ceramics, metal)	Significant excavations
41NA22	One trade bead	Significant excavations
41NA23	Unconfirmed reports	Significant excavations
41NA27	Numerous items (beads, metal)	Significant excavations
41NA44	None	Significant excavations
41NA60	One trade bead and two gunflints	Significant excavations
41RK200	Numerous items (beads, European ceramics, metal)	Significant excavations
41SA25	Numerous items (beads, European ceramics, metal)	Significant excavations
41SA94	Trade beads	Significant excavations

Table 8.1 (continued)

41AN21	French clasp knife and gunflint	Minor testing
41CE20	Two trade beads	Minor testing
41NA183	None	Minor testing
41SA116	Numerous items (beads, metal)	Minor testing
41AG22	Unconfirmed reports	Surface collection
41CE293	Unconfirmed reports	Surface collection
41CE39	None	Surface collection
41CE48	Two gunflints	Surface collection
41CE62	None	Surface collection
41NA111	None	Surface collection
41NA54	None	Surface collection
41NA6	None	Surface collection
41NA67	One trade bead and brass tinkler	Surface collection
41RK191	None	Surface collection
41RK197	None	Surface collection

The amount of trade goods, like other materials, is also a function of the extent of fieldwork. Significant work occurred at just less than half of the sites under consideration, in some cases extensive excavations took place over the course of several years (Table 8.1). Obviously, the largest collections of trade goods come from these sites. Minor investigations took place at a few additional sites. The remaining twelve collections are the result of surface surveys or minimal work. Generally, these latter sites have very few or no European trade goods and are among the smallest samples of ceramic vessel sherds.

Extensive excavations at the Deshazo site (41NA27) also document the bias for European trade goods in mortuary assemblages (Story 1982). Few European trade goods appear in the village and domestic contexts, which begins around 1650 A.D. and lasts until the early part of the 18th century. However, excavations recovered numerous items in the associated cemetery. It is unclear

why trade goods are frequently included in burials, but rarely occurred in domestic contexts. The majority of the ceramic vessel sherd collections considered here are from domestic settings, which may also contribute to the lack of trade goods.

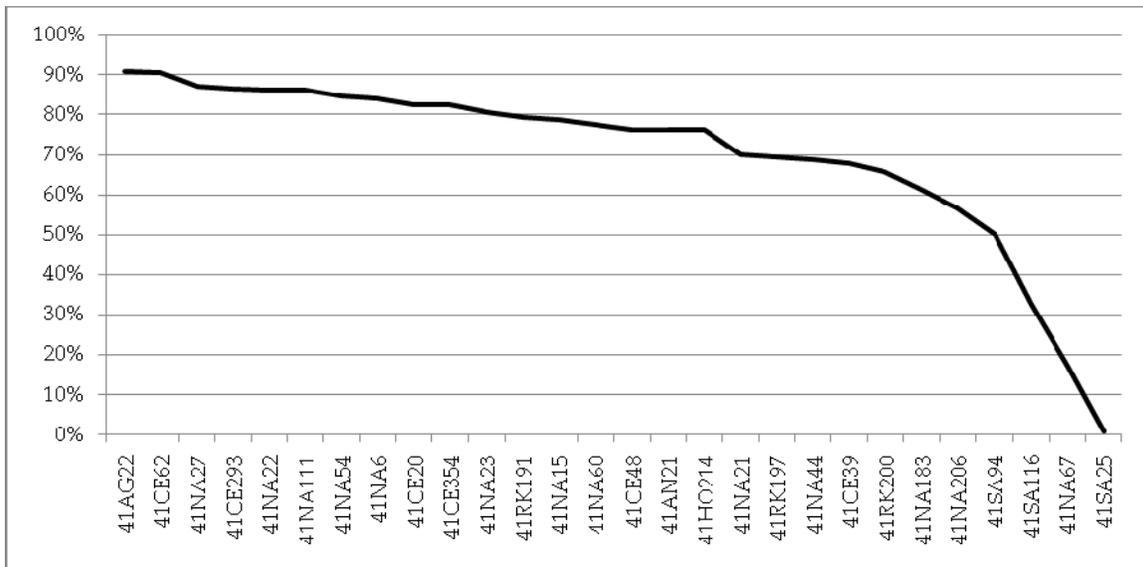
Around half of the sites in the sherd analysis have European trade goods. Regardless of the amount of work, in most cases, there is a dearth of European trade goods at the sites. This is typical of the inventories from Historic period Caddo sites that predate circa A.D. 1720 (Cole 1975; Story 1982, 1995; Perttula and Nelson 2006). Glass trade beads and metal artifacts were among the first items brought by the French and traded to the Caddo in the late 17<sup>th</sup> century. It was not until the establishment of Spanish missions and presidios, along with French trading posts to the north and east, in the early 18<sup>th</sup> century that more dependable sources of European trade goods became available in east Texas (Rodgers and Sabo 2004:619).

European goods are expectedly abundant on the known mission sites in the area. Other sites with numerous trade goods including beads and various metal artifacts, particularly gun parts, horse gear, and knives, are likely to have later occupations. These include the Mayhew (41NA21), and Nabadache Azul (41HO214) sites, which are thought to be occupied post-1720 and into the middle-late 18<sup>th</sup> century (Kenmotsu 1992; Perttula and Nelson 2006). Excavations at the Spradley site (41NA206) have also recovered numerous trade goods likely indicating a post-1720 occupation.

#### **BRUSHING AMONG HISTORIC CADDO CERAMIC SHERD COLLECTIONS**

Another indicator of Historic Caddo sites are the large amounts of brushed pottery. Researchers note the high frequency of brushing on Historic

Caddo ceramics across most of the study area (Perttula and Nelson 2007: Table 4; Perttula et al. 2010). This is certainly true of the majority of the collections under consideration here (Figure 8.1). Brushing is also present in combination with every other type of decorative class, including engraved fine ware.



**Figure 8.1. The Percentage of Brushing at Sites in the Study Area**

The percentage of brushing on decorated sherds is only lower for a few sites that may date earlier in the historic period, along with sites in the eastern part of the study area. In San Augustine County, the easternmost county, it is obvious the use of brushing is much less frequent. Only 0.7% of the decorated sherds from Mission Dolores (41SA25) have brushing, but notably the mission is associated with the Ais, a group not affiliated with the Hasinai Caddo. Clearly, brushing is indicative of group preferences as well as temporal association.

The identity of groups at Historic Caddo sites in eastern Nacogdoches County such as 41NA67 and 41NA183 is not clear, still brushing is significantly

less common. The same is true for the Spradley site (41NA206), which presumably is associated with the Nacogdoche group.

Many of the sites with lower rates of brushing also have numerous European trade goods. Beginning with 41HO214, followed by 41NA21, there is a steady decline in the rate of brushing. This includes the two missions, 41NA206, and 41SA116, all of which have substantial amounts of European trade goods. It might be that brushing reaches its peak early in the Historic period, and then appears less frequently in later periods.

#### **FREQUENCY SERIATION OF HISTORIC CADDO CERAMIC VESSEL SHERDS**

Most studies rely on the presence of European trade goods to identify Historic Caddo occupations. While this is an appropriate and sure means of identifying Historic Caddo sites, diagnostic ceramic types are suitable as well. In this study, I use the ceramic types discussed above, along with other factors, to construct a frequency seriation that suggests a chronological sequence for the sites. The rates of ceramic types, along with other summary tables related to the ceramic analyses, are in Appendix 2.

Frequency seriation (FS) dates back to the early twentieth century and is a method long used in archaeological research. Archaeologists in the Americas recognize A. L. Kroeber (1916) as the first person to come up with the technique while working with Zuñi potsherds from the Southwest (Lyman et al. 1997:55). James A. Ford (1952, 1962) later applied the technique to materials from the Southeast, which produced some of the earliest chronologies in the area.

The FS makes use of relative frequencies, or percentages, of artifact types within an assemblage to develop an order or sequence among many assemblages

(Dunnell 1970; Lyman et al. 1997; O'Brien and Lyman 1999). Archaeologists produce a sequence of sites:

[B]y attempting to fit *within-assembly* (the rows) percentages to a model that specifies how *within-type* (the columns) fluctuations should behave over time. This model of change in artifact-type frequencies is often referred to as the popularity principle but can also be thought of as a unimodal or battleship-shaped curve model, placing the emphasis on the shape within types rather than the mechanism driving the change between assemblages (Smith and Neiman 2007:48-49).

The most successful seriation solutions approximate the battleship-shaped curve model. That is, the artifact-type frequencies will increase in one direction until reaching a maximum point, and then decrease in the opposite direction. The increase and the decrease in frequencies should occur in a monotonic manner (Smith and Neiman 2007).

Frequency seriation also requires that the attributes used to designate types must be temporally sensitive. In other words, the types must be historical. Additional independent data (i.e. stratigraphic relationships, historic trade goods) should exist to establish the temporal significance of ceramic types. Other requirements include that the assemblages accumulate over a similar amount of time, come from the same cultural tradition, and originate from the same local area.

### **Seriation of Fine Ware Types from Historic Caddo Sites**

Twenty-seven sites included in the detailed sherd analysis meet the abovementioned conditions. It is clear from the archaeology and archives that the groups at Mission Dolores (41SA25) are from a different cultural tradition than the other (presumably Hasinai Caddo) sites, and therefore I exclude it from the

seriations. Additional factors used in assembling the seriation make it necessary to exclude other sites. For example, a site must have at least two established ceramic types used in the seriation. This is the most common reason for exclusion.

Counts of ceramic types for the FS come from the tables produced in Chapter 6. In order to increase the sample size, it is necessary to include both rim and body sherds. Clearly, some vessels have different decorative treatments on the rim and body, and the propensity for vessels to be completely covered with identifiable design elements versus hardly at all is an issue as well. However, to exclude the body sherds results in fewer eligible sites and much higher confidence intervals (or less confident results). I did create seriations using only rims, for fine ware and utility ware. In nearly all cases, the results closely matched seriations with body sherds.

The first seriation<sup>4</sup> uses vessel sherds identified as the most common engraved fine ware types Patton Engraved (PA), Poynor Engraved (PO), Poynor-Patton Engraved (PP), Hume Engraved (HU), and King Engraved (KG). The

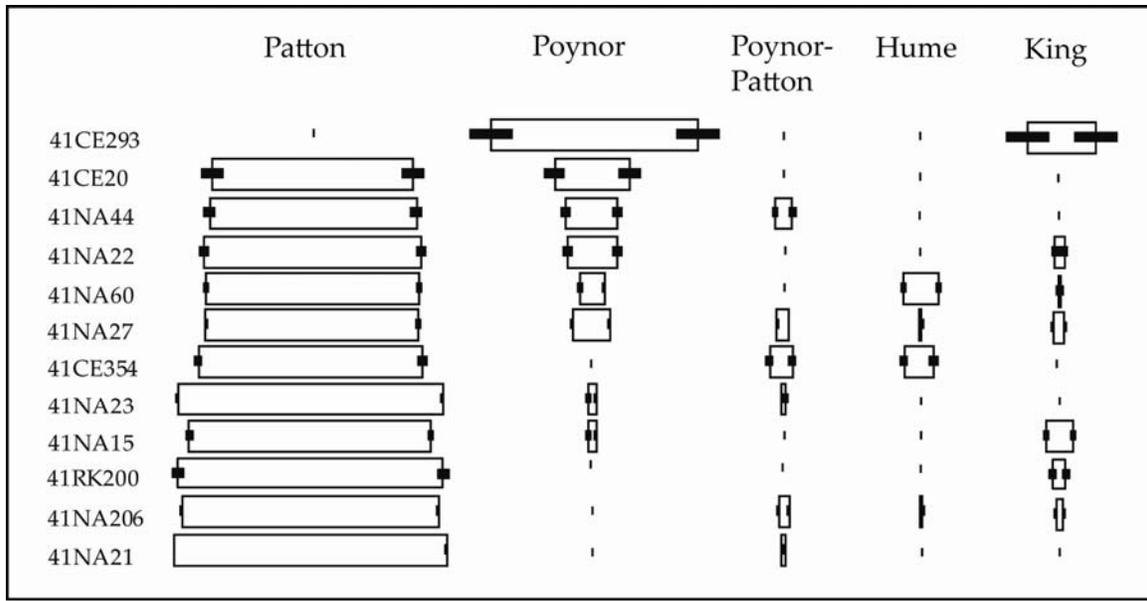
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<sup>4</sup> Open bars represent the percentages of pottery types in each assemblage. The smaller solid bars represent 95% confidence limits based on a normal distribution and are largely a function of sample size (Smith and Neiman 2007:57). The assemblage order was derived by hand using trial and error and my own judgment regarding best fit to the frequency seriation, or battleship-shaped curve, model. It also takes into account additional evidence such as the presence of European trade goods. The diagram was originally constructed and the confidence intervals calculated using Seriation Maker 1.0, a Visual Basic front-end to Microsoft Excel written by Tim Hunt (Lipo 2001; Lipo et al. 1997).

types Natchitoches Engraved, Simms Engraved, and Keno Trailed are not included because they do not occur at enough sites. As noted, the rates of fine ware types are in Appendix 2. I organize the summary tables by the suggested chronology and various clusters of sites (see below).

Only 12 of the 27 sites meet the conditions for the first seriation (Figure 8.2). The most conclusive patterns form from the types PA, PO, and the hybrid PP. Patton Engraved is present at every site but one, which in some measure has to do with selection bias. The rate of PA generally increases throughout the sequence, and ultimately dominates the collections of fine ware types. In addition, sites with substantial amounts of European trade goods cluster at the bottom of the diagram.

The Lindsey site (41CE293), the only site that does not have PA, is at the top of the diagrams. It also has the highest rate of PO and contains no European trade goods. For these reasons, I believe it is likely the earliest site in the sequence. The diagram from top to bottom demonstrates that the type PO quickly decreases, but continues in small amounts throughout much of the sequence. The types PO and PP are present at more than half of the sites, and as anticipated, PP starts at the same time PO is somewhat common. The type PP then increases in popularity as PO declines.



**Figure 8.2. Seriation of Fine Ware Types in the Study**

Several factors influence the order of assemblages from sites. Determining the order is particularly difficult for sites such as Deshazo (41NA27) and Henry M. (41NA60). Besides being less than 4 kilometers (2.5 miles) from each other in the Bayou Loco, significant work took place at each, and both sites have collections of European trade goods. The scope of ceramic fine ware types is comparable as well. I base the order of these two sites on the percentages of rim and body sherds from PA and PO vessels (Table 8.2) and the amounts of European trade goods.

**Table 8.2 Percentage of Fine ware Types from 41NA60 and 41NA27**

<b>Body/Rims</b>	<b>PA</b>	<b>PO</b>	<b>PP</b>
41NA60	77.4%	8.6%	
41NA27	77.1%	13.3%	4.4%
<b>Body/Rims (cf.)</b>			
41NA60	76.9%	9.4%	
41NA27	86.1%	9.8%	1.9%

Table 8.2 (continued)

<b>Rims</b>			
41NA60	70.6%	5.9%	
41NA27	87.6%	2.9%	7.6%

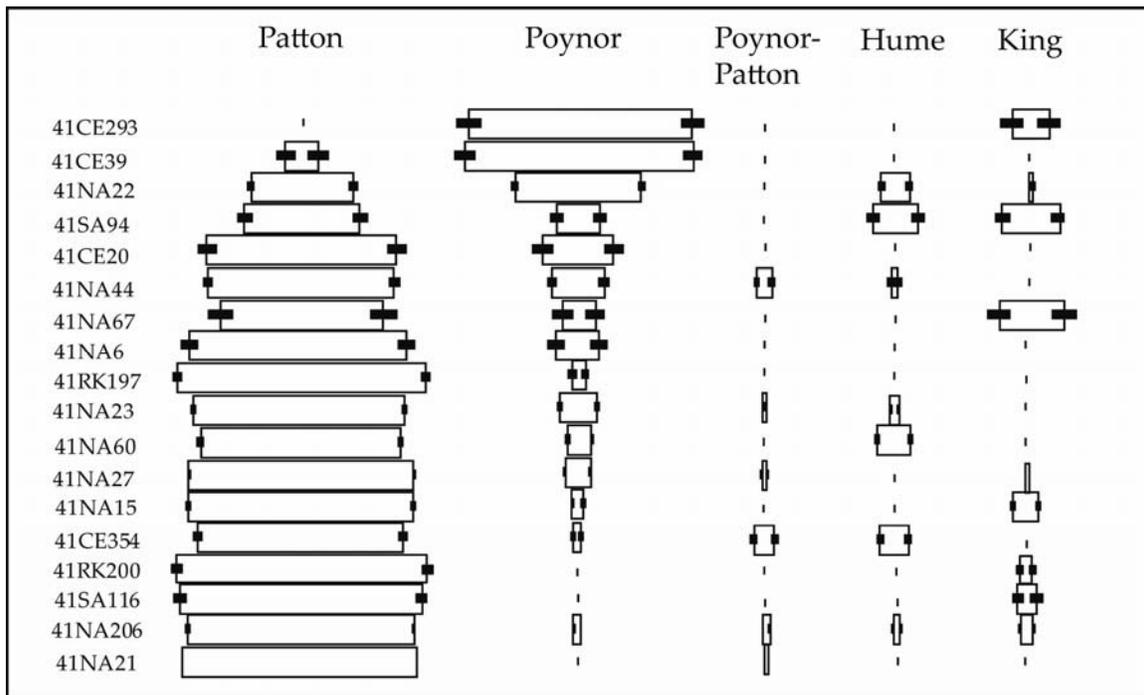
Determining the position of Mission Nasonis (41RK200) in the sequence was difficult despite knowing it was occupied ca. 1716-1730. I place it near the end of the sequence based primarily on the rates of fine ware types and substantial amounts of European trade goods. In my opinion, two-thirds of the sites included in the seriation could be contemporaneous with Mission Nasonis.

Hume Engraved is a minor fine ware type that only occurs at four sites in the seriation (Figure 8.2). The four sites cluster in the middle of the chronological sequence, but the shape formed by the frequencies is inconclusive. King Engraved, a newly established fine ware type occurs at seven of the sites in the FS. Although the rate of King Engraved is highest at 41CE293, the confidence interval (solid bars) at the site is high as well. In other words, the rate of King Engraved at 41CE293 may be higher than any other site or close to the rate at 41NA15. King Engraved is present at several sites later in the sequence, which conform better to the FS model.

The types PA, PO, and PP closely approximate the FS model. Not including the site 41CE293, the same is true for King Engraved. The goodness of fit of the types along with other evidence (i.e. European trade goods), suggest the sequence represents a relatively continuous chronology of Historic Caddo occupations.

### Additional Seriations of Fine Ware Types

The next two frequency seriations include rim and body vessel sherds that closely favor fine ware types. Adding these sherds to the counts allows for the inclusion of an additional six sites, which provides a more complete evaluation (Figure 8.3). Like the previous seriation, rates of fine ware types (including cf.) are in Appendix 2.



**Figure 8.3. Seriation of Fine Ware Types (cf.) in the Study**

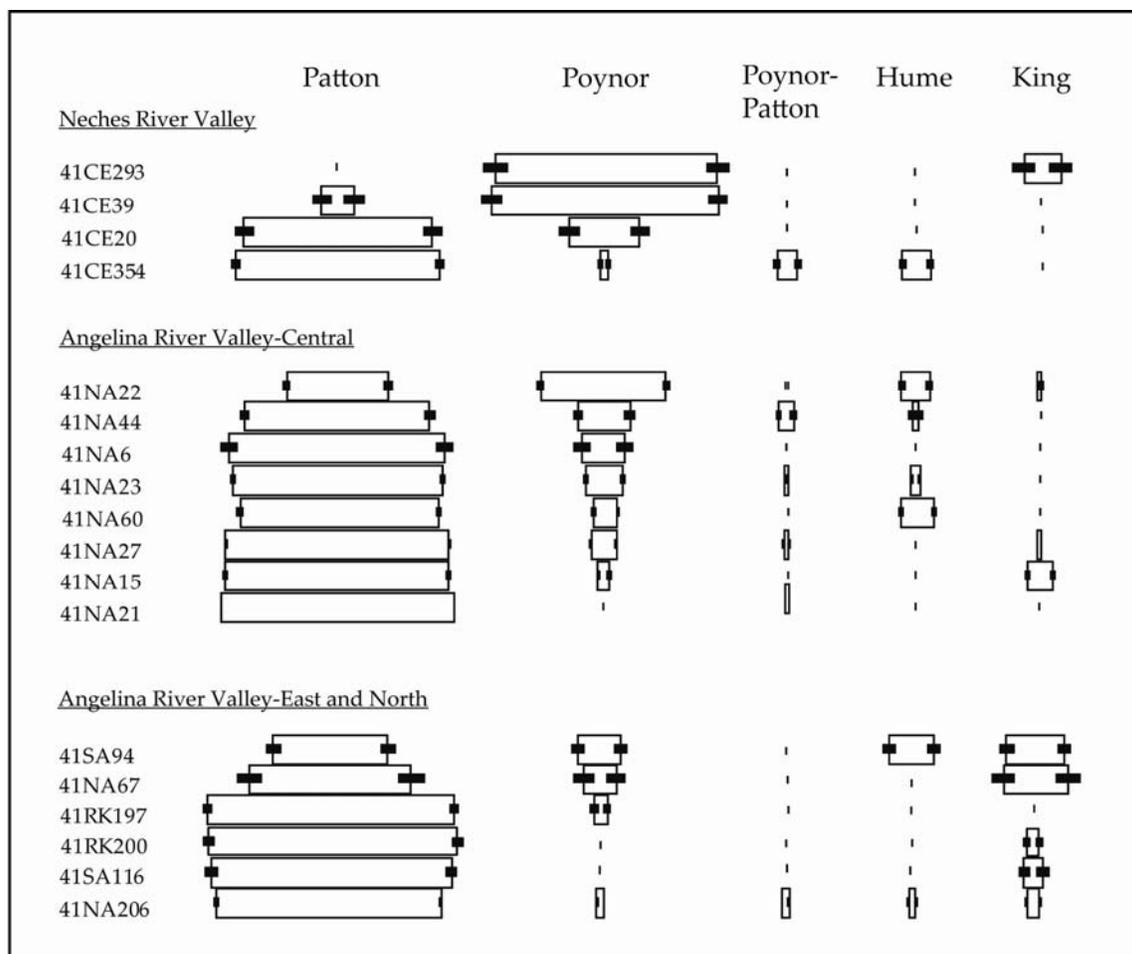
The results for the second FS (Figure 8.3) are analogous to the first FS with a few exceptions. For example, there is a minor change in the order of two sites 41NA22 and 41NA23. The site 41NA22 better fits the FS model before (instead of after) the sites 41CE20 and 41NA44. The main reason it occurs earlier in the sequence is a group of body sherds that favor PO. Although the site changes place in the order, it remains early in the sequence. The rim counts from 41NA22,

which are primarily PA (n=3) with fewer PO (n=1) and King Engraved (n=1), suggest the site may be even later in the sequence. It is difficult to determine which of these positions is more likely because of the small sample size.

Another difference is the position of 41NA23, which moves from later into the middle of the sequence. Essentially, the second FS suggests that the site is earlier (instead of later) than the sites 41NA60 and 41NA27. Again, this is due to a number of body sherds that compare favorably to PO. There are unconfirmed reports of European trade goods from 41NA23, but test excavations did not recover any. Excavations recovered an equal number of PA (n=2) and PO (n=2) rims sherds and ceramic types indicate an earlier Caddo occupation as well.

Generally, the types PA, PO and PP conform to the shape and results of the first FS model. Sites with the highest rates of PO occur at the top of the diagram, and PA increases as PO decreases. Interestingly, the type PP appears more often in the latter part of the seriation. Minor types such as King Engraved and Hume Engraved also reasonably approximate the FS, or battleship-shaped curve, model. These types are present throughout the sequence of sites indicating a long history of use at Historic Caddo sites.

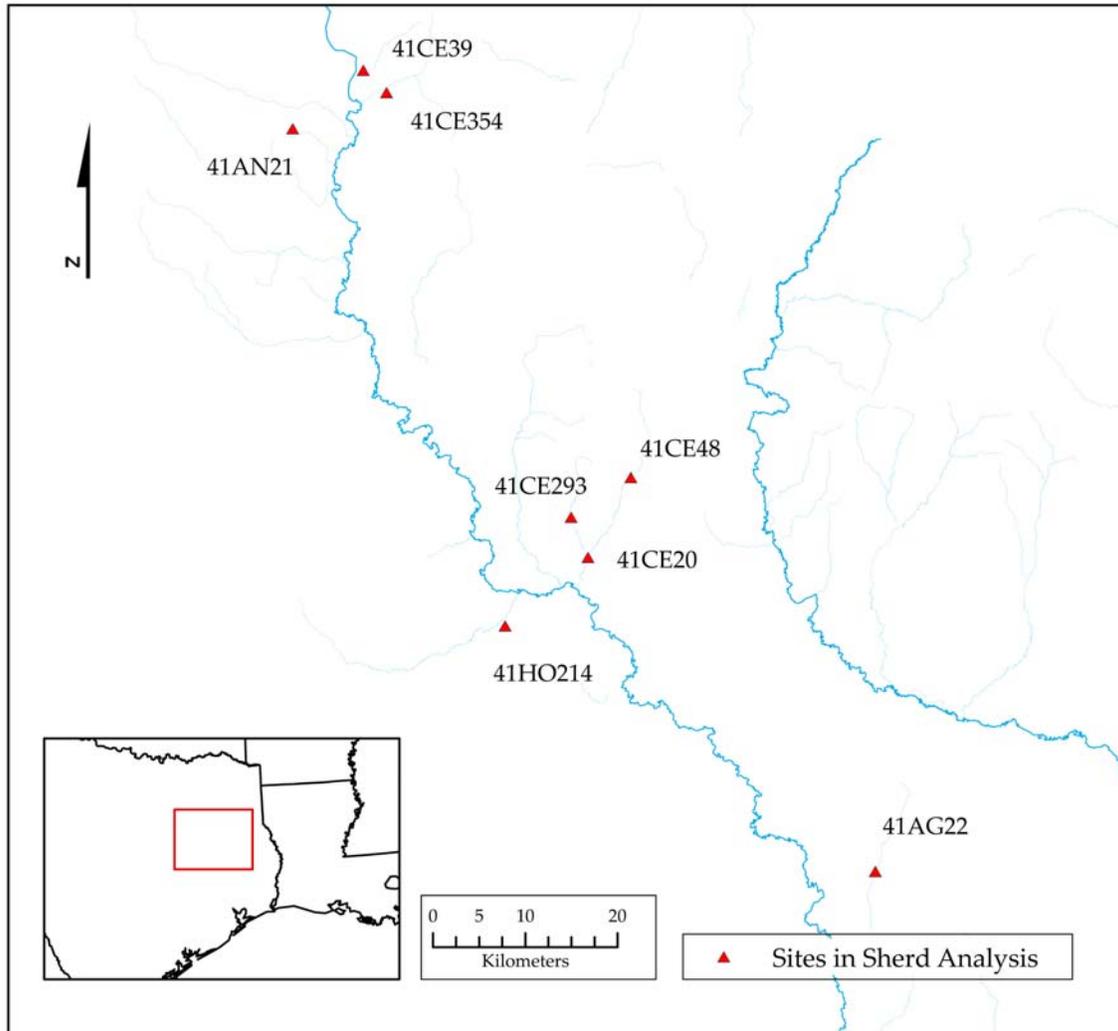
The third FS uses the same counts as the second, and the relative order of sites does not change from the previous seriation. However, it examines the sites in groups related to geographic location (Figure 8.4). This allows an assessment of the potential changes in chronology at a more local level, which better follows the methods and interpretations in the following chapters. As might be expected, the closer the sites are in proximity, the closer vessel sherd collections are in character.



**Figure 8.4. Seriation of Fine Ware Types (cf.) in the Study by Area**

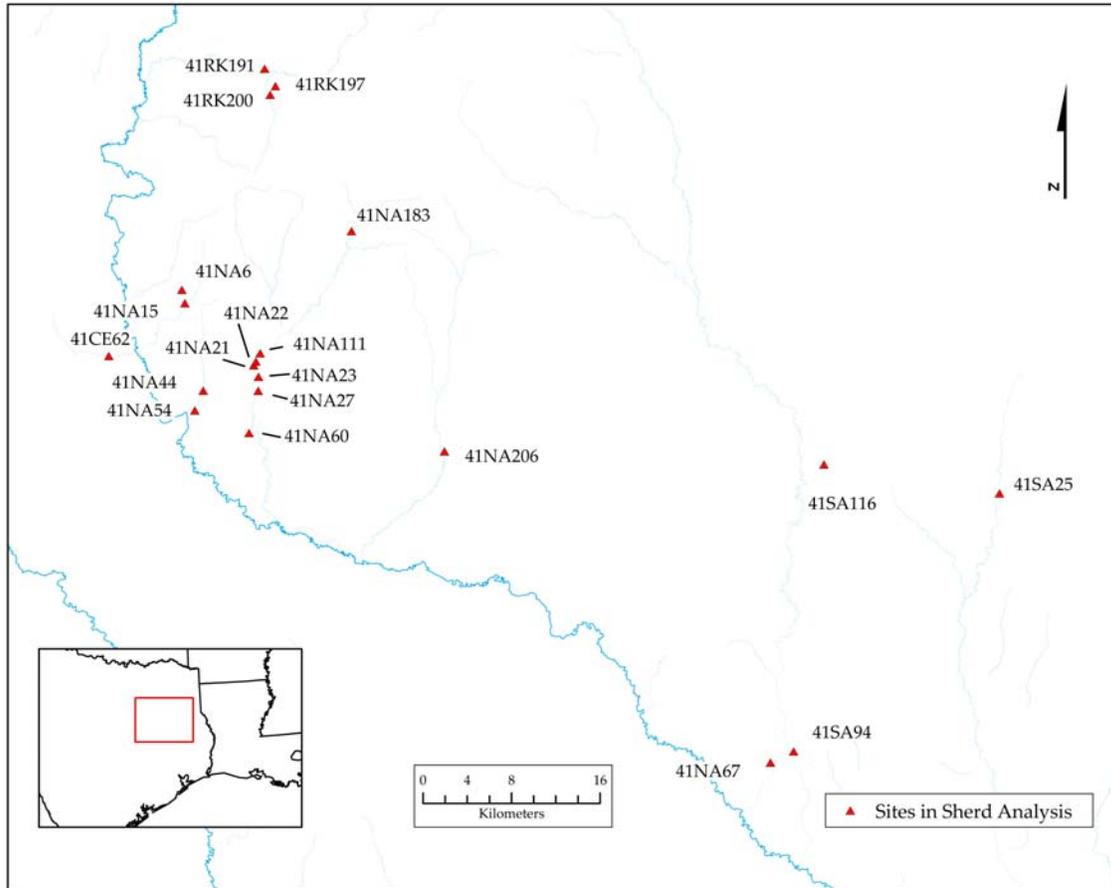
Using specific areas to organize the FS serves to clarify the extent to which assemblages are part of a single evolving tradition. The results appear to lessen the number of gaps, punctuations, and other kinds of discontinuities in the sequence. This FS provides a more nuanced view of chronological changes that took place in each area. For example, the percentages of PO are generally highest at sites on the Neches River (Figure 8.5), which may suggest the group of sites date earlier than those near the Angelina River. This is supported by the type Hume Engraved, thought to appear post-1650, which is absent from the three

earliest sites on the Neches River. The type Hume Engraved occurs at the beginning of (and throughout) the two sequences in the Angelina River.



**Figure 8.5. Sites with Vessel Sherd Collections in the Neches River Valley**

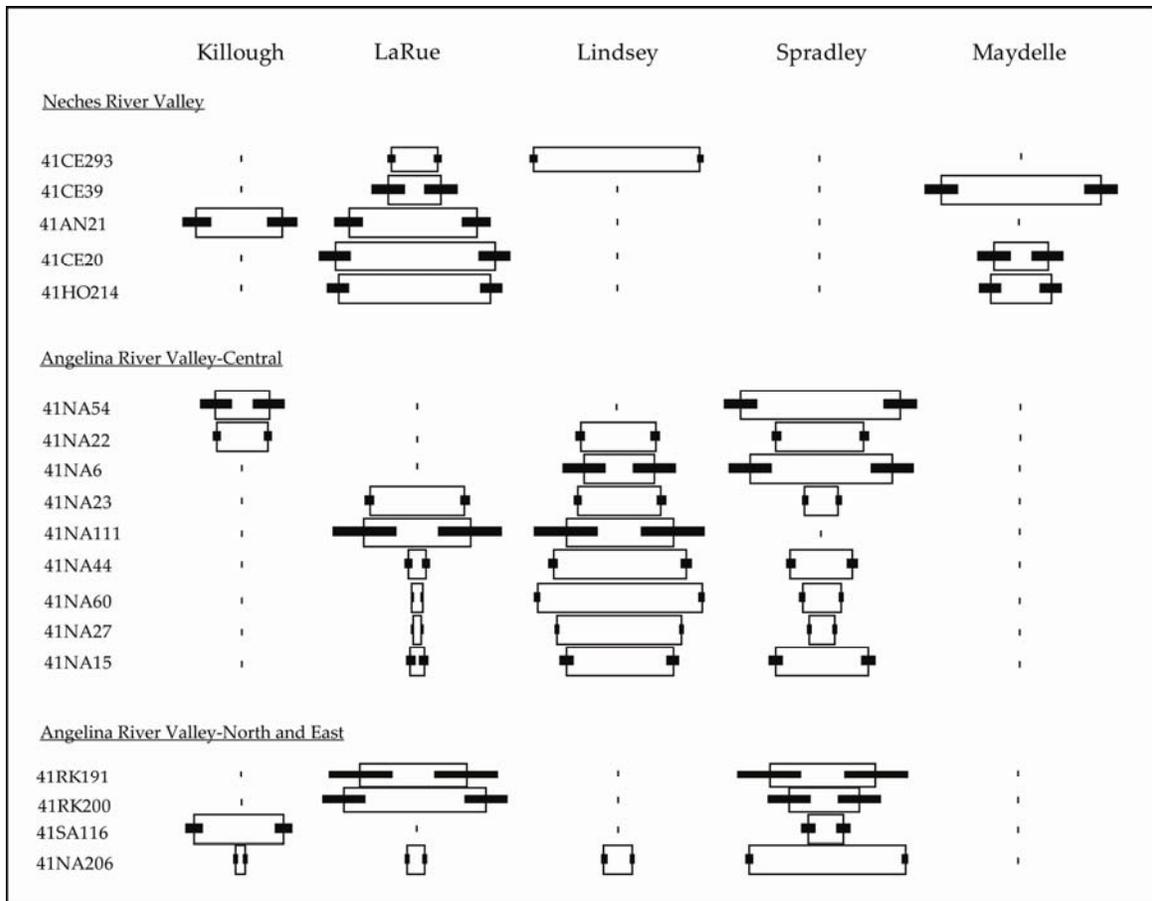
The FS also reveals patterns related to the presence of fine ware types. For example, the types PP and Hume Engraved occur more frequently at sites in the central Angelina River valley. King Engraved is identified most often at sites in the eastern and northern parts of the Angelina River valley (Figure 8.6).



**Figure 8.6. Sites with Vessel Sherd Collections in the Angelina River Valley**

### **Seriation of Utility Ware Ceramics from Historic Caddo Sites**

The final FS utilizes body and rim sherds from utility ware types such as LaRue Neck Banded, Lindsey Grooved, Killough Pinched, Maydelle Incised, and Spradley Brushed-Incised. The study excludes the types Belcher Ridged, Karnack Brushed-Incised, and Pease Brushed-Incised because each occurs at only one site. Eighteen sites with utility ware types meet the conditions for the FS (Figure 8.7). However, due to smaller sample sizes the FS has larger confidence intervals. Regrettably, this indicates the results are less reliable.



**Figure 8.7. Seriation of Utility Fine Ware Types in the Study by Area**

Many of the sites from the preceding frequency seriations appear in the utility ware FS diagram. The relative order of those sites is preserved in two of the three areas. The only exception is the central Angelina River valley where the order of one site differs. That is, 41NA44 appears to fit better in a later position in the sequence. In all other FS models, 41NA44 is earlier in the proposed sequence. The lack of trade goods from 41NA44 and the percentages of PO and PA suggest the earlier position is more likely.

The types LaRue Neck Banded and Lindsey Grooved best fit the FS model of utility ware types. Although both are present across all areas, LaRue Neck

Banded is well represented in each area whereas Lindsey Grooved is predominantly found in the central Angelina River area. The larger percentages of LaRue Neck Banded occur in the Neches River and early in the sequences from the Angelina River. This may indicate that the ceramic type flourished in late prehistoric-early historic times.

Killough Pinched clusters at both the beginning and the end of the sequence for areas near the Angelina River. It is also present in the middle of the Neches River sequence. This type, usually associated with Late Caddo Frankston phase sites, appears to extend into later contexts as well. Maydelle Incised, which is also associated with the Frankston (and Titus) phase, suggests earlier occupations of these sites. Maydelle Incised only appears at sites in the Neches River valley.

Conversely, Spradley Brushed-Incised least conforms to the battleship-shaped model. Among other things, this may indicate that the type is not historical. It is also absent from the Neches River sites, suggesting Spradley Brushed-Incised is primarily an Allen phase Historic Caddo type.

I also constructed a seriation using utility ware decorative classes (i.e. brushed, incised, punctuated) instead of formal types. This allowed me to include counts for ceramic sherds that are not assignable to specific types. The only excluded site (41CE62) has two utility ware decorative classes and the confidence interval error was high. The lack of fit to the FS model indicates the results from this seriation are not as successful as the previous models.

## LITHICS

Few Historic Caddo sites in the study have large collections of lithics, and most of the sites have a limited number of diagnostic chipped stone materials

such as arrow points (Figure 8.8). Collections more often include non-diagnostic lithic debris and tools. In most cases, I rely on previous reports for the identification of arrow point types. The rates of arrow points from 13 sites in the ceramic FS and two additional sites appear below (Table 8.3).

Fourteen types of arrow points identified from fifteen sites indicate a wide diversity in the styles of arrow points from Historic Caddo sites. I relied on the differences in proportions of unstemmed triangular arrow points (i.e. “mission” style cf. Hester 1989:220-221) and stemmed arrow points to make inferences about the chronological order of sites. This follows the suggestion that higher proportions of unstemmed arrow points represent rapid changes later in Historic Caddo archeological contexts (Perttula et al. 2010:35). I sort the sites by the percentage of Perdiz (the most common stemmed arrow point) from largest to smallest, followed by the amounts of Fresno, Padre, and Turney unstemmed arrow points (Table 8.3).

In some respects, the relative order of sites is comparable to the ceramic FS. Notably, 41NA21 is at the bottom of the list indicating it is possibly the most recent site. Most of the sites with numerous European trade goods also occur near the bottom of the table. However, many of the sites are transposed and a closer examination of specific arrow point types may be needed to reveal trends and patterns.

**Table 8.3 Percentage of Arrow Point Types by Site**

Site Trinomial	Fresno	Padre	Turney	Alba	Basset	Bonham	Clifton	Colbert	Cuney	Friley	Maud	Perdiz	Scallorn	Steiner
41CE48												100.0		
41NA183												100.0		
41NA15												100.0		
41SA94							15.8			5.3		78.9		
41NA67					9.1					18.2	9.1	63.6		
41NA206					11.8			23.5	2.9			61.8		
41SA116							40.0					60.0		
41CE354								14.3				57.1		28.6
41NA44					50.0							50.0		
41NA23										50.0		50.0		
41NA27			1.0				24.3	5.0	1.5	3.0		60.9	4.5	
41NA22	7.1				28.6					7.1		57.1		
41RK200		11.1		2.8		30.6		16.7				33.3	2.8	2.8
41NA60	33.3		33.3						25.0			8.3		
41NA21	80.0										10.0	10.0		



Figure 8.8. Arrow Points from Historic Caddo Sites

## **Reflections on the Seriations of Historic Caddo Sites**

In my opinion, the most successful seriations result from using ceramic fine ware types. According to Dunnell (1970:305), seriations may be inferred to be chronologies only if: (1) the comparisons are conducted using historical classes; (2) the units are of comparable duration; (3) the units ordered are from the same cultural tradition; and (4) when the order is repeated through several independent seriations. I believe the following study satisfies these conditions, which in effect, means that it represents a probable chronology of the site collections.

The greatest fit of the FS model occurs when using fine ware types from sites organized by geography. Occupations associated with the sites represent a relatively short period, perhaps 150 years (ca. A.D. 1650-1800). The range in specific areas or clusters may be even shorter. Regrettably, I did not discern any obvious breaks that might help to establish sub-phases. Results from the seriations demonstrate that sites such as 41CE293 and 41CE39 are the earliest sites in the sequence, while 41NA21, 41NA206, and 41SA116 most likely post-date A.D. 1720. These results provide a relative chronology of the collections that may be helpful in future research.

## **Chapter Nine: Clusters of Historic Sites and Characterizing Hasinai Caddo Ceramic Assemblages**

In Chapter 9, I use additional results from the detailed ceramic analysis to examine potential connections between the various collections and groups of the Hasinai Caddo. Specifically, I take attributes of ceramics style and technology and compare them with the locations of the Hasinai Caddo as known from historical documents. The proposed clusters of sites and the possible cultural affiliations rely on archaeological research as well as on information in archival records.

Comparisons of assemblages are based on a range of ceramic attributes and characteristics, including utility ware decorative classes. Utility ware dominates all the collections, and each assemblage contains more than 100 utility ware sherds. Brushing as the sole decoration is by far the most common utility ware decorative class on sherds (see previous chapter). Therefore, I examine other minor decorative classes in order to search for patterns related to clusters of sites. Utility ware decorative classes provide a reliable and straightforward standard for comparisons of large ceramic assemblages. Rates of the decorative classes among the utility ware appear in graphs below.

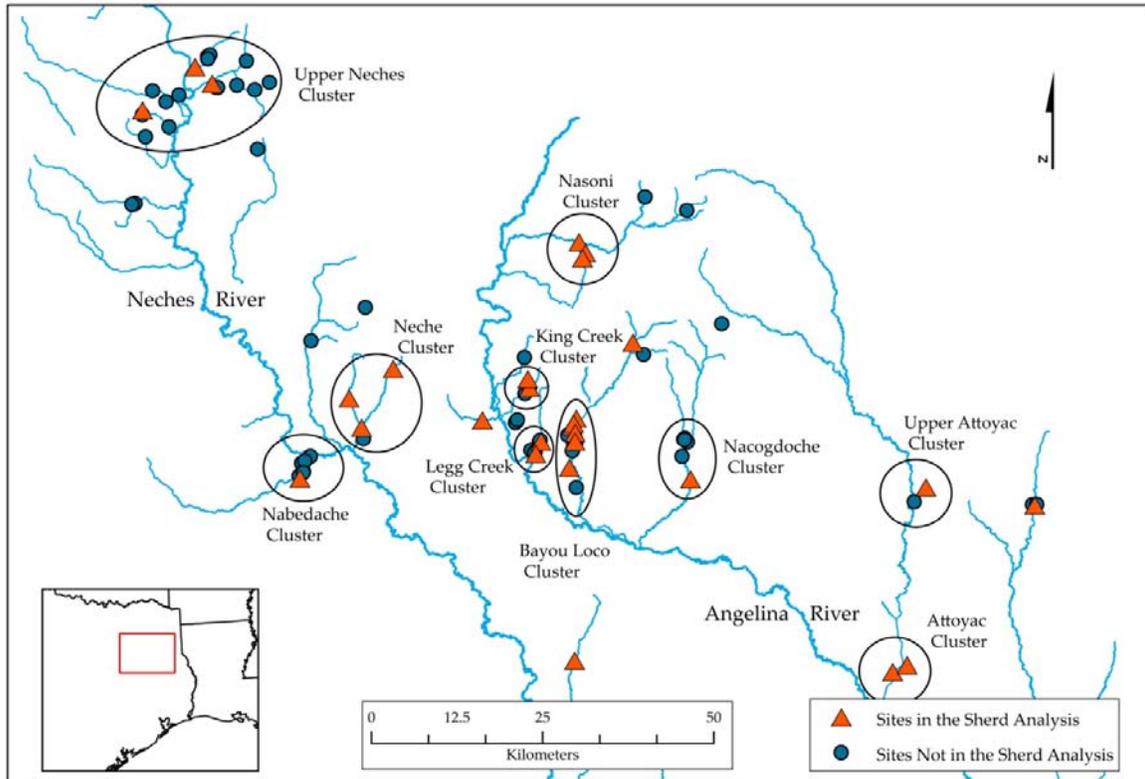
Stylistic preferences are also evident in the data related to fine ware decorative motifs and elements. Decorative motifs are difficult to recognize, primarily because of the small size of most vessel sherds. However, I include summary tables of this information in order to compare the various sites and areas. In addition, I present the percentage of engraved decorative elements among the fine ware.

Hasinai Caddo potters regularly included different types of materials during the production of ceramics. Rates of inclusions in the assemblages provide an important measure of technological preferences during the Historic period. The most common inclusions bone, grog, and hematite appear at all sites in the study. Below are graphs with the sites and average of each inclusion.

#### **CLUSTERS OF HISTORIC SITES IN THE ANGELINA AND NECHES RIVER VALLEYS**

Previous research draws from the archival sources and archaeological records to suggest locations for the Hasinai Caddo groups (Bolton 1987; Perttula 1992; Perttula and Nelson 2006; Swanton 1942). Based on these previous suggestions and on the results of this study I identified potential clusters of Historic Caddo sites (Figure 9.1). The term cluster is not to be confused with its usage by Story and Creel (1982) to describe similar socio-political units groups in the Upper Neches and Angelina drainages from ca. 1400 A.D to the early Historic period. In my study, a cluster is strictly a group of possibly related sites in close geographic proximity to each other.

I evaluate ten clusters, which incorporate most of the sites identified in the study. The clusters also include 24 of the 28 sites with substantial ceramic sherd collections. Below I present the attributes of vessel sherd data from these 24 sites as well as data from the four sites in the detailed sherd analysis that fall outside of the proposed clusters.



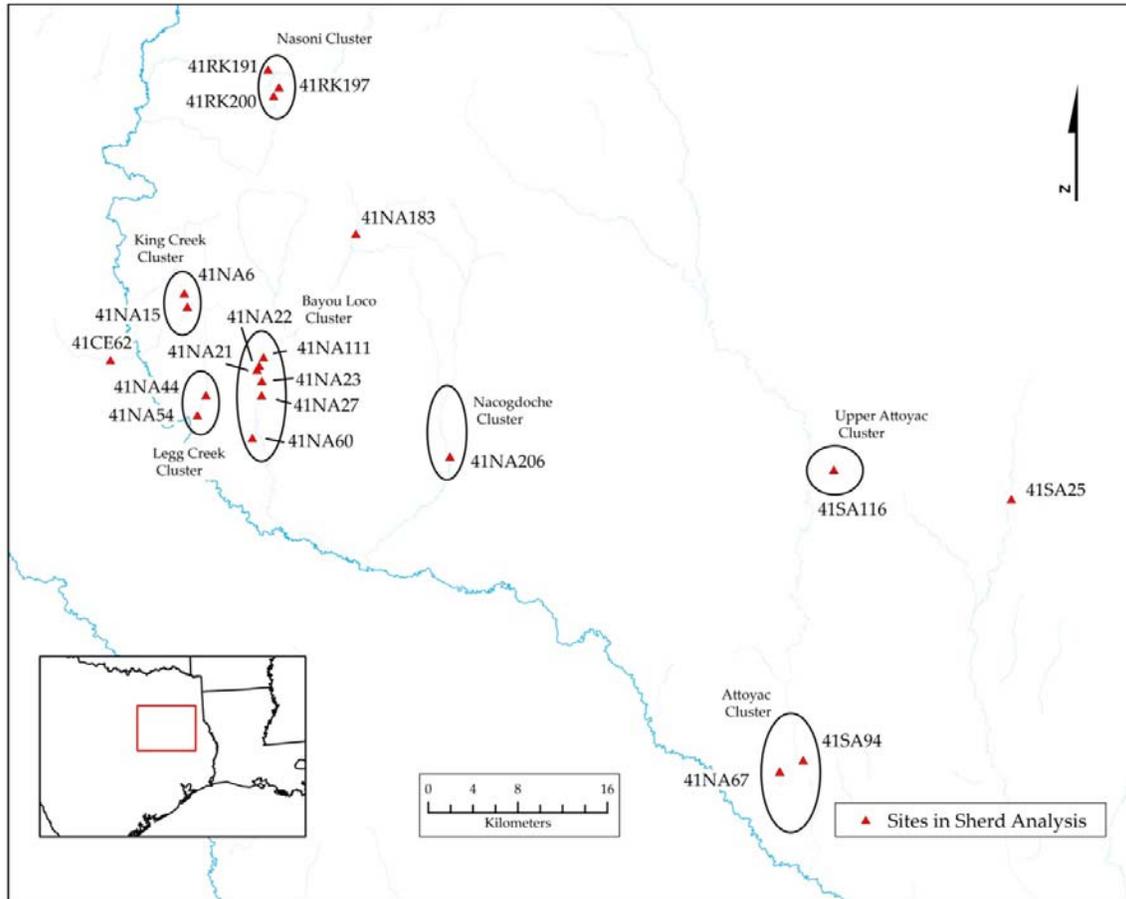
**Figure 9.1. Clusters of Historic Sites in the Study Area**

As the cluster names suggest, four of the ten clusters of sites are likely associated with specific members of the Hasinai Caddo alliance (Nabadache, Nacogdoche, Nasoni, and Neche). While associations of the other clusters remain unresolved, recent and future work continues to provide new evidence that may make it possible to determine their cultural affiliations. As noted in the previous chapter, I examine the sites in groups related to their geography and proximity in the Angelina and Neches River basins.

#### **UTILITY WARE FROM HISTORIC SITES ALONG THE ANGELINA RIVER**

Twenty sites in the Angelina River drainage have substantial vessel sherd collections (Figure 9.2). The majority of these sites fall into seven groups, and only three sites are not assigned to a cluster. The latter includes the assemblage

from the easternmost site Mission Dolores (41SA25), which is not associated with the Hasinai Caddo, but provides a great contrast to other mission and Historic Caddo sites in the study.



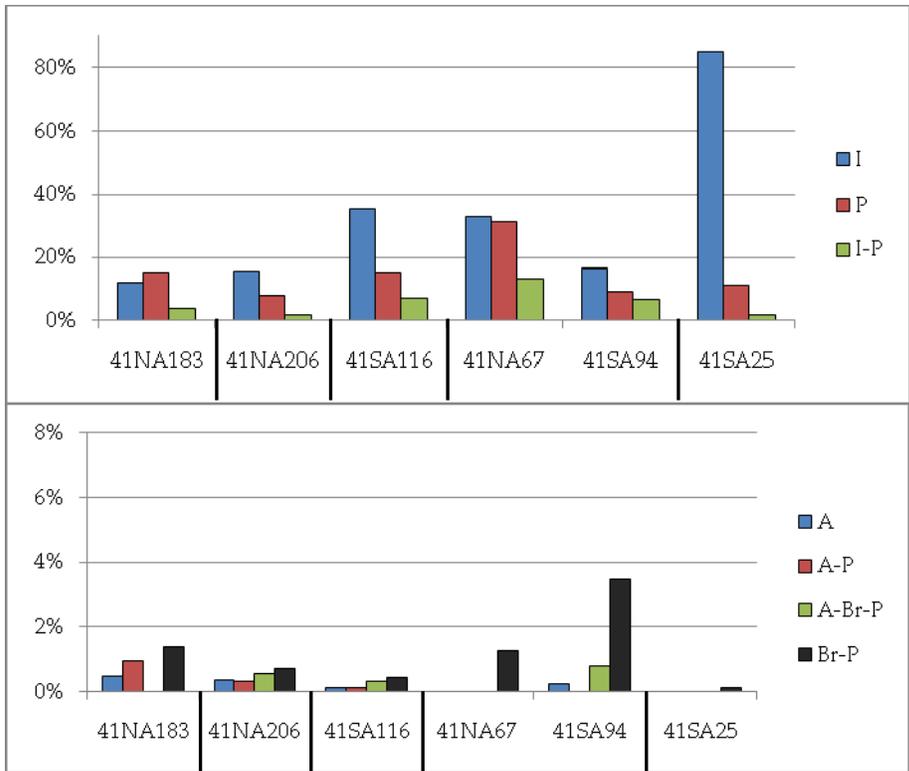
**Figure 9.2. Angelina River Clusters and Sites in the Detailed Sherd Analysis**

The rates of utility ware decorative classes vary both within and between the proposed clusters in the Angelina River valley. This is the case for sites in the Neches River valley as well. Despite this, various trends and patterns exist in the dataset. Rates of some decorative classes suggest likeness among the proposed clusters, while others imply considerable differences.

The first graph of decorative classes covers the easternmost sites in the study. This includes three clusters and two additional sites (Figure 9.3). The Nacogdoche cluster, centered on Bayou La Nana, has just one site (41NA206) with a substantial collection of vessel sherds. The identification of this area with the Nacogdoche group is primarily based on the historic record. The archives consistently refer to this Hasinai group as occupying areas around modern Nacogdoches, Texas. Mission Guadalupe, built for the Nacogdoche groups, has yet to be located but most researchers believe it is not far from downtown Nacogdoches.

More than 30 kilometers (18.6 miles) east of the Nacogdoche cluster is the Upper Attoyac cluster. The only site included in the sherd analysis from this cluster is 41SA116. South of this, near the confluence of the Attoyac and Angelina rivers, is the Attoyac cluster. Patton Engraved and European trade goods are present at both sites from this cluster (41NA67 and 41SA94), along with 41SA116. Unfortunately, there is little information in the archives as to the identity of the Hasinai Caddo groups in this area.

The site 41NA183 is around 15 kilometers (9.3 miles) north of the Bayou Loco cluster. Although technically in the Bayou Loco drainage, the general character of the ceramic assemblage is more like sites east of that area. This is noteworthy because numerous other metrics indicate striking similarities with the Spradley site (41NA206) in the Nacogdoche cluster. In the final chapter, I argue that the Loco Bottom site (41NA183) might be a Nacogdoche site in the upper Bayou Loco. At this time, I do not include the site in any cluster.



**Figure 9.3. Utility Ware Decorative Classes from the Nacogdoche, Upper Attoyac, and Attoyac Clusters and Additional Angelina River Sites**

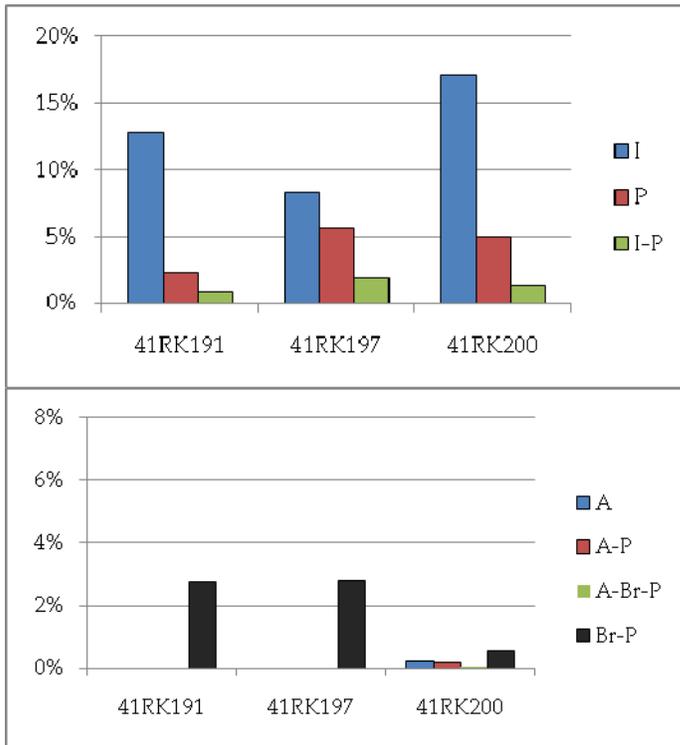
As a group, these sites have the highest rate of sherds with incised decorations (Figure 9.3). Mission Dolores (41SA25) is the most conspicuous site (85%), but incising makes up an average of 33% at the sites. This is much greater than any group of sites below. The group of sites also has the highest average rate of punctations (15.1%) and incised-punctations (5.8%), which makes this suite of decorative classes much different from all other sites in the study. Sites in this group have the lowest average of brushed-punctated (1.2%) sherds as well.

Mission Dolores (41SA25) and 41NA67 are the only two sites among this group of sites and clusters without appliqué. The sites 41NA67 and 41SA94 are the only two in the same cluster, but the configuration of utility ware decorative

classes do not correspond well. For example, 41NA67 has a largest percentage of punctations (31.1%), double the amount of any other site, in the study.

I only connect two of the clusters in the Angelina River valley to specific Hasinai groups. One is the northernmost cluster, along the east fork of the Angelina River. The Nasoni cluster is associated with the lower Nasoni Caddo groups. The cluster includes the site of Mission Nasonis (1716), as well as two sites that are likely contemporaneous with the mission.

Incised decorations from sites in the Nasoni cluster average nearly 13% (Figure 9.4). This is noticeably higher than all clusters except for those already mentioned. Punctated (4.3%) and brushed-punctated (2%) occur in smaller proportions compared to incised, but both remain higher than other decorative classes. Incised-punctations (1.4%) make up a small number of the utility ware.



**Figure 9.4. Utility Ware Decorative Classes from Nasoni Cluster**

The appliquéd decorative classes at Angelina River sites, similar to the Neches River sites, rarely exceed 2%. Nevertheless, appliqué decorations (alone and in combination with other decorations) appear to be one of many distinguishing characteristics of Historic Caddo ceramics. In the Nasoni cluster, Mission Nasonis (41RK200) has three appliquéd decorative classes. Conversely, collections from the presumably Nasoni Caddo sites 41RK191 and 41RK197 do not have sherds with appliqué. Appliquéd decorations are absent from Mission Dolores (41SA25) as well.

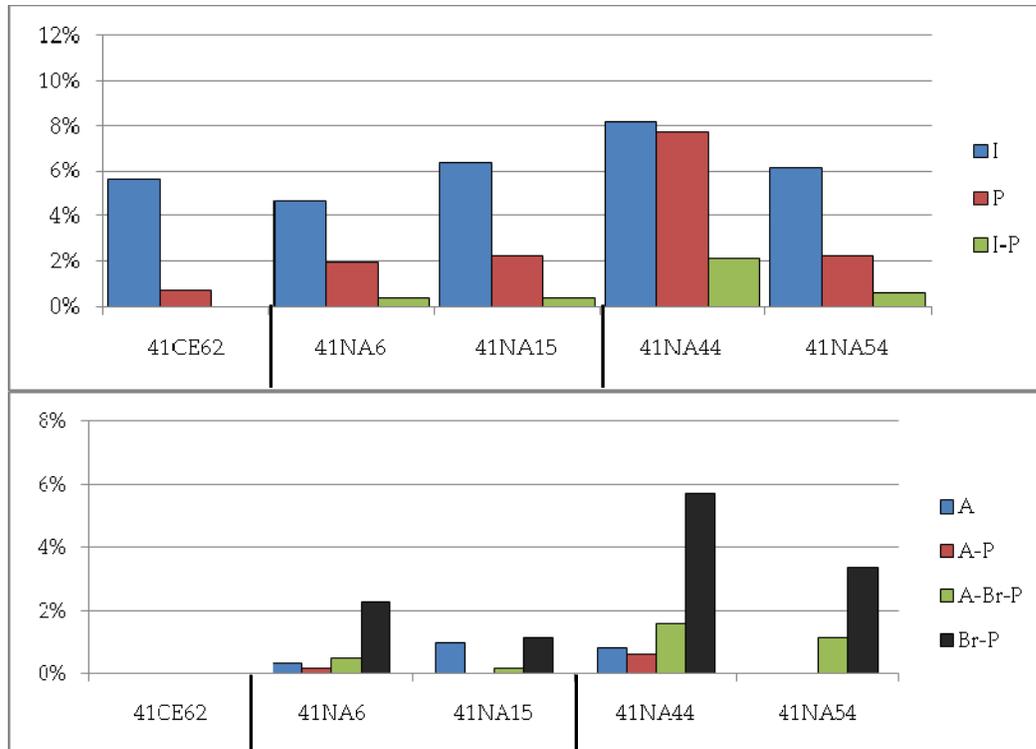
To the south-southwest of the Nasoni cluster is the King Creek cluster. At this point, I do not identify the cluster with a specific group of the Hasinai Caddo. However, the recent discovery of the proposed Mission Concepción site (41NA344), around five kilometers (3.1 miles) southwest of the King Creek cluster, suggests the area may be associated with the Hainai Caddo.

The archives document the establishment of Mission Concepción (1716) in the middle of the Hainai village. This information, along with what we know about the layout of Historic Hasinai Caddo villages, supports the suggestion that these are Hainai sites. Another cluster of sites is approximately the same distance to the south of the proposed site of Mission Concepción (41NA344). The nearness of the sites in the Legg Creek cluster suggests that it is potentially associated with the Hainai Caddo as well.

The relatively small assemblage from the westernmost site in the Angelina River valley (41CE62) is not included in a cluster. This is due in large part to the character of the small assemblage, but is also a function of the location.

Incising is the most popular decorative class at every site in the King and Legg creeks clusters, as well as 41CE62 (Figure 9.5). It makes up over 8% at only

one site, and averages 6.2%. On average, these incised totals are half that of the sites in the Nasoni cluster but still higher than the Neches River sites.



**Figure 9.5. Utility Ware Decorative Classes from Sites near King and Legg Creeks**

Punctations (3.5%) and brushed-punctations (3.1%) follow in popularity and are present in every site in the King Creek and Legg Creek clusters. The absence of decorations other than incising and punctations supports the exclusion of 41CE62 from other clusters in the area. Rates of incising, punctations and incised-punctations are strikingly similar for King cluster sites and for 41NA54. In fact, even though minor variations exist, the relational proportions (or ratios) of these decorative classes are comparable for all the sites in the two

clusters. Besides 41CE62 and 41NA54, the occurrences of appliquéd decorative classes are similar as well.

The Bayou Loco cluster has the largest number of sites in the detailed sherd analysis. As noted earlier, historic records document at least one Hainai village around Bayou Loco in the mid-eighteenth century. However, sometime after 1767 the Bayou Loco area “became the gathering point for remnants of the various Hasinai tribes” and remained so until it was abandoned around 1828 (Prewitt 1975:16). In my opinion, all of the sites in the Bayou Loco cluster predate the coalescing of different Hasinai groups perhaps with the exception of 41NA21.

There are minor differences in the percentages of decorative classes in the Bayou Loco cluster (Figure 9.6). Incising, which averages 4.8%, is the most common decorative class at every site with the exception of 41NA22 and 41NA111. Again, punctated (2.3%) and brushed-punctated (1.8%) follow incised in popularity.

Appliquéd decorations are present at every site in the Bayou Loco cluster. Incised-punctated and appliquéd-brushed-punctated are the only two decorative classes that do not appear at every site. In fact, besides minor differences at 41NA21 and 41NA22, the sites have comparable rates of appliquéd decorations. The Mayhew site (41NA21) has a very small number of sherds with appliqué and appliquéd-punctated (combined 0.1%).



**Figure 9.6. Utility Ware Decorative Classes from Bayou Loco Cluster**

In addition, the amount of brushed-punctated and appliquéd-brushed-punctated from 41NA22 is well above the average at other sites in the study. This includes the highest rate of appliquéd fillets in the study. These are punctations pushed into appliquéd strips of clay. In connection with this, sites in the Bayou Loco cluster have the highest average of appliquéd-brushed-punctated sherds, most of which are appliquéd fillets.

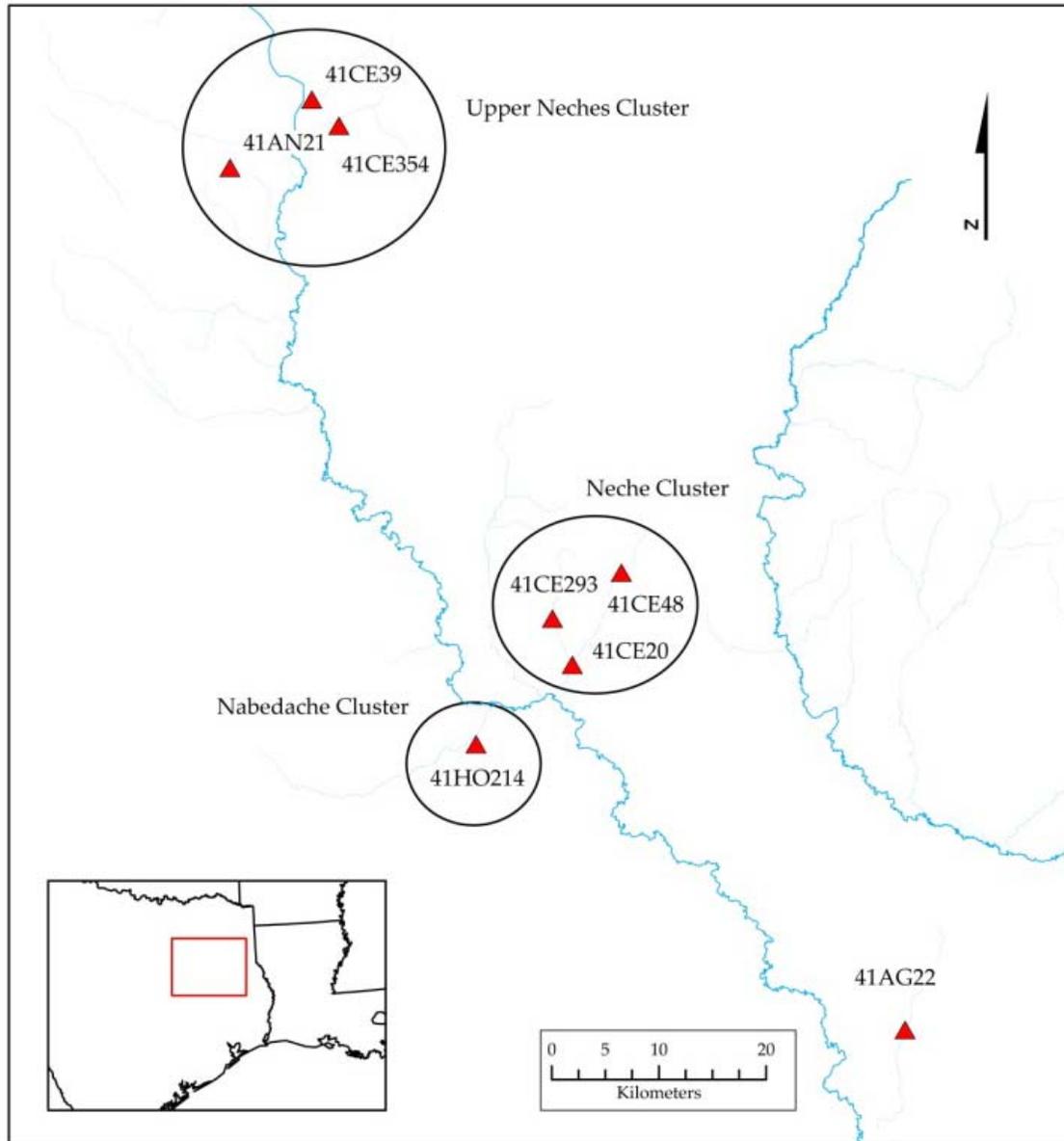
#### UTILITY WARE FROM HISTORIC SITES ALONG THE NECHES RIVER

I identify seven sites with substantial sherd assemblages that fall into three clusters along the Neches River and its tributaries. Three of the sites are in the Upper Neches cluster, the northern-most group of sites in the study area (Figure 9.7). While most areas are either clearly or marginally associated with Caddo groups identified in the historic records, as of yet, none of the archives

make mention of Caddo groups living on the uppermost parts of the Neches River. Research has offered few explanations for this omission, though it is possible that the area was rarely or never visited by European groups or vacated shortly after contact. Regardless, identification of specific Hasinai groups in this area remains difficult.

The Nabadache cluster is west of the Neches River, along San Pedro Creek. This is the first cluster on the main route, *El Camino Real de los Tejas*, into the Hasinai province from the southwest. Historic archives frequently make note of this area, the setting for the first Spanish missions in Texas (1690). Recent work relocated previously recorded sites and identified new sites in the area (Perttula et al. 2005; Perttula and Nelson 2006, 2007a), further establishing its connection to the Nabadache Caddo. Unfortunately, only one site in the area has a sizeable assemblage of ceramic sherds.

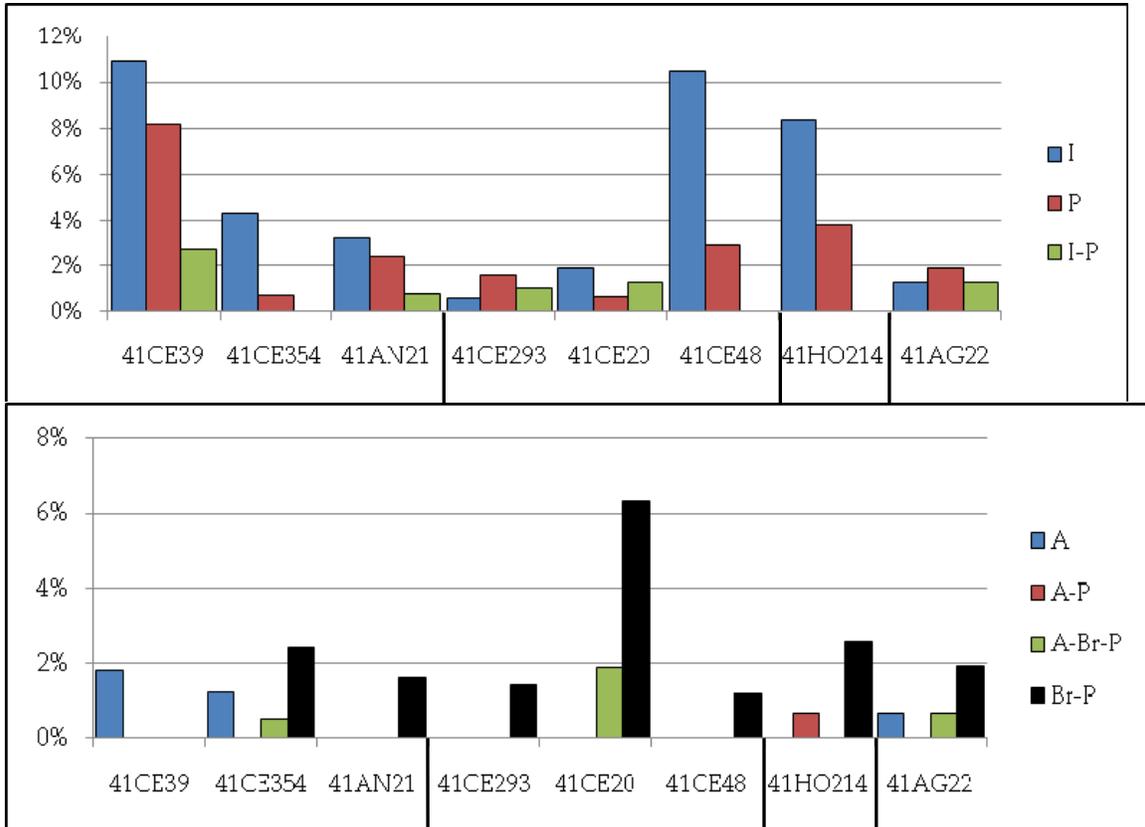
The Neche cluster is northeast of the Nabadache cluster, on the eastern side of the Neches River. According to historic accounts, Spanish missionaries reestablished Mission San Francisco de los Tejas there for the Neche groups in 1716. I include three sites in the Neche cluster, centered on Bowles and White Oak creeks. The only site on the Neches River not included in a cluster is 41AG22, which has a small surface collection with Patton Engraved sherds and reports of trade goods.



**Figure 9.7. Neches River Clusters and Sites in the Detailed Sherd Analysis**

Rates of decorative classes vary within and between clusters of sites along the Neches River (Figure 9.8). Incising, as the sole decoration, is the most popular decorative class at all but three of the Neches River sites (41CE20, 41CE293, and 41AG22). However, it only averages around 5% in the area and consists of no

more than 11% at any one site. Punctations (2.8%) and brushed-punctations (2.2%) follow in popularity.



**Figure 9.8. Utility Ware Decorative Classes from Sites on the Neches River**

Appliqué as the sole decoration is only present in the Upper Neches cluster, as well as at the site 41AG22. The Wallace site (41CE20) is the only site in the Neche cluster to have appliqué in conjunction with another decorative class. Other sites in the Neches cluster, along with 41AN21, are the only sites without appliqué decorative classes. The vast majority of the decorative class appliqué-punctations, as well as appliqué-brushed-punctations, are appliqué fillets. These two classes make up around 7% of all utility ware decorative classes from the Neches River sites, although neither is present at four of the sites.

## FINE WARE DECORATIVE MOTIFS AND ELEMENTS FROM HISTORIC SITES

Recognizable motifs are numerous and distributed across various areas in the Angelina River valley (Table 9.1). Scroll and oval motifs are each present at half of the sites, and the divider and panel motifs are common as well. In several cases, the motifs correlate well with the proposed clusters. For example, in the clusters around King and Legg creeks, only the divider and scroll motifs occur.

The motifs from the Bayou Loco cluster are also remarkably consistent. The only exceptions are 41NA21 and 41NA111. The lack of motifs from the Mayhew site (41NA21) is undoubtedly due in part to the small size of sherds (only 13 sherds measure more than 5 cm in diameter), and 41NA111 consists of a small sample of fine ware sherds. Otherwise, all of the remaining sites in the Bayou Loco cluster contain the divider, oval, panel, and scroll motifs. Chevron and concentric circle motifs each occur at two sites.

**Table 9.1. Fine Ware Decorative Motifs from Angelina River Sites**

Site Trinomial	Chevron	Concentric Circle	Divider	Oval	Panel	Scroll
41CE62						
41NA6						
41NA15			+			+
41NA44			+			+
41NA54						+
41NA21						
41NA22	+		+	+	+	+
41NA23			+	+	+	+
41NA27	+	+	+	+	+	+
41NA60		+	+	+	+	+
41NA111						
41RK191						
41RK197				+		
41RK200		+		+	+	

Table 9.1 (continued)

41NA206	+	+	+		+	+
41NA183						
41NA67	+			+	+	+
41SA94				+	+	+
41SA116		+	+	+		
41SA25	+			+		

Only two sites in the Nasoni cluster have recognizable motifs, Mission Nasonis (41RK200) and 41RK191. The former has concentric circle and panel motifs, and they both have the oval motif in common. The two sites in the Attoyac cluster also have the oval motif in common, as well as the panel and scroll. The one site in the Nacogdoche cluster, 41NA206, does not have an oval motif, but every other motif is present.

Only a few fine ware decorative motifs are identifiable from the sherd assemblages in the Neches River (Table 9.2). The most common are scroll motifs, which occur at sites in the Neche and Nabadache clusters. This includes the Lindsey site (41CE293), which has a small number of fine ware sherds but the greatest variety of decorative motifs. Although few motifs are identifiable, several decorative elements listed below are likely part of unrecognized motifs (i.e. curvilinear and circular lines that belong to concentric circle motifs). Even though they are not included in the table, it is clear that some of these fine ware decorative motifs are present on whole vessel collections from sites in the upper Neches.

**Table 9.2. Fine Ware Decorative Motifs from Neches River Sites**

Site Trinomial	Chevron	Concentric Circle	Divider	Oval	Panel	Scroll
41AN21						
41CE39						
41CE354						
41CE20						+
41CE48						
41CE293			+		+	+
41HO214						+
41AG22						

As expected, decorative elements are identifiable more frequently than motifs. Not only are elements easier to identify, but vessel sherds are also more likely to have multiple elements. For example, sherds that have a curvilinear engraved line with triangular tick marks count towards both the curvilinear and the triangular ticking elements. Consequently, several elements occur in every cluster and element totals at each site may equal more than 100%.

Triangular ticking is the largest category of decorative element for sites in both the Angelina and Neches river drainages (Tables 9.3 and 9.4). This is directly related to the amount of Patton Engraved among the fine ware. Triangular ticking is also the only element recognized from two of the four sites not included in clusters (41AG22 and 41CE62).

In most cases, linear tick marks are also indicative of the type Patton Engraved. Linear ticking occurs in larger percentages at sites in the Neches River valley, and it is especially prevalent in the Upper Neches and Nabadache clusters. The same is true of elements that contain both linear and triangular ticking. Oval tick marks frequently appear in designs that tend to mimic Patton Engraved elements. These only occur in assemblages from Angelina River sites.

**Table 9.3. Fine Ware Decorative Elements from Angelina River Sites<sup>5</sup>**

Site Trinomial	CH	CIR	CU	HA	LTM	TTM	LTM/ TTM	OTM	TRI	Fine ware (n=)
41CE62						20.0				5
41NA6			14.3	5.4	3.6	16.1			5.4	56
41NA15	15.9		13.6	4.5		52.3			6.8	44
41NA44	8.4	0.9	9.3	4.0	2.7	12.9		1.8	3.1	225
41NA54			9.1							11
41NA21	5.0	0.2	6.6	0.4	2.4	46.2			0.2	2,057
41NA22	28.9		6.8	11.6		14.2			6.8	190
41NA23	11.8	1.6	10.7	2.1		39.6			1.6	187
41NA27	7.0	0.4	17.0	5.4	1.9	35.2		0.2	2.9	2,040
41NA60	4.7		15.9	6.8	1.4	27.8		2.0	6.4	295
41NA111	20.0		6.7	6.7						15
41RK191			25.0			33.3				12
41RK197	4.3		8.7		13.0	69.6				23
41RK200	14.2	0.8	11.0	3.4	4.2	17.6			0.6	353
41NA206	5.5	0.3	11.9	3.8	0.9	14.0		0.1	2.3	927
41NA183	4.5	13.6	13.6	13.6	4.5	4.5			9.1	22
41NA67	9.8	2.0	27.5	17.6	2.0	11.8	2.0		5.9	51
41SA94	10.8	3.0	14.1	21.5	0.3	2.7	0.3		10.1	297
41SA116	6.0	0.1	7.8	9.1	1.2	6.3		0.4	0.6	252
41SA25	11.5	2.8	7.9	14.6	1.9	16.0	0.4		2.4	1,129

Curvilinear elements are the second most common element at sites in the study. Many of the elements are simply curvilinear lines, but they frequently occur with ticking, hatching, and other elements as well. In addition, curvilinear lines with triangular tick marks are often diagnostic of specific varieties of Patton Engraved.

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<sup>5</sup> Percentage of elements among the fine ware, CH=crosshatched, CIR=circular, CU=curvilinear, HA=hatched, LTM=linear tick marks, TTM=triangular tick marks, OTM=oval tick marks

Crosshatching and hatching are decorative techniques that help to define a broad range of larger elements or motifs. The elements fill zones of various shapes (i.e. circular, triangular, and rectangular) on fine ware and utility ware sherds and occur in bands, dividers, and panels. Like other elements, crosshatching and hatching have the potential to be diagnostic of ceramic types. For example, hatched pendant triangles may indicate Hume Engraved or crosshatched zones might characterize King Engraved. The frequency of hatching is comparable across most areas in the study, but the use of crosshatched elements appears to increase at sites on the Angelina River.

**Table 9.4. Fine Ware Decorative Elements Neches River Sites<sup>6</sup>**

Site Trinomial	CH	CIR	CU	HA	LTM	TTM	LTM/ TTM	OTM	TRI	Fine ware (n=)
41AN21	4.5		27.3		13.6	68.2	13.6			22
41CE39			7.1	14.3		7.1			7.1	14
41CE354	3.4	1.7	29.3	3.4	13.8	22.4	1.7		8.6	58
41CE20			20.8	4.2	4.2	25.0			4.2	24
41CE48			13.6			31.8				22
41CE293	5.9		11.8	17.6					11.8	17
41HO214			6.3	6.3	56.3	25.0	6.3			16
41AG22						42.9				7

A closer and more nuanced look at differences in the individual elements provides details not readily apparent through statistics related in the table. For example, triangular elements such as pendant triangles suspended from lines are more common in the Upper Neches cluster, while excised triangular zones are

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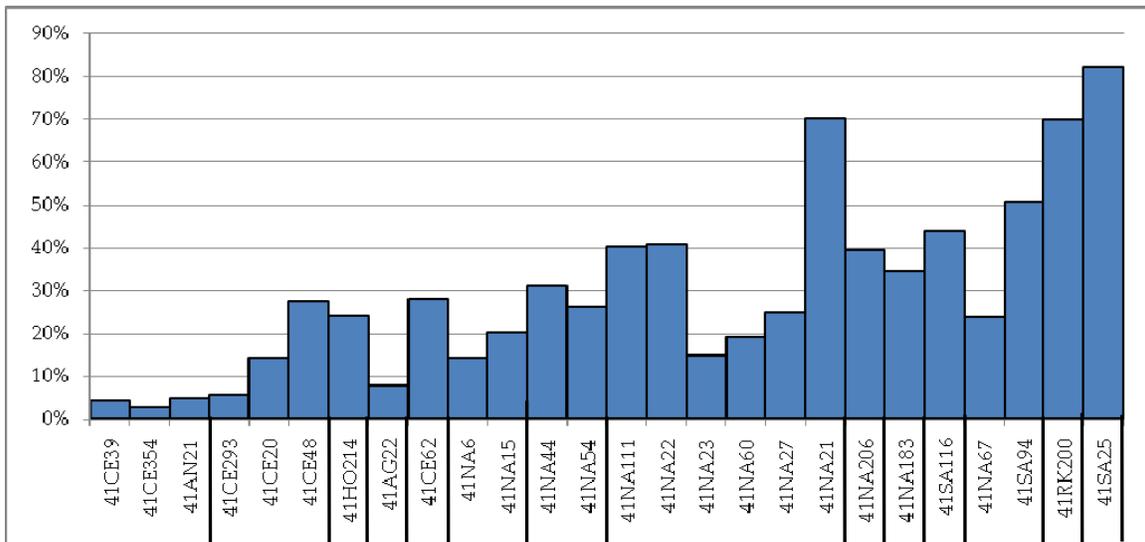
<sup>6</sup> Percentage of elements among the fine ware, CH=crosshatched, CIR=circular, CU=curvilinear, HA=hatched, LTM=linear tick marks, TTM=triangular tick marks, OTM=oval tick marks, TRI=triangular

more common in the Neche cluster. More detailed study of these elements might provide additional evidence for the inclusion (or exclusion) of sites in clusters.

#### **INCLUSIONS FROM HISTORIC SITES**

Information regarding the inclusions is available from every site in the detailed sherd analysis except for 41RK191 and 41RK197 (see Chapter 6). Clearly, a comparison with these and other sites in the area is impossible. However, considerable samples, greater than 100 subjects, exist from all but a few of the other sites. I include the sites with more modest sample sizes such as 41NA15 (n=74), 41NA54 (n=84), 41NA111 (n=99), and 41NA183 (n=98) as well in order to provide a more complete description. Summary tables that present the rates of inclusions are in Appendix 2.

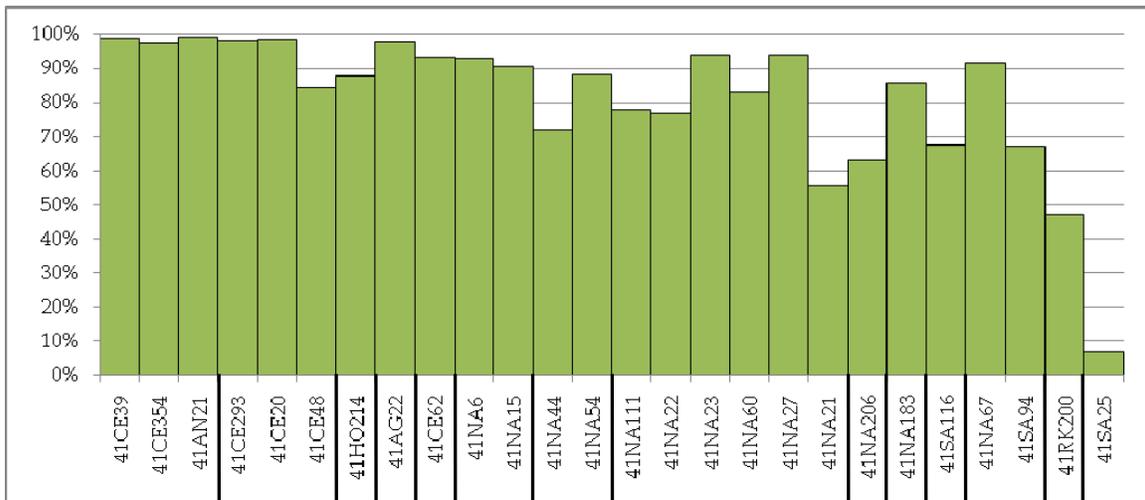
Like stylistic characteristics, the rates of ceramic inclusions vary both within and between the proposed clusters (Figure 9.9). Nevertheless, informative trends and preferences are evident in the data. For example, the first graph clearly demonstrates that the use of bone inclusions generally increases from west to east. Sites in the Upper Neches cluster have the lowest rate of bone (<5%), while Mission Dolores (41SA25) has the highest rate (82.1%).



**Figure 9.9. The Use of Bone Inclusions at Historic Caddo Sites**

At more than half of the sites, less than 30% of the vessel sherds contain bone inclusions. The average is considerably less (11.4%) along the Neches River. The rate of bone inclusions is 37.6% at sites in the Angelina River valley, but is highly variable in some of the clusters. In the Attoyac cluster, 41SA94 has more than twice the rate of bone inclusions than 41NA67. Three of the sites in the Bayou Loco cluster average less than 25%, while the others are all more than 40%. The high amount of bone at 41NA21 (70.2%) is particularly striking, which again suggests that this site is anomalous in the Bayou Loco.

At most sites, grog is the overwhelming type of inclusion (Figure 9.10). It averages over 90% for vessel sherds from all Neches River sites and the King Creek cluster, and the rate is around 80% at sites in the Legg Creek, Bayou Loco, and Attoyac clusters. This rate slowly drops at sites to the east, undoubtedly related to the preference for bone in those areas. Even so, grog is present in less than 50% of all sherds at just two sites.

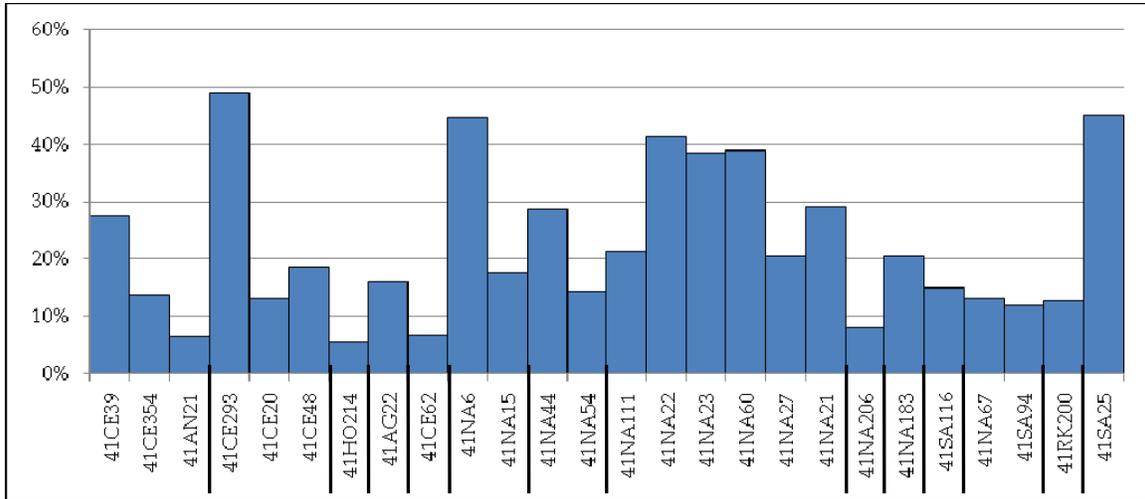


**Figure 9.10. The Use of Grog Inclusions at Historic Caddo Sites**

The lowest rates occur at Mission Dolores (41SA25) and Mission Nasonis (41RK200), perhaps because neither of these is necessarily a Hasinai Caddo site. Even though the Spanish built Mission Nasonis for a Hasinai group, the historic record makes it clear that the Nasoni did not reside at the mission. Presumably, the Caddo were making the majority of ceramics present at mission sites, and clearly, the extensive use of grog requires large amounts of existing pottery. Bone may have become a suitable substitute if the missions were established in areas without substantial middens or other access to supplies of discarded pottery. Regrettably, I do not have comparable information from other sites in the Nasoni cluster or sites associated with Mission Dolores.

Trends in the amounts of hematite are less obvious and rates vary within and between clusters of sites (Figure 9.11). Hematite inclusions occur in less than 50% of sherds at all sites. The average rate of hematite at sites in the Neches River

valley is 18.7%, and only slightly higher in the Angelina River valley (23.7%). On average, the use of hematite is greatest in the Bayou Loco cluster (31.6%).



**Figure 9.11. The Use of Hematite Inclusions at Historic Caddo Sites**

## **Chapter Ten: Conclusions and Reflections**

In my dissertation, I discuss the initial period of contact between the Caddo of east Texas and European explorers. The study follows the sustained interaction between these Native American groups and settlers, including Spanish missionizing activities. It relies on materials from archaeological sites, along with the archival records, to identify the archaeological correlates of groups that constituted the Hasinai Caddo.

The primary objective of this dissertation is to determine how specific attributes of ceramic style and technology correlate with sites in the presumed locations of the different Hasinai Caddo tribes as indicated by the historical records. In the work, I also attempt to determine if Caddo ceramics can be used as social identifiers; that is, how certain shared and distinctive decorations as well as technological attributes distinguish between closely related communities and constituent groups of the Hasinai Caddo.

Endeavors such as these imply that ceramic assemblages reflect cultural affiliations. Additionally, it is assumed that the closer ceramics collections are in character, the closer the cultural connections. Results from the study vary, but the ceramic analyses demonstrate significant similarities and differences exist for the assemblages. The final chapter summarizes several noteworthy results and reviews the evidence for archaeological signatures that have the potential to differentiate between clusters of archaeological sites.

### **ARCHIVAL RECORDS AND THE HASINAI CADDO**

Another important goal of this study was a complete review of the archival records related to initial European contact and the mission period in the

Hasinai area. Early French and Spanish accounts distinguish between at least nine constituent groups of the Hasinai Caddo. Distinctions between the affiliated Hasinai Caddo groups are based on collective group identities as well as geographic differences. Native and European populations clearly recognized these individual identities of constituent groups of the Hasinai.

Archives document great disruptions brought on in part from the introduction of infectious epidemic diseases that resulted in massive population decline. Sustained contact between the Caddo and Europeans also brought trade materials and technology in tandem with the social objectives and policies of foreign entities, many aimed at replacing Caddo cultural identity.

Accurate identification of Hasinai Caddo groups in the post-contact period is difficult because of the frequent movement of peoples and changing group composition. Under the guidance of Caddo leaders, who relied on the longstanding commonalities and kin-related alliances, Caddo groups coalesced as a means of maintaining their identity. It is possible that some of the nuanced differences pointed to in this study reflect group changes during the period of early coalescence, such as segmentary lineages. In spite of these movements and the disjunctive and fragmenting effect of disease, the Caddo were able to maintain a coherent cultural identity through the structure of strong leadership (Carter 1995; Marceaux and Perttula 2010; Smith 1991, 1995).

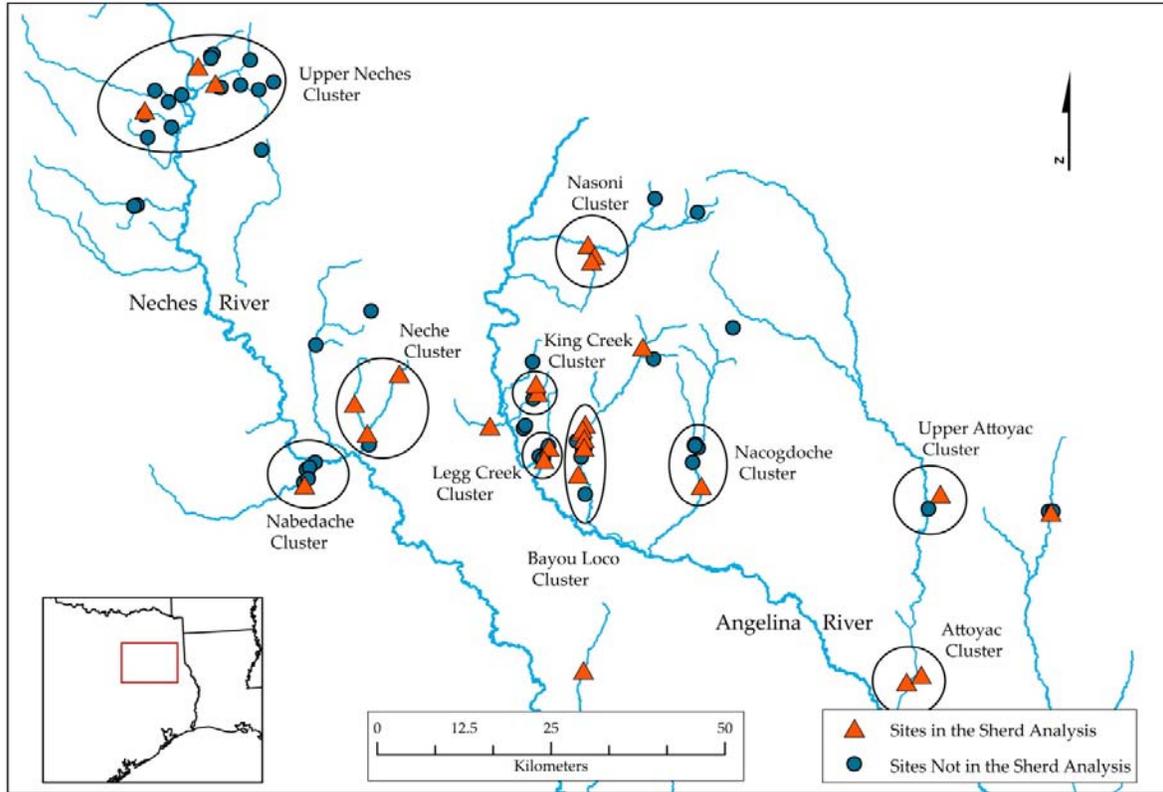
The number of Caddo groups identified in the ethnohistoric record decreased as time passed, but it is clear from the archives that many of the Hasinai groups discussed here maintained distinct affiliations during the contact period. For example, at around A.D. 1720 only one of the original nine groups had disappeared from the historic record. I argue that the cohesive and persistent

character of Hasinai material culture in the Neches and Angelina River valleys supports the archives on this point.

#### **CERAMIC ANALYSES AND THE CLUSTERS OF HASINAI CADDO SITES**

The Spanish conquistadors commented extensively on the variety and quality of Caddo pottery. During the late 17<sup>th</sup> and early 18<sup>th</sup> centuries, Hasinai groups welcomed the Spanish with festive activities during which they were served foods on a variety of ceramic vessels. In forms and decorative elements, the archaeological record confirms the variety and high level of craftsmanship of the Caddo ceramics. Conversely, the ceramic analyses demonstrate that, taken as a whole, the large sherd assemblages from Hasinai Caddo sites have much more in common than they do differences. Similarities in ceramic types and decorative techniques, the range of vessel forms, and the use of specific types of inclusions, all indicate an incredibly cohesive and well-established ceramic tradition throughout the upper Neches and Angelina River valleys.

Below I use the conclusions from ceramic analyses in previous chapters to discuss the 10 clusters of archaeological sites (Figure 10.1). The goal is to summarize the results and discuss potential archaeological signatures of the clusters and groups of sites. Summary tables present the suite of ceramic attributes and metrics (i.e. ratios and percentages of wares, counts of fine and utility ware types, utility ware decorative classes, and inclusions) used to characterize the collections and discuss the potential connections (Appendix 2).



**Figure 10.1. Clusters of Historic Sites in the Study Area**

### **The Nasoni Cluster and Mission Dolores**

The somewhat recent finding of missions in east Texas has greatly improved our understanding of the physical locations of the Hasinai Caddo. Mission Dolores (41SA25), located around 35 years ago, provided a connection to the historical record and a reference point in the historic landscape. Years later when the archaeological site of Mission Nasonis (41RK200) was found, it established the first direct link to a specific Hasinai Caddo group identified in the archives. Recently, the discovery of the proposed site of Mission Concepción (41NA344) offers a new opportunity to pin down and triangulate the positions of different Hasinai Caddo groups.

Characteristics of the materials from the Mission Dolores site (41SA25) support the view of the archives that the mission is not associated with the Hasinai Caddo (Appendix 2). Ceramic assemblages from Mission Dolores include analogous amounts of Patton Engraved and Natchitoches Engraved, the latter a type usually attributed to groups east of the Hasinai. The fine ware types Patton Engraved and Poynor Engraved typically dominate Hasinai sites. Mission Dolores has no established utility ware types, a lack of brushing, and large numbers of incised sherds. Other archaeological signatures include ratios related to the number of brushed, decorated, and plain sherds (Table 10.1). These results indicate a distinctive pattern as well.

Metrics from the Nasoni cluster demonstrate important similarities and differences between the three ceramic assemblages (Table 10.1). Ratios and the percentage of ceramic wares for 41RK191 and 41RK197 are markedly similar, but both differ from Mission Nasonis (41RK200). Brushing makes up more than two-thirds of the decorated sherds from each site in the cluster, but Mission Nasonis has nearly double the number of plain sherds as other sites. Another potentially important archaeological signature is the use of appliqué decorations. The assemblage from Mission Nasonis contains multiple appliqué decorative classes, but these are absent from other sites in the Nasoni cluster.

**Table 10.1. Ceramic Metrics from the Nasoni Cluster**

Site Trinomial	P/DR	BR/P	BR/WP	Plain*	Utility ware*	Fine ware*	Brushed*	Wet Paste*
41RK191	0.58	1.37	5.08	36.7	60.0	3.3	79.2	15.6
41RK197	0.60	1.15	5.35	37.6	51.4	11.0	69.5	13.0
41RK200	2.61	0.25	3.16	72.3	23.9	3.8	65.6	20.8
41SA25	1.91	0.00	0.02	65.6	14.4	20.0	0.7	41.1

\* percentage

Along with the lowest rates of grog inclusions, Mission Dolores (41SA25) and Mission Nasonis (41RK200) have two of the highest rates of bone inclusions in the study (Appendix 2). Perhaps this is because neither is a Hasinai Caddo site. Clearly, the extensive use of grog requires large amounts of existing pottery. As noted in the previous chapter, bone may have become a suitable substitute if the Spanish established missions in areas without substantial middens or other additional access to supplies of discarded pottery.

Archival documents make it clear that Caddo groups were not living in the mission complexes. Nevertheless, the vast majority of artifacts from mission sites in east Texas are Caddo ceramics. This is certainly the case at Mission Dolores and Mission Nasonis. On the one hand, Caddo ceramic vessels are indisputably produced in, or traded into, the mission sites. On the other hand, the characteristics of ceramic assemblages from these mission sites are apparently different from the assemblages at Caddo sites in close proximity (Table 10.1). Reasons for these differences are not always clear, but I believe the point is that Spanish missions are not Caddo sites.

Mission sites associated with the Hasinai groups, and sites in their immediate vicinity have enormous research potential. Plans are already in the works for an upcoming publication that will cover the materials from Mission Nasonis in more detail. Unfortunately, a relatively small amount of information exists from 41RK191 and 41RK197 at present. Additional work is necessary at these presumably Nasoni sites in order to complete a more thorough evaluation of the relationship between the mission and sites occupied by the associated Nasoni groups.

## The Attoyac and Upper Attoyac Clusters

Identities of groups living in the areas around the Attoyac and Upper Attoyac clusters are less clear (Figure 10.1). There is little in the archives to help identify groups and at this point archaeological signatures are inconclusive. According to some measures, the McElroy site (41SA116) in the Upper Attoyac cluster differs from the two sites in the Attoyac cluster (41NA67 and 41SA94). Other measures indicate a likeness between sites in the two clusters.

As a group, Attoyac and Upper Attoyac clusters have lower rates of brushing and more non-brushed wet paste decorations than other clusters of sites. The site 41SA116 has several recognizable utility ware types (i.e. Spradley Brushed-Incised). Conversely, I did not identify any utility ware types from the two sites in the Attoyac cluster.

All of the sites have Patton Engraved sherds, though they account for around half of the fine ware types from the Attoyac cluster and 93% from the Upper Attoyac cluster. King Engraved is the only other fine ware type present at 41SA116, but King Engraved along with Poynor Engraved, Hume Engraved and Keno Trailed appear in the Attoyac cluster. Accordingly, the frequency seriation suggests that sites in the Attoyac cluster predate the occupation at 41SA116.

There are few patterns in the ceramic ratios and percentage of wares from the two clusters of sites on the Attoyac River (Table 10.2). Several metrics from the McElroy site (41SA116) and 41NA67 are analogous (i.e. P/DR ratio, plain, utility ware, fine ware). However, the rates of brushed and (non-brushed) wet paste decorated sherds vary between sites.

**Table 10.2. Ceramic Metrics from the Attoyac and Upper Attoyac Clusters**

Site Trinomial	P/DR	BR/P	BR/WP	Plain*	Utility ware*	Fine ware*	Brushed*	Wet Paste*
41SA116	1.48	0.22	0.70	59.7	31.9	8.4	32.7	46.5
41NA67	1.56	0.11	0.29	61.0	29.6	9.5	17.1	58.6
41SA94	0.74	0.68	2.00	42.4	43.3	14.3	50.1	25.0

\* percentage

Grog makes up more than two-thirds of the inclusions from 41SA116, and appears in over 80% of the sherds from the Attoyac cluster. Bone occurs in less than 40% of the inclusions from 41SA116 and 41SA94, but only 24% from 41NA67. In other words, the results from these two clusters are mixed and inconclusive.

Identities of groups in the Attoyac and Upper Attoyac clusters remain in question, though additional work in the archives would likely be helpful. It is possible that the sites represent multiple groups of Caddo. Importantly, results from the frequency seriation suggest the sites may not be contemporaneous. Therefore, it is likely that change through time influences the results from the sites in this area.

### **The Nacogdoche Cluster and the Loco Bottom Site**

The Spradley site (41NA206) is on Bayou La Nana just east of the Attoyac cluster. It is also the only site in the Nacogdoche cluster. As noted, the associations between the Nacogdoche group and this area rely on the historic record. The archives repeatedly indicate this constituent group of the Hasinai occupied areas around modern Nacogdoches, Texas. Mission Guadalupe, built for the Nacogdoche groups, has yet to be located but most researchers believe it is near downtown Nacogdoches.

In the upper reaches of the Bayou Loco, around 20 kilometers north-northwest of 41NA206, is the Loco Bottom site (41NA183). As noted above, various metrics indicate the two collections are alike. For example, striking similarities exist in the various ceramic ratios and the percentage of wares (Table 10.3). Utility ware decorative classes and the types of inclusions are comparable in some regards as well (see Chapter 9). Perhaps this suite of attributes is a distinctive archaeological signature for Nacogdoche sites.

**Table 10.3. Ceramic Metrics from the Nacogdoche Cluster and the Loco Bottom Site**

Site Trinomial	P/DR	BR/P	BR/WP	Plain*	Utility ware*	Fine ware*	Brushed*	Wet Paste*
41NA206	1.12	0.51	2.68	52.8	36.7	10.5	56.6	21.2
41NA183	1.11	0.56	2.06	52.5	43.1	4.4	61.3	29.8

\* percentage

In addition to the abovementioned characteristics, these two assemblages have higher rates of bone inclusions (around 35-40%) and lower rates of brushing (around 60%). Plain sherds are also more common than the utility and fine wares. There are several important differences. First, Patton Engraved is the only recognizable type from 41NA183, whereas 41NA206 has numerous fine ware and utility ware types. Second, the sites have somewhat different rates of grog inclusions (Appendix 2). Finally, 41NA206 has several unique decorations (i.e. appliquéd strip alongside a crosshatched engraved scroll element and an incised-punctated element with different types of tool punctations in separate zones) that do not occur at other sites in the study.

Both of these assemblages appear to favor ceramic-making traditions in the eastern part of the study (more brushing and fewer bone inclusions in the west). Unfortunately, there are a limited number of sites and presumably, other sites associated with the Nacogdoche groups are below the city of Nacogdoches. Despite this, the remarkable similarities in ceramic attributes suggest a possible archaeological signature for Nacogdoche Caddo sites.

### **The Bayou Loco, King Creek, and Legg Creek Clusters**

Contrary to the Nasoni cluster, large collections of material exist for sites in the King Creek, Legg Creek, and Bayou Loco clusters, but efforts at Mission Concepción (41NA344) have just begun. At this point, collections from this mission are small and have yet to be analyzed. However, Mission Concepción is no more than 12 kilometers (7.5 miles) from any of these three clusters. In my opinion, this suggests that any (or all) of the sites may represent members of Hainai Caddo communities. One exception to this is the Mayhew site (41NA21).

Ceramic materials from the Mayhew site (41NA21) are clearly different from the other sites in the Bayou Loco, as well as sites in the King Creek and Legg Creek clusters. No other site in the study has compelling similarities to 41NA21 (i.e. NA206 and NA183), but I presume the presence of Natchitoches Engraved and the high rate of bone inclusions indicate connections to the east.

Fine ware decorative motifs are conspicuously absent from the Mayhew site (see Table 9.1), though this is in some part due to the size of the sherds. The site also has a large collection of European trade goods, mostly of French origin. Perhaps the Mayhew site (41NA21) represents the movement of a constituent Hasinai group (other than the Hainai) into the Bayou Loco area late in the historic period.

Constructing an archaeological signature for such a large group of sites is difficult. Minor variations appear in many of the measures related to the ceramic analyses (Table 10.4). Removing 41NA21, and other sites thought to date early in the sequence, from consideration might help to sort through the variation. Two relatively consistent metrics include the P/DR ratio (0.25-0.66) and rate of brushing among the decorated sherds (70%-85%). Decorative classes are comparable as well (Figures 9.5 and 9.6).

**Table 10.4. Ceramic Metrics from the Bayou Loco, Legg Creek, and King Creek Clusters**

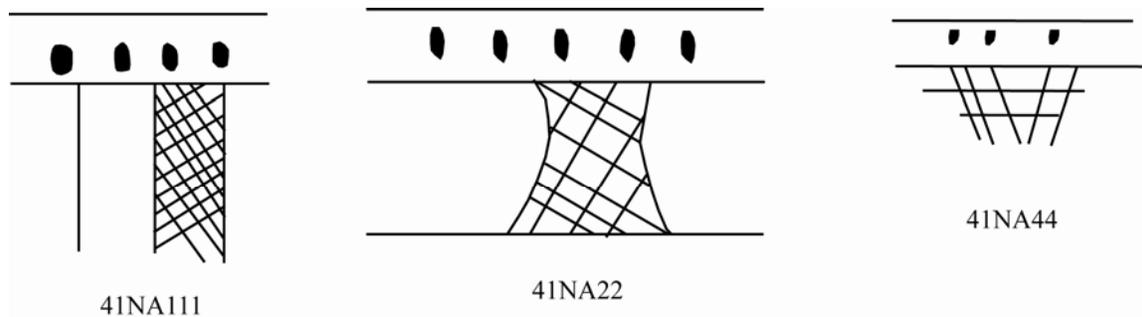
Site Trinomial	P/DR	BR/P	BR/WP	Plain*	Utility ware*	Fine ware*	Brushed*	Wet Paste*
41NA54	0.25	3.33	8.89	20.3	75.1	4.6	84.7	9.5
41NA44	0.37	1.85	3.62	27.1	63.9	9.1	68.9	19.0
41NA6	0.48	1.75	9.91	32.4	62.0	5.6	84.0	8.5
41NA15	0.51	1.53	9.07	18.0	62.2	19.8	69.8	7.7
41NA111	0.66	1.30	12.47	39.9	56.0	4.2	86.2	6.9
41NA22	0.27	3.25	11.93	21.0	73.8	5.2	86.3	7.2
41NA23	0.51	1.57	7.05	33.9	60.7	5.4	80.5	11.4
41NA60	0.27	2.87	8.05	21.3	67.9	10.9	77.6	9.6
41NA27	0.30	2.93	19.52	22.9	70.4	6.7	87.1	4.5
41NA21	0.59	1.18	7.51	37.2	49.6	13.2	69.9	9.3

\* percentage

With the exception of the Mayhew site (41NA21), utility ware types Lindsey Grooved and Spradley Brushed-Incised are ubiquitous at sites in these clusters (Appendix 2). LaRue Neck Banded is present at 41NA21, and most of the other sites in the three clusters. Patton Engraved, Poynor Engraved, and King Engraved appear frequently as well. Exceptions such as the sites 41NA54 and NA111 have no recognizable fine ware types. Poynor Engraved is common at 41NA22, which implies the site is early in the sequence. Results from the

frequency seriation suggest that further temporal differences exist at the sites in this area.

One unique mixture of decorative elements only occurs at sites in the Bayou Loco including 41NA22, 41NA23, 41NA27, 41NA44, and 41NA111. This distinct decorative element has a horizontal tool punctated row on the lip of the vessel above a crosshatched engraved divider element (see Chapter 6; Figure 10.2). Unique elements such as this may play an important part of distinguishing between different groups of the Hasinai.



**Figure 10.2. Engraved Punctated Elements at Bayou Loco Sites**

Grog is the dominant type of inclusion at these sites and occurs in around 86% of all sherds. Around one-quarter of the sherds, not including 41NA21, have bone inclusions. This average is slightly higher (40%) at the sites 41NA22 and 41NA111, which coincidentally date early in the sequence of sites according to the frequency seriation.

The King Creek, Legg Creek, and Bayou Loco clusters have much in common, but it is difficult to discern a specific profile or archaeological signature. Minor variations in attributes merge into the larger trends of sites to the east and west of the clusters. It is also possible that patterns of attributes

within the clusters signify multiple Hasinai groups. The exception, of course, is the Mayhew site (41NA21). While this collection conforms to other sites east of Bayou Loco, it is clearly different from the three clusters under discussion.

Future archaeological work at Mission Concepción presents an important opportunity to compare further collections of material culture from missions and Hasinai sites. It may also help test the proposition that sites in the King Creek, Legg Creek, and Bayou Loco clusters are Hasinai groups.

### **The Nabadache and Neche Clusters**

As the cluster names suggest, sites on the middle Neches can be associated with particular Hasinai groups, the Nabadache and the Neche (Figure 10.1). The former is west of the Neches River, along San Pedro Creek. This is the first cluster on the main route, *El Camino Real de los Tejas*, into the Hasinai province from the southwest. Historic archives frequently make note of this area, the setting for the first Spanish missions in Texas (1690). Recent archaeological work relocated previously recorded sites and identified new sites in the area (Perttula et al. 2005; Perttula and Nelson 2006, 2007a), solidifying its connection to the Nabadache Caddo. Unfortunately, only one site in the cluster has a sizeable assemblage of ceramic sherds (41HO214).

The Neche cluster is just northeast of the Nabadache cluster, on the east side of the Neches River. According to historic accounts, Spanish missionaries reestablished Mission San Francisco de los Tejas there for the Neche groups in 1716. Though many have searched, the archaeological remains of Mission Tejas have yet to be located.

Ceramic metrics related to these two clusters are analogous and there are few obvious distinctions between ceramic assemblages from the two clusters.

This makes defining distinct archaeological signatures for each cluster difficult. The historic type Patton Engraved is present at every site in the two clusters except for the Lindsey site (41CE293). The Lindsey site has large numbers of Poynor Engraved, which indicates an earlier occupation for the site. The lack of European trade goods supports this assertion.

The utility ware type LaRue Neck Banded continues to proliferate in this area, but all other utility ware types are rare or absent. Spradley Brushed-Incised does not occur in the Neches, and the Lindsey site (41CE293) is the only site with Lindsey Grooved. Interestingly, the Lindsey site is also the only site in the Neches River valley to contain the fine ware type King Engraved. The occurrence of these two types might be indicative of closer relationships between the Neche groups and Hasinai groups to the east.

Sites from the two clusters have low P/DR ratios (0.12-0.40) and brushing (76.2%-86.7%) is common (Table 10.5). With minor variation, the utility ware decorative classes are comparable as well. The Wallace site (41CE20) is the only site in the Neche cluster to have appliqué in conjunction with another decorative class and no other site in the Neche cluster has appliqué decorative classes. The Nabadache Azul site (41HO214) has only one appliqué decorative class, appliqué-punctated.

**Table 10.5. Ceramic Metrics from the Nabadache and Neche Clusters**

Site Trinomial	P/DR	BR/P	BR/WP	Plain*	Utility ware*	Fine ware*	Brushed*	Wet Paste*
41CE293	0.12	7.50	8.65	10.4	86.7	2.9	86.7	10.0
41CE20	0.40	2.07	16.78	28.5	62.1	9.4	82.5	4.9
41CE48	0.31	2.43	6.17	23.9	67.5	8.6	76.3	12.4
41HO214	0.32	2.38	5.24	24.2	68.7	7.0	76.2	14.5

\* percentage

Only a small number of fine ware decorative motifs are identifiable from the sherd assemblages in the Neches River (Table 9.2). Scroll motifs are the most common and are present at sites in the Neche and Nabadache clusters. Although few motifs are recognizable, several elements are likely part of unrecognized motifs (i.e. curvilinear and circular lines that belong to concentric circle motifs). Linear ticking is more common at sites in the Neches River valley, and it is especially prevalent in the Nabadache cluster.

All of the sites in the Nabadache and Neche clusters have high rates of grog inclusions (92%). The average number of bone inclusions for these two clusters is 18%, which is low compared to many of the sites and clusters in the eastern part of the study. As noted, the frequency seriation suggests the Lindsey site (41CE293) has the earliest occupation and not all sites are necessarily contemporaneous in the Neche cluster.

### **The Upper Neches Cluster**

There are three sites in the Upper Neches cluster, the northern-most group of sites in the study area (Figure 10.1). Although many of the areas are either clearly or marginally associated with Caddo groups identified in the historic records, as of yet, none of the archives make mention of Caddo groups living on the upper Neches River.

All of the sites have some measure of Patton Engraved, but 41CE39 has a large number of Poynor Engraved sherds as well. Along with a lower rate of brushing, and an absence of European trade goods, the results suggest 41CE39 is earlier in the sequence of sites.

Neck banding is present at every site, but in smaller amounts on average than the Nabadache and Neche clusters. No sites in the Upper Neches cluster

have the utility ware types Spradley Brushed-Incised or Lindsey Grooved. Some variation exists for the utility ware decorative classes. The earliest site, 41CE39, has the highest rates of incising and punctations in the Neches River valley. Only the Nasoni cluster and sites in the eastern part of the Angelina have comparable amounts. Appliqué as the sole decoration is also more common at sites in the Upper Neches cluster.

As noted above, no recognizable engraved motifs are present in the sherd assemblages from sites in the Upper Neches cluster. However, several sites in the area have whole vessel collections (see Chapter 7), some in association with European trade goods, which clearly have identifiable motifs in the decorations.

Other ceramic metrics from sites in this cluster show variation as well, though attributes such as P/DR ratios (0.09-0.90) and brushing (67.7%-82.5%) are well defined (Table 10.6). The most distinctive archaeological signature for sites in this cluster is the rates of inclusions. Sites in the Upper Neches cluster have an average of more than 98% grog and less than 5% bone inclusions. In terms of inclusions, this is the most homogeneous cluster of sites.

**Table 10.6. Ceramic Metrics from the Upper Neches Cluster**

Site Trinomial	P/DR	BR/P	BR/WP	Plain*	Utility ware*	Fine ware*	Brushed*	Wet Paste*
41CE39	0.90	0.76	3.11	47.2	46.8	6.0	67.7	21.8
41CE354	0.20	4.16	15.04	16.5	73.2	10.2	82.5	5.5
41AN21	0.09	8.62	8.62	8.1	78.1	13.8	76.2	8.8

\* percentage

The identity of Caddo groups living in the upper Neches remains unclear. Ceramic materials from the sites indicate that the groups are certainly part of the Hasinai Caddo tradition. However, minor differences suggest the groups are

different from those in other clusters of sites. Regardless, the identification of a specific Hasinai group (or groups) in this area remains difficult.

#### **THE EFFICACY OF IDENTIFYING GROUPS OF THE HASINAI CADDO**

Archival records clearly distinguish between the nine or more groups of the Hasinai Caddo. Historical documents also indicate that constituent groups such as the Hainai and Nabedache assumed particular positions and roles in Hasinai Caddo society. The Hasinai designated members of specific constituent groups to act as spiritual and political leaders. In some cases, the Hasinai formed subsets of constituent groups for special events and the performance of ceremonies. For example, reports indicate that at one point the Nacogdoche and Nasoni assembled in the same fire temple for their special feasts of the year (Hatcher 1927:161).

More often than not, the archives refer to the affiliated group Hasinai (or Tejas), not the constituent groups of the Nabedache or the Nasoni. Perhaps it was more important to be Hasinai than to be Hainai or Nacogdoche. I believe the distinctions between Hasinai groups are real, but in terms of ceramics, these distinctions are subtle.

Unfortunately, the archives provide virtually no information related to the production or use of ceramics. Brief statements describe how foods were stored or served during ceremonies, but little or no information exists for exactly who, where, or how the Hasinai produced ceramic materials. Archaeology has been unable to address the former questions, but studies such as this clarify the nuanced differences between Hasinai groups in terms of technique and preferred decorative elements. Further, they clearly show that mission sites are not Hasinai Caddo sites.

In terms of characterizing the ceramic assemblages, no single attribute distinguishes between each cluster of sites. Nevertheless, a matrix of attributes reveals various connections and/or obvious differences. In some ways, a number of the ceramic assemblages do appear to represent the archaeological correlates of specific Hasinai Caddo groups. In other ways, subtle changes in the decorative class or the absence of specific decorations do not measure up to the overall picture of a consistent well-established tradition of ceramic making.

A close examination of technological attributes from the sites also document well-established ceramic practices at Hasinai Caddo sites. The range of vessel and rim forms, firing conditions, the character of paste, and the thickness of ceramic wares all present a consistent and deep-rooted ceramic tradition. However, there are important technological differences in the ceramic collections as well. For example, the rates and correlations of different inclusions suggest local preferences and traditions. Grog occurs in some measure at all Hasinai Caddo sites, but at sites in the Upper Neches and King Creek clusters, it appears in more than 90% of vessel sherds. Bone, on the other hand, is clearly preferred at sites in the eastern part of the study area.

What are mostly minor differences in the rates of decorative classes do not necessarily signify different Hasinai groups. However, attributes such as the presence and/or absence of specific decorative classes might indicate local preferences that are in some way connected to the cultural affiliations of these groups. Decorative motifs, though often difficult to identify on sherds, appear to be more sensitive to geographical, and perhaps cultural, connections. Their presence at sites follows more closely the proposed clusters, and may be part of a suite of characteristics that indicate related communities and constituent groups.

In my opinion, a more detailed and nuanced examination of the large numbers of decorative elements has the potential to contribute to our understanding as well.

Another goal of this research is to better define the chronological relationships of Historic Caddo sites. As proposed, established ceramic types appear to be well suited for sorting out temporal differences in sites. Ceramic frequency seriations, supported by other evidence, demonstrate that chronological orderings are reflected in the vessel sherd collections. This is particularly true for the fine ware types Patton Engraved, ubiquitous at Hasinai Caddo sites, and Poynor Engraved. Newly proposed varieties for both of these ceramic types, and other minor ceramic types should be used in future attempts to sort through chronological differences in sites.

## **REFLECTIONS**

This dissertation is one of the most comprehensive studies to date of available archaeological and archival data related to the Hasinai Caddo of east Texas. The materials presented here are from numerous sites as well as a large and extensive geographical region. However, research requires a more complete dataset in order to fill in the gaps in important areas (i.e. along San Pedro Creek, and in the Nasoni cluster). Additional materials from Historic Caddo groups outside of the upper Neches and Angelina River valleys (i.e. Kadohadacho on the Red River) will also be extremely helpful in interpreting the differences between collections from Hasinai groups.

In conclusion, the detailed characterizations of Hasinai Caddo ceramic collections suggest that their similarities are much greater than their differences. The evidence demonstrates that Hasinai Caddo sites are in fact distinguishable from other non-affiliated Historic sites. Identifying the archaeological correlates

of specific constituent groups of the Hasinai Caddo remains difficult to determine, which is not to say that the task is impossible. Several of the sites and proposed clusters have distinct archaeological signatures that likely indicate socio-cultural, political, and/or economic differences. Besides providing working conclusions, this study establishes a baseline or starting point for additional work on Historic Hasinai Caddo sites and assemblages. Future efforts will continue to build on the profiles of distinctive ceramic assemblages.

## Appendix 1 - Whole Vessels

### 41AN13 - Jowell Farm



Vessel 41AN13-1, Patton Engraved, *var. Patton*



Vessel 41AN13-2, Patton Engraved, *var. Patton*



Vessel 41AN13-3, UnID brushed-excised design



Vessel 41AN13-4, Patton Engraved, *var. Patton*



Vessel 41AN13-5, Patton Engraved, *var. Freeman*



Vessel 41AN13-6, Patton Engraved, *var. Patton*



Vessel 41AN13-8, Patton Engraved, var. *Fair* or *Freeman*



Vessel 41AN13-9, Patton Engraved, var. *Fair*



Vessel 41AN13-10, UnID engraved design



Vessel 41AN13-11, Patton Engraved



Vessel 41AN13-12, Poynor Engraved, *var. Cook*



Vessel 41AN13-13, Patton Engraved



Vessel 41AN13-14, UnID brushed design



Vessel 41AN13-15, Bullard Brushed



Vessel 41AN13-16, Bullard Brushed



Vessel 41AN13-1x, Patton Engraved, *var. Patton*

41AN26 - Richard Patton



Vessel 41AN26-1, Patton Engraved, *var. Patton*



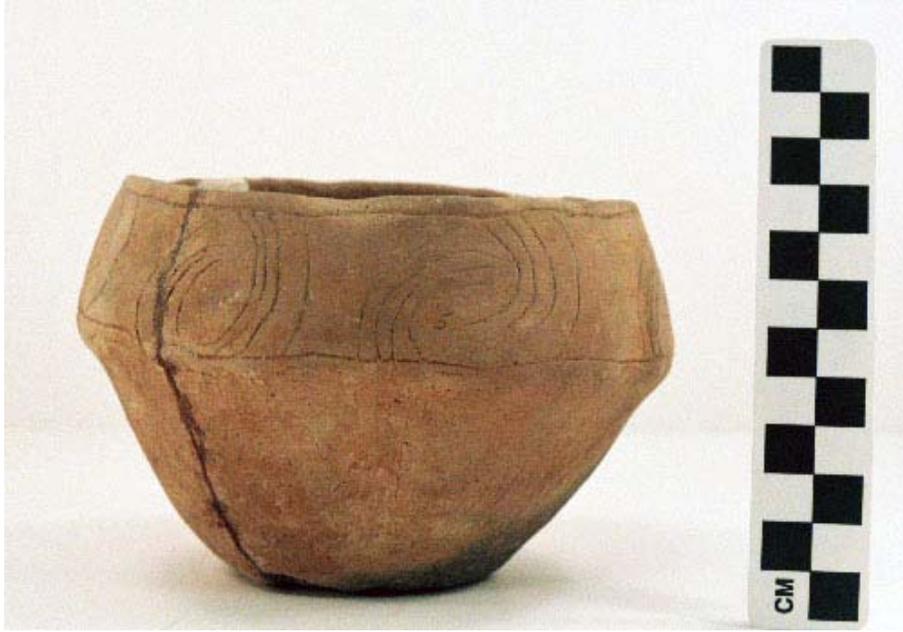
Vessel 41AN26-3, Patton Engraved, *var. Patton*



Vessel 41AN26-4, Patton Engraved, *var. Patton*



Vessel 41AN26-5, Patton Engraved, *var. Patton*



Vessel 41AN26-6, cf. Patton Engraved



Vessel 41AN26-9, plain



Vessel 41AN26-10, plain



Vessel 41AN26-11, Patton Engraved



Vessel 41AN26-13, Patton Engraved, *var. Freeman*



Vessel 41AN26-15, UnID engraved design



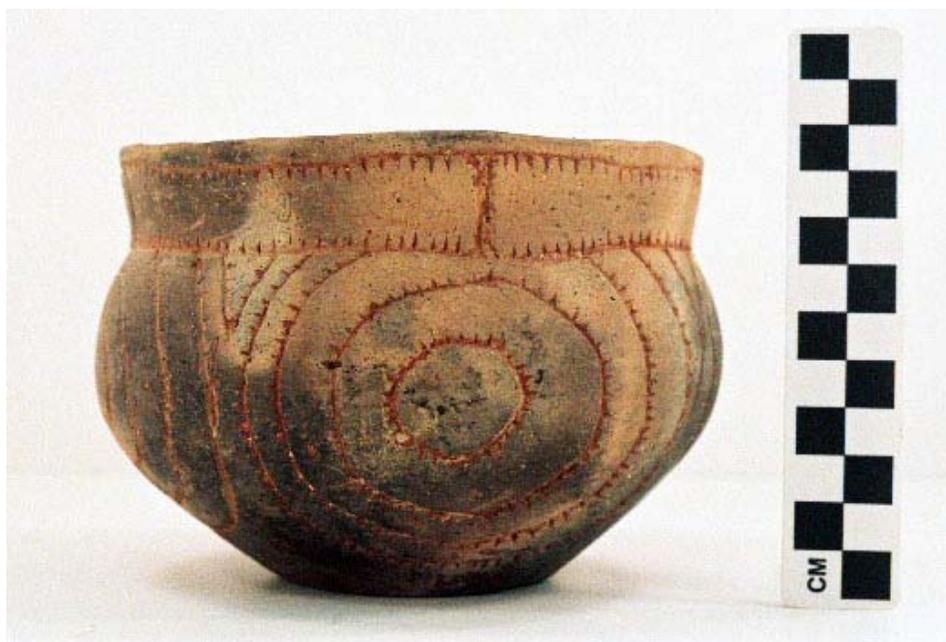
Vessel 41AN26-16, Patton Engraved, *var. Freeman*



Vessel 41AN26-17, Poynor Engraved, *var. Freeman*



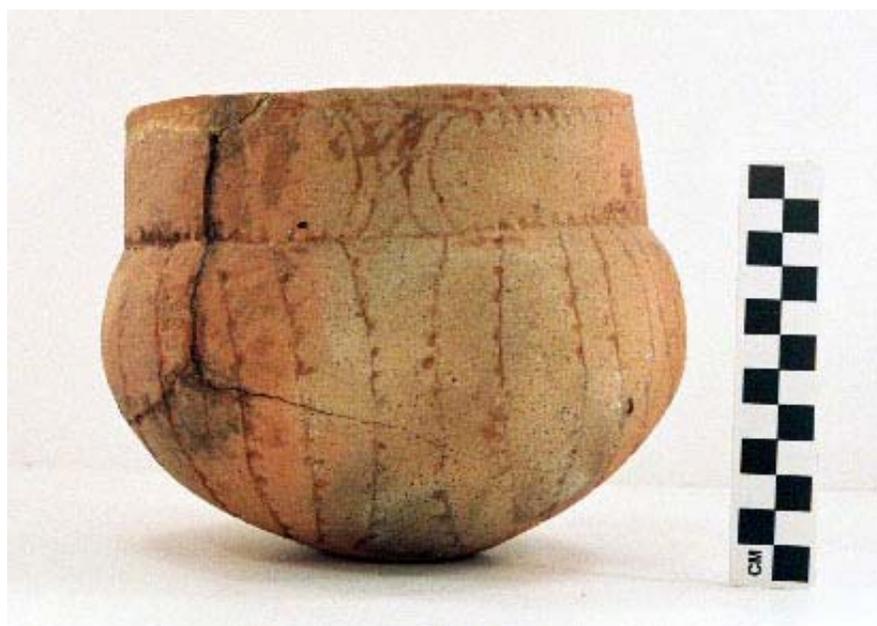
Vessel 41AN26-18, Patton Engraved, *var. Freeman*



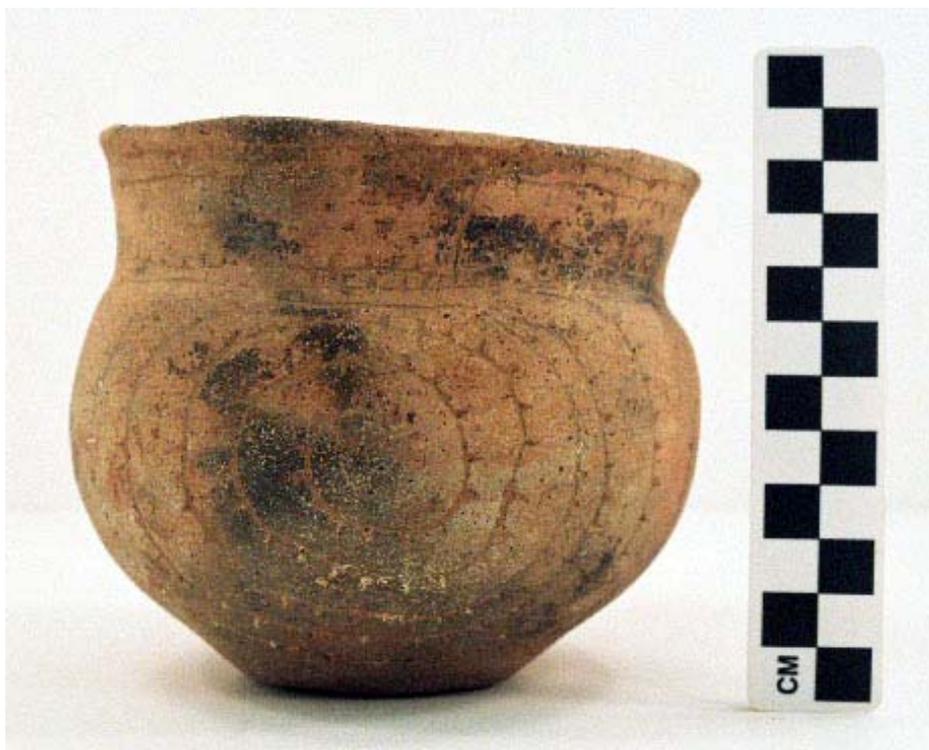
Vessel 41AN26-19, Patton Engraved, *var. Freeman*



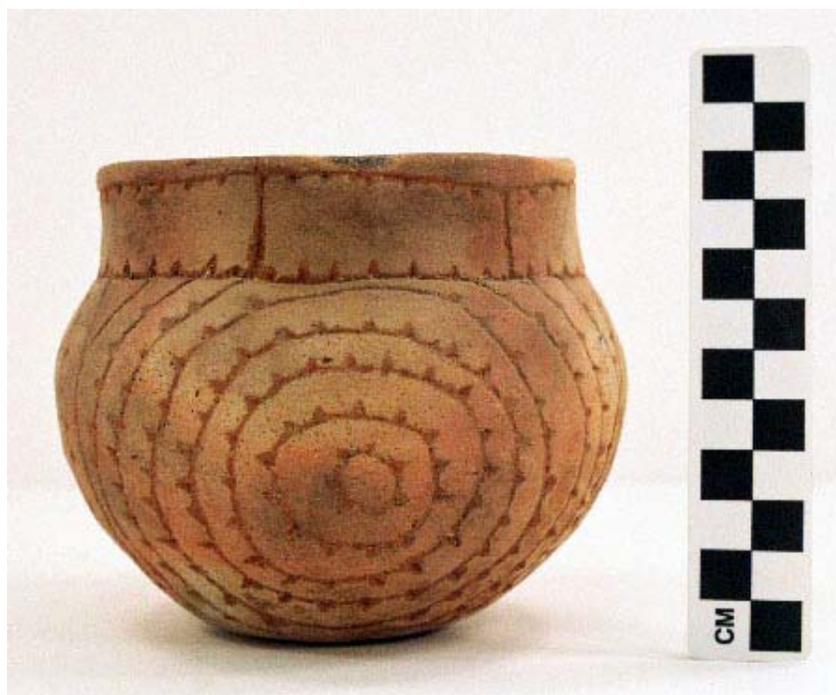
Vessel 41AN26-20, Patton Engraved, *var. Fair*



Vessel 41AN26-21, Patton Engraved, *var. Freeman*



Vessel 41AN26-22, Patton Engraved, *var. Freeman*



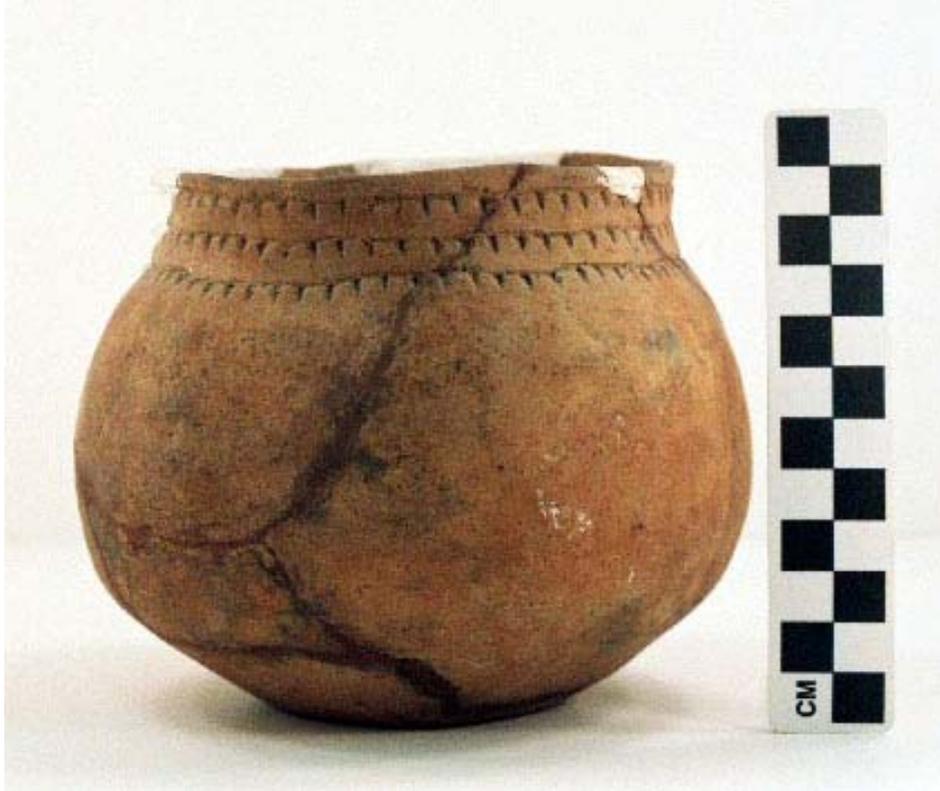
Vessel 41AN26-24, Patton Engraved, *var. Freeman*



Vessel 41AN26-26, Patton Engraved, *var. Freeman*



Vessel 41AN26-28, Patton Engraved, *var. Allen*



Vessel 41AN26-29, Patton Engraved, *var. Allen*



Vessel 41AN26-30, Patton Engraved, *var. Allen*



Vessel 41AN26-31, Patton Engraved



Vessel 41AN26-79, Patton Engraved



Vessel 41AN26-83, Patton Incised



Vessel 41AN26-91. Patton Engraved, *var. Freeman*



Vessel 41AN26-92, Patton Engraved, *var. Allen*

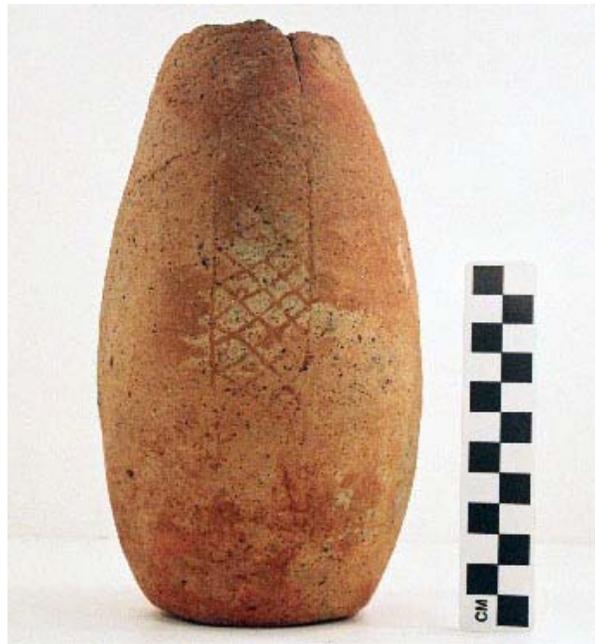


Vessel 41AN26-120, Patton Engraved, *var. Patton*



Vessel 41AN26-121, Poynor Engraved, *var. Freeman*

41AN34 - Pierce Freeman Farm



Vessel 41AN34-1, Hume Engraved



Vessel 41AN34-4, Bullard Brushed



Vessel 41AN34-5, cf. Patton Engraved



Vessel 41AN34-6, Poynor Engraved, *var. Hood*



Vessel 41AN34-7, Poynor Engraved



Vessel 41AN34-8, UnID engraved design



Vessel 41AN34-9, Poynor Engraved, *var. Freeman*



Vessel 41AN34-10, Plain



Vessel 41AN34-11, Poynor Engraved, *var. Freeman*



Vessel 41AN34-16, Poynor Engraved, *var. Freeman*



Vessel 41AN34-17, Hood Engraved



Vessel 41AN34-22, Poynor Engraved, *var. Cook*



Vessel 41AN34-23, Poynor Engraved, *var. Hood*



Vessel 41AN34-24, cf. Poynor Engraved, *var. Freeman*



Vessel 41AN34-27, Bullard Brushed



Vessel 41AN34-28, Poynor Engraved, *var. Freeman*



Vessel 41AN34-29, Patton Engraved, *var. Patton*



Vessel 41AN34-30, UnID engraved design



Vessel 41AN34-31, cf. Poynor Engraved, *var. Freeman*

41CE6 - E.W. Hackney



Vessel 41CE6-1, Patton Engraved



Vessel 41CE6-3, Patton Engraved, *var. Patton*



Vessel 41CE6-7, Hood Engraved



Vessel 41CE6-8, UnID engraved design



Vessel 41CE6-9, UnID brushed design



Vessel 41CE6-11, Patton Engraved



Vessel 41CE6-12, Hodges Engraved



Vessel 41CE6-13 Patton Engraved

41CE12 - Jim Allen



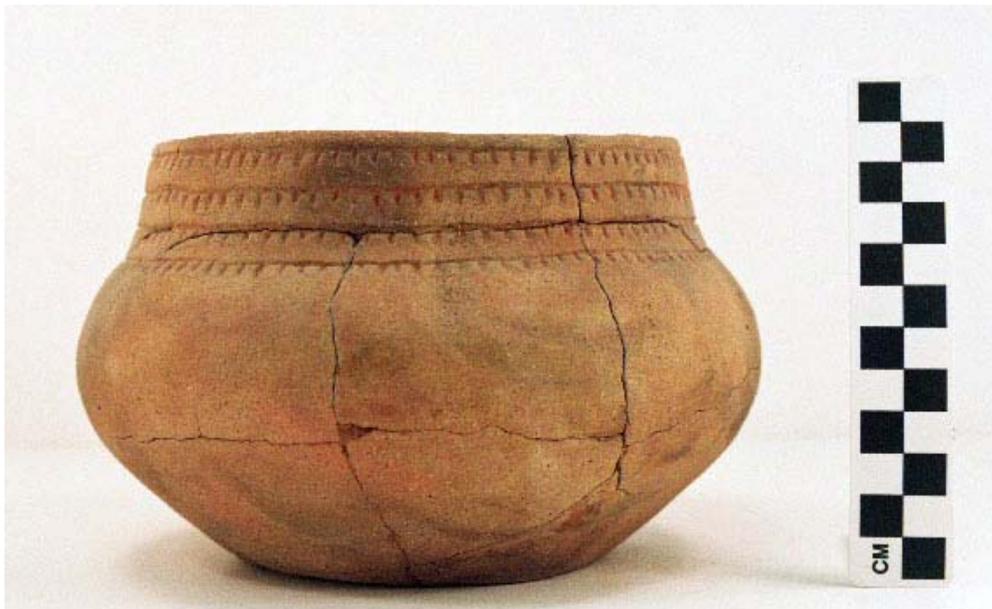
Vessel 41CE12-1, Bullard Brushed



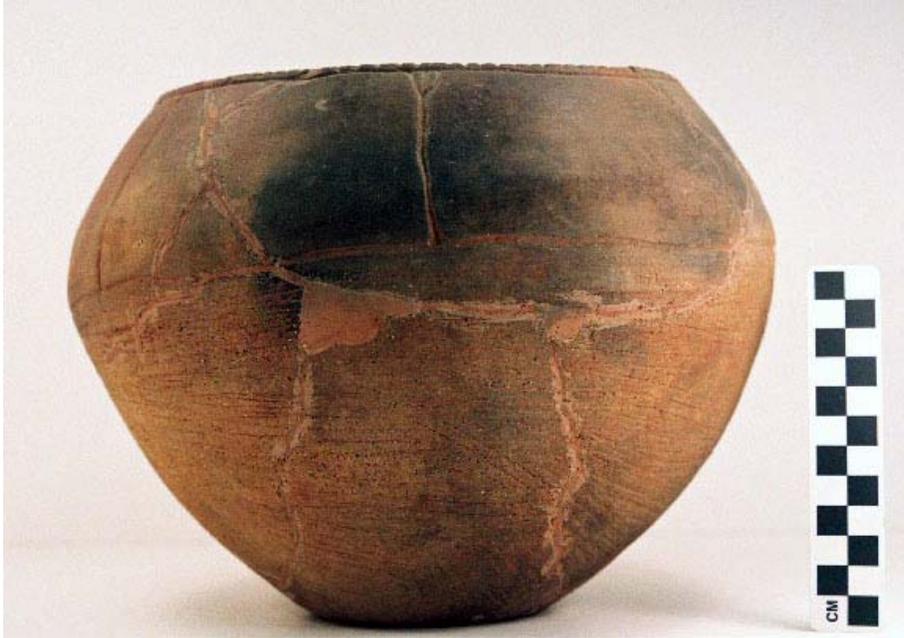
Vessel 41CE12-2, Hume Engraved, *var. Allen*



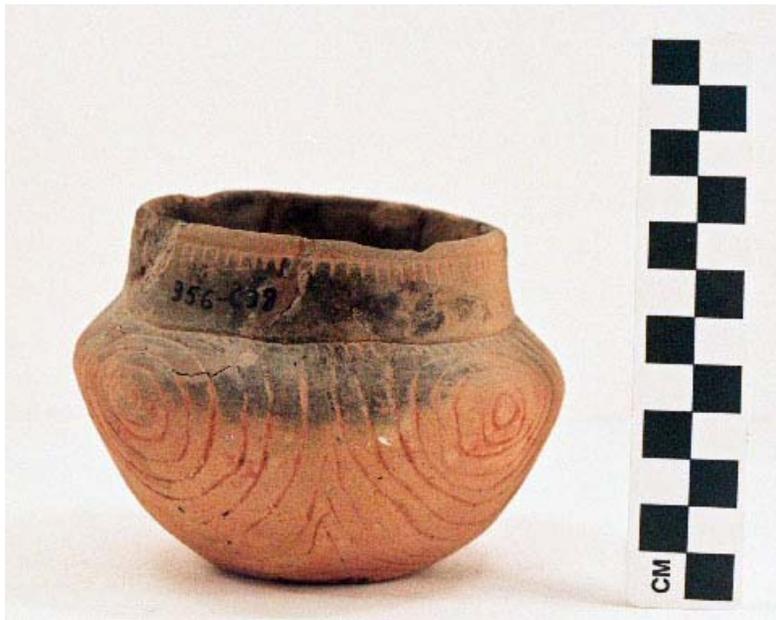
Vessel 41CE12-3, cf. Keno Trailed



Vessel 41CE12-4, Patton Engraved, *var. Allen*



Vessel 41CE12-6, Poynor Engraved, *var. Blackburn*



Vessel 41CE12-7, Patton Engraved  
570



Vessel 41CE12-8, Hood Engraved, *var. Hood*



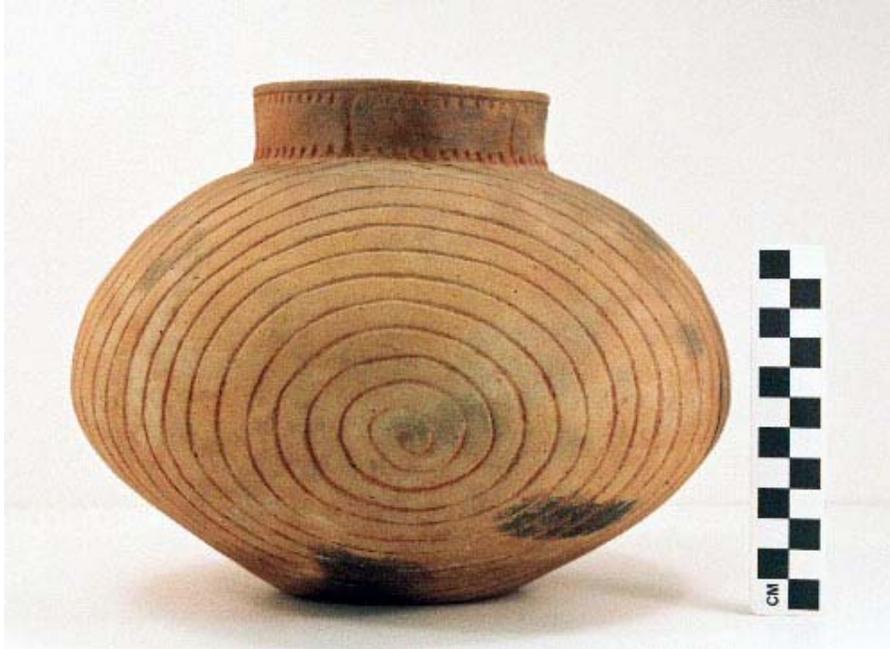
Vessel 41CE12-10, Hume Engraved, *var. Hume*



Vessel 41CE12-12, Hume Engraved



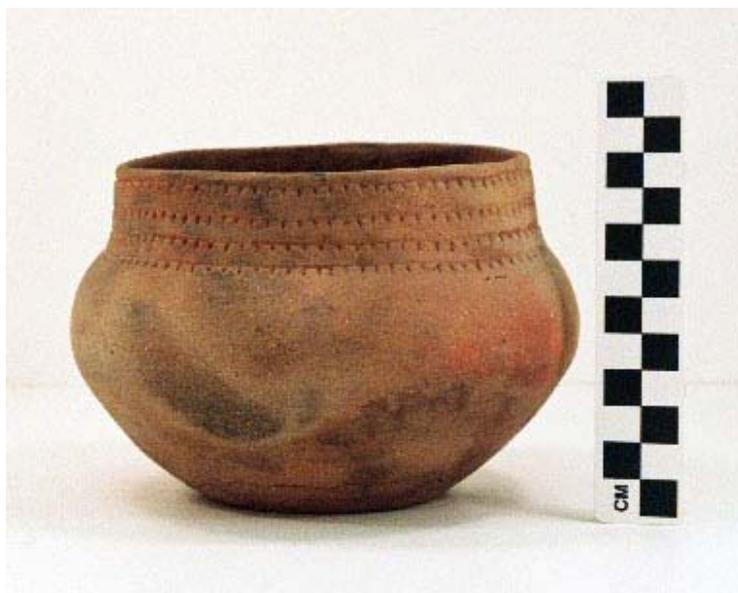
Vessel 41CE12-13, Killough Pinched, *var. Allen*



Vessel 41CE12-15, Poynor Engraved, *var. Freeman*



Vessel 41CE12-16, Patton Engraved



Vessel 41CE12-17, Patton Engraved, *var. Allen*



Vessel 41CE12-63, Simms Engraved, *var. Darco*



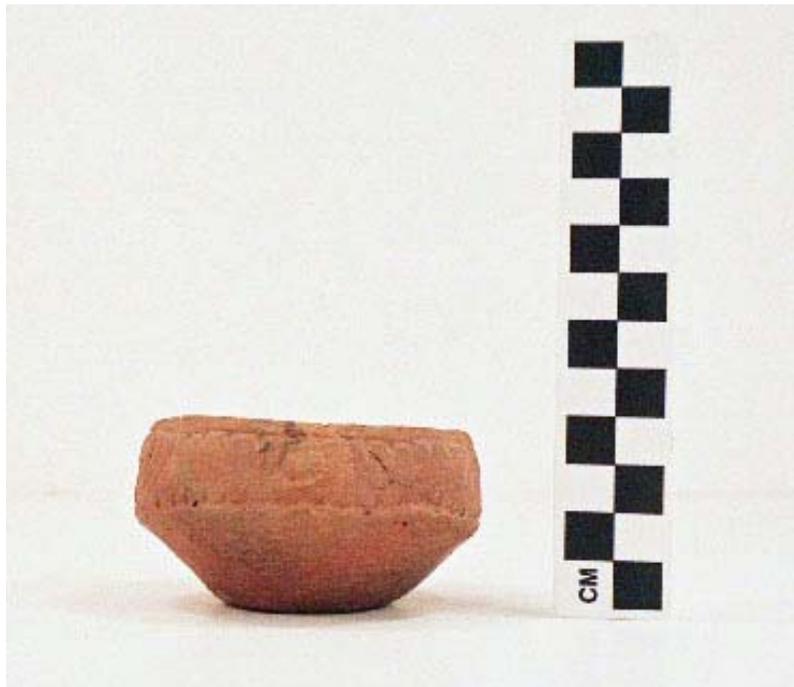
Vessel 41CE12-64, UnID engraved design



Vessel 41CE12-66, UnID engraved design



Vessel 41CE12-67, Bullard Brushed



Vessel 41CE12-68, cf. Patton Engraved



Vessel 41CE12-69, Simms Engraved, *var. Darco*



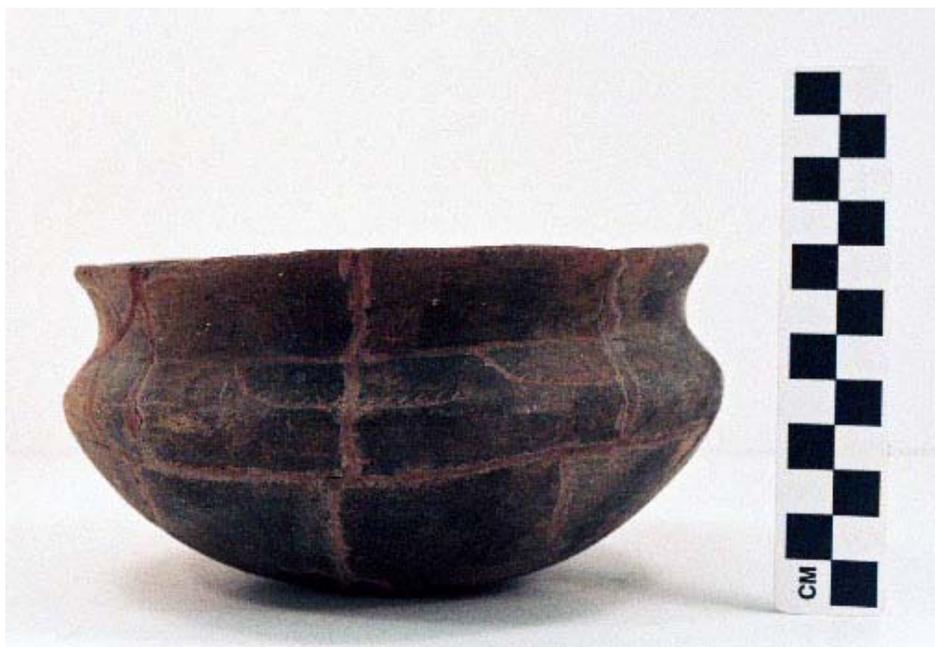
Vessel 41CE12-71, Killough Pinched, *var. Allen*



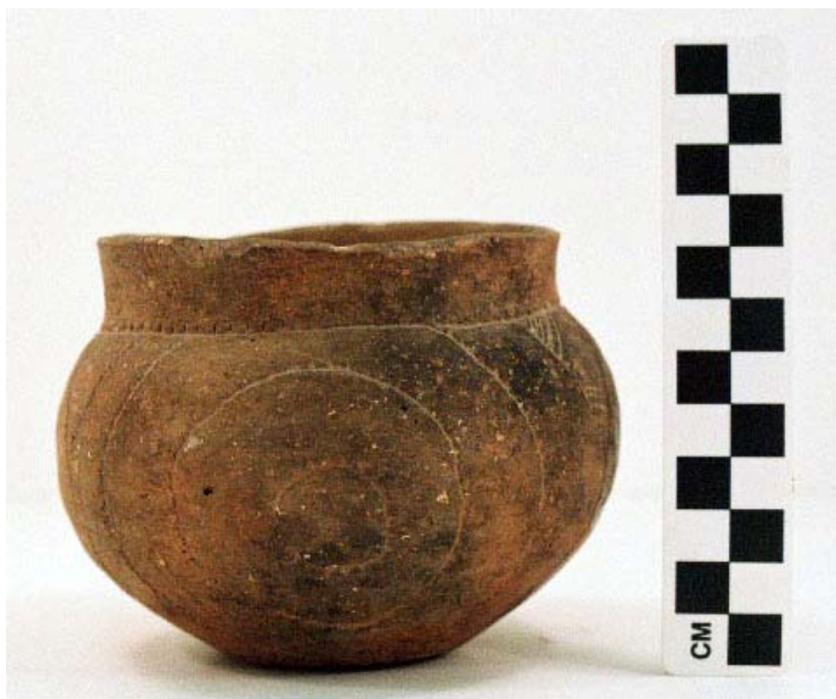
Vessel 41CE12-76, UnID brushed design



Vessel 41CE12-132, Hume Incised



Vessel 41CE12-136, Simms Engraved, *var. Darco*



Vessel 41CE12-138, Patton Engraved



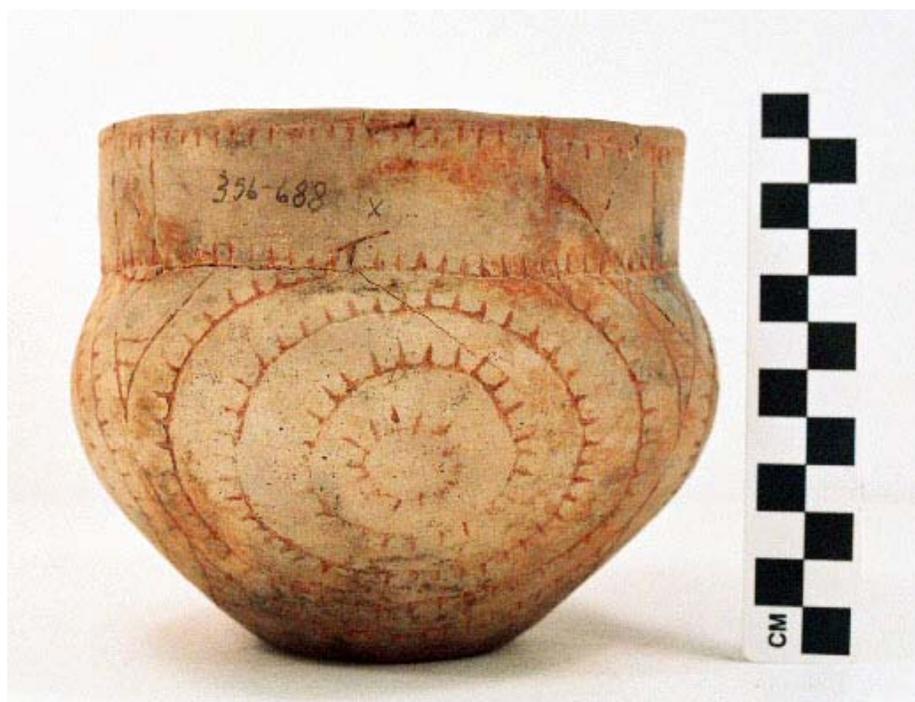
Vessel 41CE12-161, Patton Engraved, *var. Allen*



Vessel 41CE12-162, Bullard Brushed



Vessel 41CE12-164 , Hume Engraved



Vessel 41CE12-165, Patton Engraved, *var. Freeman*



Vessel 41CE12-167, UnID engraved-brushed design



Vessel 41CE12-168, Hume Engraved, *var. Hume*



Vessel 41CE12-169, Hood Engraved, *var. Allen*



Vessel 41CE12-171, cf. Poynor Engraved, *var. Freeman*



Vessel 41CE12-172, Patton Engraved, *var. Allen*



Vessel 41CE12-173, Poynor Engraved, *var. Blackburn*



Vessel 41CE12-174, Bullard Brushed



Vessel 41CE12-175, Poynor Engraved, *var. Freeman*



Vessel 41CE12-176, Hood Engraved, *var. Allen*



Vessel 41CE12-178, UnID brushed design



Vessel 41CE12-179, Poynor Engraved, *var. Freeman*



Vessel 41CE12-180, Poynor Engraved, *var. Freeman*



Vessel 41CE12-181, Hood Engraved, *var. Allen*



Vessel 41CE12-182, Simms Engraved



Vessel 41CE12-183, Bullard Brushed



Vessel 41CE12-184, Killough Pinched, *var. Allen*



Vessel 41CE12-185, Hume Engraved



Vessel 41CE12-186, Patton Engraved, *var. Patton*

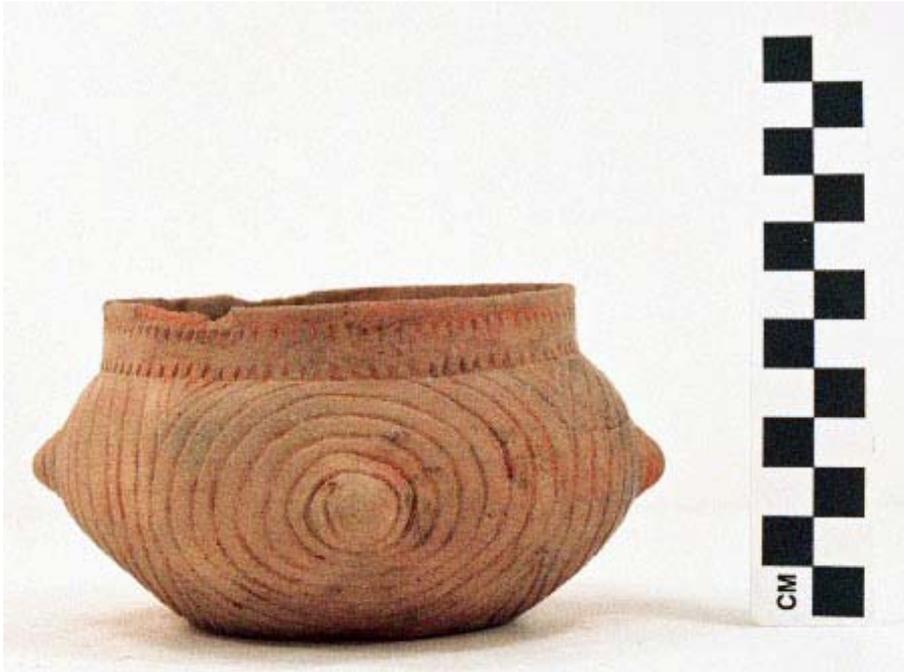
590



Vessel 41CE12-188, Patton Engraved, *var. Freeman*



Vessel 41CE12-189, Poynor Engraved, *var. Freeman*



Vessel 41CE12-190, Patton Engraved



Vessel 41CE12-191, Patton Engraved



Vessel 41CE12-193, Hume Engraved



Vessel 41CE12-194, Hume Engraved, *var. Hume*  
593



Vessel 41CE12-195, Patton Engraved

41CE20 - R.F. Wallace



Vessel 41CE20-1, Poynor Engraved

41NA27 - Deshazo



Vessel 41NA27-1, plain (Photo courtesy of Robert L. Turner, Jr.)



Vessel 41NA27-2, plain



Vessel 41NA27-3, plain



Vessel 41NA27-4, UnID appliquéd nodes design  
(Photo courtesy of Robert L. Turner, Jr.)



Vessel 41NA27-5, UnID appliqué-brushed-incised-punctated design  
(Photo courtesy of Robert L. Turner, Jr.)



Vessel 41NA27-6, UnID brushed design  
(Photo courtesy of Robert L. Turner, Jr.)



Vessel 41NA27-7, UnID brushed-punctated design

(Photo courtesy of Robert L. Turner, Jr.)



Vessel 41NA27-8, UnID punctated design

(Photo courtesy of Robert L. Turner, Jr.)



Vessel 41NA27-9, Patton Engraved, *var. Fair*



Vessel 41NA27-10, Patton Engraved, *var. Allen*

(Photo courtesy of Robert L. Turner, Jr.)



Vessel 41NA27-11, cf. Hume Engraved  
(Photo courtesy of Robert L. Turner, Jr.)



Vessel 41NA27-12, Patton Engraved, *var. Patton*  
(Photo courtesy of Robert L. Turner, Jr.)



Vessel 41NA27-13, Taylor Engraved

(Photo courtesy of Robert L. Turner, Jr.)



Vessel 41NA27-14, cf. Natchitoches Engraved

(Photo courtesy of Robert L. Turner, Jr.)



Vessel 41NA27-15, UnID engraved design  
(Photo courtesy of Robert L. Turner, Jr.)



Vessel 41NA27-16, UnID engraved design  
(Photo courtesy of Robert L. Turner, Jr.)



Vessel 41NA27-58-21, UnID brushed-engraved design

41SA94 - Wylie Price



Vessel 41SA94-170-1, UnID incised-punctated design



Vessel 41SA94-171-1. UnID engraved design



Vessel 41SA94-171-2, UnID brushed design



Vessel 41SA94-172a-1, UnID incised design



Vessel 41SA94-1776-2, UnID trailed incised design

41NA113



Vessel 41NA113-1, Patton Engraved (Photo courtesy of Tom Middlebrook)

41NA340 – A.L. Self



Vessel 41NA340-1, Patton Engraved (Photo courtesy of Tom Middlebrook)

## Appendix 2 - Ceramic Summary Tables

### Ceramic Ratios and Percentages<sup>7</sup>

	Site Trinomial (Name)	P/DR	BR/P	BR/WP	Plain	Utility ware	Fine ware	Brushed	Wet Paste
<i>Ais</i>	41SA25 (Mission Dolores)	1.91	0.00	0.02	65.6%	14.4%	20.0%	0.7%	41.1%
<i>Attoyac</i>	41NA67	1.56	0.11	0.29	61.0%	29.6%	9.5%	17.1%	58.6%
	41SA94 (Wylie Price)	0.74	0.68	2.00	42.4%	43.3%	14.3%	50.1%	25.0%
<i>Upper Attoyac</i>	41SA116 (McElroy)	1.48	0.22	0.70	59.7%	31.9%	8.4%	32.7%	46.5%
<i>Nacogdoche</i>	41NA206 (Spradley)	1.12	0.51	2.68	52.8%	36.7%	10.5%	56.6%	21.2%
	41NA183* (Loco Fork)	1.11	0.56	2.06	52.5%	43.1%	4.4%	61.3%	29.8%
<i>Nasoni</i>	41RK191 (Heaton #1)	0.58	1.37	5.08	36.7%	60.0%	3.3%	79.2%	15.6%
	41RK197 (Heaton #2)	0.60	1.15	5.35	37.6%	51.4%	11.0%	69.5%	13.0%
	41RK200 (Mission Nasonis)	2.61	0.25	3.16	72.3%	23.9%	3.8%	65.6%	20.8%
<i>Bayou Loco</i>	41NA111 (Dick Shipp)	0.66	1.30	12.47	39.9%	56.0%	4.2%	86.2%	6.9%
	41NA22 (Iron Rock)	0.27	3.25	11.93	21.0%	73.8%	5.2%	86.3%	7.2%
	41NA23 (Loco Bottom)	0.51	1.57	7.05	33.9%	60.7%	5.4%	80.5%	11.4%

<sup>7</sup> P/DR=Plain/Decorated, BR/P=Brushed/Plain, BR/WP=Brushed/Wet Paste

	41NA60 (Henry M.)	0.27	2.87	8.05	21.3%	67.9%	10.9%	77.6%	9.6%
	41NA27 (Deshazo)	0.30	2.93	19.52	22.9%	70.4%	6.7%	87.1%	4.5%
	41NA21 (Mayhew)	0.59	1.18	7.51	37.2%	49.6%	13.2%	69.9%	9.3%
<i>King Creek</i>	41NA6 (Dorsey)	0.48	1.75	9.91	32.4%	62.0%	5.6%	84.0%	8.5%
	41NA15 (J. T. King)	0.51	1.53	9.07	18.0%	62.2%	19.8%	69.8%	7.7%
	41CE62** (Murphy)	0.86	1.05	14.89	46.4%	51.8%	1.8%	90.5%	6.1%
<i>Legg Creek</i>	41NA54 (Cecil Parks)	0.25	3.33	8.89	20.3%	75.1%	4.6%	84.7%	9.5%
	41NA44 (Chayah)	0.37	1.85	3.62	27.1%	63.9%	9.1%	68.9%	19.0%
<i>Upper Neches</i>	41CE39	0.90	0.76	3.11	47.2%	46.8%	6.0%	67.7%	21.8%
	41CE354 (Kah-hah-ko-wha)	0.20	4.16	15.04	16.5%	73.2%	10.2%	82.5%	5.5%
	41AN21 (Emma Owens)	0.09	8.62	8.62	8.1%	78.1%	13.8%	76.2%	8.8%
<i>Neches</i>	41CE293 (Lindsey)	0.12	7.50	8.65	10.4%	86.7%	2.9%	86.7%	10.0%
	41CE20 (Wallace)	0.40	2.07	16.78	28.5%	62.1%	9.4%	82.5%	4.9%
	41CE48 (Bowles Springs)	0.31	2.43	6.17	23.9%	67.5%	8.6%	76.3%	12.4%
<i>Nabedache</i>	41HO214 (Nabedache Azul)	0.32	2.38	5.24	24.2%	68.7%	7.0%	76.2%	14.5%
<i>Lower Neches</i>	41AG22	0.15	5.92	18.50	13.3%	83.0%	3.7%	90.8%	4.9%

\*in upper Bayou Loco

\*\*west of King Creek

**Ceramic Fine Ware Types<sup>8</sup>**

	Site Trinomial (Name)	PA	PO	PP	HU	KG	NA	KE	Total FW Typed Sherds (N=)
<i>Ais</i>	41SA25 (Mission Dolores)	31.5%					41.4%		81
<i>Attoyac</i>	41NA67	80.0%						20.0%	5
	41SA94 (Wylie Price)	75.0%				25.0%			4
<i>Upper Attoyac</i>	41SA116 (McElroy)	100.0%							2
<i>Nacogdoche</i>	41NA206 (Spradley)	92.9%		3.6%	0.9%	2.7%			112
	41NA183* (Loco Fork)	100.0%							1
<i>Nasoni</i>	41RK191 (Heaton #1)	100.0%							4
	41RK197 (Heaton #2)	100.0%							19
	41RK200 (Mission Nasonis)	96.0%				4.0%			73
<i>Bayou Loco</i>	41NA111 (Dick Shipp)								0
	41NA22 (Iron Rock)	78.8%	18.2%			3.0%			33
	41NA23 (Loco Bottom)	76.6%	9.6%		12.8%	1.1%			94
	41NA60 (Henry M.)	77.1%	13.3%	4.4%	1.0%	4.1%			315
	41NA27 (Deshazo)	96.0%	2.7%	1.3%					75

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<sup>8</sup> PA=Patton Engraved, PO=Poynor Engraved, PP=Poynor-Patton Engraved, HU=Hume Engraved, KG=King Engraved, NA=Natchitoches Engraved, KE=Keno Trilled

	41NA21 (Mayhew)	98.9%		1.1%					265
<i>King Creek</i>	41NA6 (Dorsey)	100.0%							10
	41NA15 (J. T. King)	86.1%	4.2%			9.7%			72
	41CE62** (Murphy)	100.0%							1
<i>Legg Creek</i>	41NA54 (Cecil Parks)								0
	41NA44 (Chayah)	75.0%	18.8%	6.3%					32
<i>Upper Neches</i>	41CE39		100.0%						4
	41CE354 (Kah-hah-ko-wha)	81.1%		8.1%	10.8%				37
	41AN21 (Emma Owens)	100.0%							15
<i>Neches</i>	41CE293 (Lindsey)		75.0%			25.0%			4
	41CE20 (Wallace)	72.7%	27.3%						11
	41CE48 (Bowles Springs)	100.0%							7
<i>Nabedache</i>	41HO214 (Nabedache Azul)	100.0%							12
<i>Lower Neches</i>	41AG22	100.0%							2

\*in upper Bayou Loco

\*\*west of King Creek

**Ceramic Fine Ware Types (cf.)<sup>9</sup>**

	Site Trinomial (Name)	PA	PO	PP	HU	KG	NA	KE	Total FW Typed Sherds (N=)
<i>Ais</i>	41SA25 (Mission Dolores)	53.2%					46.8%		89
<i>Attoyac</i>	41NA67	55.6%	11.1%			22.2%		11.1%	9
	41SA94 (Wylie Price)	44.4%	16.7%		16.7%	22.2%			18
<i>Upper Attoyac</i>	41SA116 (McElroy)	92.9%				7.1%			14
<i>Nacogdoche</i>	41NA206 (Spradley)	86.3%	2.7%	2.7%	2.7%	4.8%		0.7%	146
	41NA183* (Loco Fork)	100.0%							2
<i>Nasoni</i>	41RK191 (Heaton #1)	100.0%							4
	41RK197 (Heaton #2)	95.0%	5.0%						20
	41RK200 (Mission Nasonis)	96.2%				3.8%			79
<i>Bayou Loco</i>	41NA111 (Dick Shipp)								0
	41NA22 (Iron Rock)	39.4%	48.5%		10.6%	1.5%			66
	41NA23 (Loco Bottom)	81.1%	14.4%	1.1%	3.3%				90
	41NA60 (Henry M.)	76.9%	9.4%		12.8%	0.9%			117
	41NA27 (Deshazo)	86.1%	9.8%	1.9%	0.4%	1.8%			735

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<sup>9</sup> PA=Patton Engraved, PO=Poynor Engraved, PP=Poynor-Patton Engraved, HU=Hume Engraved, KG=King Engraved, NA=Natchitoches Engraved, Keno Trailed

	41NA21 (Mayhew)	89.9%		0.3%			9.6%	0.2%	1,042
<i>King Creek</i>	41NA6 (Dorsey)	83.3%	16.7%						12
	41NA15 (J. T. King)	84.0%	6.7%			9.3%			75
	41CE62** (Murphy)	100.0%							1
<i>Legg Creek</i>	41NA54 (Cecil Parks)								0
	41NA44 (Chayah)	69.4%	19.4%	5.6%	2.8%			2.8%	36
<i>Upper Neches</i>	41CE39	12.5%	87.5%						8
	41CE354 (Kah-hah-ko-wha)	78.9%	2.6%	7.9%	10.5%				38
	41AN21 (Emma Owens)	100.0%							15
<i>Neches</i>	41CE293 (Lindsey)		83.3%			16.7%			6
	41CE20 (Wallace)	72.7%	27.3%						11
	41CE48 (Bowles Springs)	100.0%							7
<i>Nabedache</i>	41HO214 (Nabedache Azul)	100.0%							12
<i>Lower Neches</i>	41AG22	100.0%							3

\*in upper Bayou Loco

\*\*west of King Creek

**Ceramic Utility Ware Types<sup>10</sup>**

	Site Trinomial (Name)	PN	NB	GR	SPR	BU	MAY	KAR	RG	PEA	Total UW Type (N=)
<i>Ais</i>	41SA25 (Mission Dolores)										0
<i>Attoyac</i>	41NA67										0
	41SA94 (Wylie Price)										0
<i>Upper Attoyac</i>	41SA116 (McElroy)	41.7%			16.7%			8.3%	8.3%	25.0%	12
<i>Nacogdoche</i>	41NA206 (Spradley)	5.0%	8.3%	13.3%	73.3%						60
	41NA183* (Loco Fork)										0
<i>Nasoni</i>	41RK191 (Heaton #1)		50.0%		50.0%						2
	41RK197 (Heaton #2)										0
	41RK200 (Mission Nasonis)		66.7%		33.3%						3
<i>Bayou Loco</i>	41NA111 (Dick Shipp)		50.0%	50.0%							2
	41NA22 (Iron Rock)	23.5%		35.3%	41.2%						34
	41NA23 (Loco Bottom)		44.7%	39.5%	15.8%						38
	41NA60 (Henry M.)		4.5%	77.3%	18.2%						66
	41NA27 (Deshazo)		4.3%	58.5%	11.7%			22.3%	3.2%		94

<sup>10</sup> PN=Killough Pinched, NB=LaRue Neck banded, GR=Lindsey Grooved, SPR=Spradley Brushed-Incised, BU=Bullard Brushed, MAY=Maydellel Incised, KAR=Karnack Bushed Incised, RG=Belcher Ridged, PEA=Pease Brushed-Incised

	41NA21 (Mayhew)		100.0%								22
<i>King Creek</i>	41NA6 (Dorsey)			33.3%	66.7%						3
	41NA15 (J. T. King)		6.3%	50.0%	43.8%						16
	41CE62** (Murphy)										0
<i>Legg Creek</i>	41NA54 (Cecil Parks)	25.0%			75.0%						4
	41NA44 (Chayah)		8.3%	62.5%	29.2%						24
<i>Upper Neches</i>	41CE39		25.0%				75.0%				4
	41CE354 (Kah-hah-ko-wha)		100.0%								1
	41AN21 (Emma Owens)	25.0%	37.5%			37.5%					8
<i>Neches</i>	41CE293 (Lindsey)		21.7%	78.3%							46
	41CE20 (Wallace)		75.0%				25.0%				4
	41CE48 (Bowles Springs)		100.0%								1
<i>Nabedache</i>	41HO214 (Nabedache Azul)		100.0%								5
<i>Lower Neches</i>	41AG22										0

\*in upper Bayou Loco

\*\*west of King Creek

### Rates of Inclusions

	<b>Site Trinomial (Name)</b>	<b>Bone</b>	<b>Grog</b>	<b>Hematite</b>
<i>Ais</i>	41SA25 (Mission Dolores)	82.1%	6.9%	43.9%
<i>Attoyac</i>	41NA67	23.8%	91.5%	13.1%
	41SA94 (Wylie Price)	40.8%	80.9%	14.3%
<i>Upper Attoyac</i>	41SA116 (McElroy)	44.0%	67.4%	14.9%
<i>Nacogdoche</i>	41NA206 (Spradley)	39.5%	63.2%	8.0%
	41NA183* (Loco Fork)	34.7%	85.7%	20.4%
<i>Nasoni</i>	41RK191 (Heaton #1)	N/A	N/A	N/A
	41RK197 (Heaton #2)	N/A	N/A	N/A
	41RK200 (Mission Nasonis)	69.9%	47.1%	12.6%
<i>Bayou Loco</i>	41NA111 (Dick Shipp)	40.4%	77.8%	21.2%
	41NA22 (Iron Rock)	40.7%	76.8%	41.3%
	41NA23 (Loco Bottom)	15.0%	94.0%	38.5%
	41NA60 (Henry M.)	19.2%	83.1%	38.9%
	41NA27 (Deshazo)	24.7%	93.9%	20.4%
	41NA21 (Mayhew)	70.2%	55.4%	29.0%
<i>King Creek</i>	41NA6 (Dorsey)	14.4%	92.8%	44.8%

	41NA15 (J. T. King)	20.3%	90.5%	17.6%
	41CE62** (Murphy)	28.1%	93.3%	6.7%
<i>Legg Creek</i>	41NA54 (Cecil Parks)	26.2%	88.1%	14.3%
	41NA44 (Chayah)	31.1%	72.0%	28.8%
<i>Upper Neches</i>	41CE39	4.3%	98.9%	27.4%
	41CE354 (Kah-hah-ko-wha)	2.7%	97.3%	13.8%
	41AN21 (Emma Owens)	4.9%	99.2%	6.6%
<i>Neches</i>	41CE293 (Lindsey)	5.6%	98.1%	49.1%
	41CE20 (Wallace)	14.3%	98.4%	13.1%
	41CE48 (Bowles Springs)	27.7%	84.2%	18.6%
<i>Nabedache</i>	41HO214 (Nabedache Azul)	24.0%	87.8%	5.4%
<i>Lower Neches</i>	41AG22	8.0%	97.9%	16.0%

\*in upper Bayou Loco

\*\*west of King Creek

### Appendix 3 - Firing Conditions

<b>Firing Conditions at 41AG22</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Oxidizing	0	17	0	17	9.3%
Incompletely oxidized	5	28	0	33	18.0%
Reducing	4	13	0	17	9.3%
Reducing, cooled in open air	16	88	5	109	59.6%
Smudging, sooting, refiring	0	6	0	6	3.3%
Multiple oxid. and reduc. bands	0	1	0	1	0.5%
<b>Total Firing Conditions Sample</b>	<b>25</b>	<b>153</b>	<b>5</b>	<b>183</b>	

<b>Firing Conditions at 41AN21</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Oxidizing	1	14	2	17	26.2%
Incompletely oxidized	0	20	2	22	33.8%
Reducing	0	5	2	7	10.8%
Reducing, cooled in open air	0	7	2	9	13.8%
Smudging, sooting, refiring	2	8	0	10	15.4%
<b>Total Firing Conditions Sample</b>	<b>3</b>	<b>54</b>	<b>8</b>	<b>65</b>	

<b>Firing Conditions at 41CE39</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Oxidizing	13	24	3	40	22.0%
Incompletely oxidized	9	14	3	26	14.3%
Reducing	8	11	1	20	11.0%
Reducing, cooled in open air	31	51	7	89	48.9%
Smudging, sooting, refiring	1	5	0	6	3.3%
Multiple oxid. and reduc. bands	1	0	0	1	0.5%
<b>Total Firing Conditions Sample</b>	<b>63</b>	<b>105</b>	<b>14</b>	<b>182</b>	

<b>Firing Conditions at 41CE354</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Oxidizing	9	54	7	70	28.6%
Incompletely oxidized	7	23	2	32	13.1%
Reducing	13	15	7	35	14.3%
Reducing, cooled in open air	32	46	13	91	37.1%
Smudging, sooting, refiring	4	12	0	16	6.5%
Multiple oxid. and reduc. bands	0	1	0	1	0.4%
<b>Total Firing Conditions Sample</b>	<b>65</b>	<b>151</b>	<b>29</b>	<b>245</b>	

<b>Firing Conditions at 41CE20</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Oxidizing	15	23	3	41	16.1%
Incompletely oxidized	12	42	3	57	22.4%
Reducing	9	16	7	32	12.6%
Reducing, cooled in open air	36	57	11	104	40.9%
Smudging, sooting, refiring	1	15	0	16	6.3%
Multiple oxid. and reduc. bands	0	4	0	4	1.6%
<b>Total Firing Conditions Sample</b>	<b>73</b>	<b>157</b>	<b>24</b>	<b>254</b>	

<b>Firing Conditions at 41CE48</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Oxidizing	7	24	3	34	17.3%
Incompletely oxidized	5	13	0	18	9.1%
Reducing	3	18	7	28	14.2%
Reducing, cooled in open air	32	60	12	104	52.8%
Smudging, sooting, refiring	0	11	0	11	5.6%
Multiple oxid. and reduc. bands	1	1	0	2	1.0%
<b>Total Firing Conditions Sample</b>	<b>48</b>	<b>127</b>	<b>22</b>	<b>197</b>	

<b>Firing Conditions at 41CE293</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Oxidizing	7	39	2	48	17.8%
Incompletely oxidized	7	33		40	14.8%
Reducing	5	19	3	27	10.0%
Reducing, cooled in open air	19	108	12	139	51.5%
Smudging, sooting, refiring	1	14		15	5.6%
Multiple oxid. and reduc. bands		1		1	0.4%
<b>Total Firing Conditions Sample</b>	<b>39</b>	<b>214</b>	<b>17</b>	<b>270</b>	

<b>Firing Conditions at 41HO214</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Oxidizing	2	15	0	17	7.5%
Incompletely oxidized	4	24	3	31	13.7%
Reducing	21	27	2	50	22.0%
Reducing, cooled in open air	28	86	11	125	55.1%
Smudging, sooting, refiring	0	4	0	4	1.8%
Multiple oxid. and reduc. bands	0	0	0	0	0.0%
<b>Total Firing Conditions Sample</b>	<b>55</b>	<b>156</b>	<b>16</b>	<b>227</b>	

<b>Firing Conditions at 41CE62</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Oxidizing	10	22	0	32	25.2%
Incompletely oxidized	9	8	0	17	13.4%
Reducing	3	4	0	7	5.5%
Reducing, cooled in open air	27	35	4	66	52.0%
Smudging, sooting, refiring	2	3	0	5	3.9%
Multiple oxid. and reduc. bands	0	0	0	0	0.0%
<b>Total Firing Conditions Sample</b>	51	72	4	127	

<b>Firing Conditions at 41NA6</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Oxidizing	4	17	3	24	13.3%
Incompletely oxidized	3	25	2	30	16.6%
Reducing	10	11	1	22	12.2%
Reducing, cooled in open air	38	49	12	99	54.7%
Smudging, sooting, refiring	1	5	0	6	3.3%
Multiple oxid. and reduc. bands	0	0	0	0	0.0%
<b>Total Firing Conditions Sample</b>	56	107	18	181	

<b>Firing Conditions at 41NA15</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Oxidizing	0	2	3	5	7.0%
Incompletely oxidized	2	7	4	13	18.3%
Reducing	4	2	5	11	15.5%
Reducing, cooled in open air	6	22	9	37	52.1%
Smudging, sooting, refiring	0	4	0	4	5.6%
Multiple oxid. and reduc. bands	0	1	0	1	1.4%
<b>Total Firing Conditions Sample</b>	12	38	21	71	

<b>Firing Conditions at 41RK200</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Oxidizing	13	20	6	39	8.4%
Incompletely oxidized	21	25	4	50	10.7%
Reducing	34	65	28	127	27.2%
Reducing, cooled in open air	88	123	37	248	53.1%
Smudging, sooting, refiring	1	2	0	3	0.6%
Multiple oxid. and reduc. bands	0	0	0	0	0.0%
<b>Total Firing Conditions Sample</b>	157	235	75	467	

<b>Firing Conditions at 41NA44</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Oxidizing	28	91	24	143	19.3%
Incompletely oxidized	13	57	7	77	10.4%
Reducing	34	88	29	151	20.4%
Reducing, cooled in open air	66	214	53	333	45.0%
Smudging, sooting, refiring	5	21	6	32	4.3%
Multiple oxid. and reduc. bands	0	4	0	4	0.5%
<b>Total Firing Conditions Sample</b>	146	475	119	740	

<b>Firing Conditions at 41NA54</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Oxidizing	1	3		4	4.7%
Incompletely oxidized	1	12		13	15.3%
Reducing	6	5		11	12.9%
Reducing, cooled in open air	7	46	3	56	65.9%
Smudging, sooting, refiring	0	1	0	1	1.2%
Multiple oxid. and reduc. bands	0	0	0	0	0.0%
<b>Total Firing Conditions Sample</b>	15	67	3	85	

<b>Firing Conditions at 41NA21</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Oxidizing	38	82	42	162	11.8%
Incompletely oxidized	29	113	43	185	13.5%
Reducing	40	145	116	301	21.9%
Reducing, cooled in open air	170	258	252	680	49.5%
Smudging, sooting, refiring	6	36	3	45	3.3%
Multiple oxid. and reduc. bands	1	0	0	1	0.1%
<b>Total Firing Conditions Sample</b>	284	634	456	1374	

<b>Firing Conditions at 41NA22</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Oxidizing	9	61	6	76	15.1%
Incompletely oxidized	7	31	4	42	8.4%
Reducing	7	33	7	47	9.4%
Reducing, cooled in open air	37	226	29	292	58.2%
Smudging, sooting, refiring	1	38	0	39	7.8%
Multiple oxid. and reduc. bands	0	6	0	6	1.2%
<b>Total Firing Conditions Sample</b>	61	395	46	502	

<b>Firing Conditions at 41NA23</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Oxidizing	11	66	11	88	21.9%
Incompletely oxidized	11	47	6	64	16.0%
Reducing	13	26	5	44	11.0%
Reducing, cooled in open air	43	118	27	188	46.9%
Smudging, sooting, refiring	1	15	1	17	4.2%
Multiple oxid. and reduc. bands	0	0	0	0	0.0%
<b>Total Firing Conditions Sample</b>	<b>79</b>	<b>272</b>	<b>50</b>	<b>401</b>	

<b>Firing Conditions at 41NA27</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Oxidizing	66	122	89	277	20.6%
Incompletely oxidized	8	75	51	134	10.0%
Reducing	90	142	87	319	23.8%
Reducing, cooled in open air	47	258	266	571	42.5%
Smudging, sooting, refiring	0	30	10	40	3.0%
Multiple oxid. and reduc. bands	0	0	1	1	0.1%
<b>Total Firing Conditions Sample</b>	<b>211</b>	<b>627</b>	<b>504</b>	<b>1342</b>	

<b>Firing Conditions at 41NA60</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Oxidizing	19	91	40	150	19.3%
Incompletely oxidized	26	121	20	167	21.4%
Reducing	10	39	12	61	7.8%
Reducing, cooled in open air	39	201	67	307	39.4%
Smudging, sooting, refiring	12	69	7	88	11.3%
Multiple oxid. and reduc. bands		4	2	6	0.8%
<b>Total Firing Conditions Sample</b>	<b>106</b>	<b>525</b>	<b>148</b>	<b>779</b>	

<b>Firing Conditions at 41NA111</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Oxidizing	4	7	0	11	11.1%
Incompletely oxidized	3	12	2	17	17.2%
Reducing	4	4	1	9	9.1%
Reducing, cooled in open air	20	35	7	62	62.6%
Smudging, sooting, refiring	0	0	0	0	0.0%
Multiple oxid. and reduc. bands	0	0	0	0	0.0%
<b>Total Firing Conditions Sample</b>	<b>31</b>	<b>58</b>	<b>10</b>	<b>99</b>	

<b>Firing Conditions at 41NA183</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Oxidizing	3	7	2	12	12.2%
Incompletely oxidized	2	3		5	5.1%
Reducing	9	13	1	23	23.5%
Reducing, cooled in open air	23	27	6	56	57.1%
Smudging, sooting, refiring	1	1		2	2.0%
Multiple oxid. and reduc. bands					
<b>Total Firing Conditions Sample</b>	<b>38</b>	<b>51</b>	<b>9</b>	<b>98</b>	

<b>Firing Conditions at 41NA206</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Oxidizing	158	192	70	420	21.5%
Incompletely oxidized	52	86	19	157	8.0%
Reducing	241	307	103	651	33.4%
Reducing, cooled in open air	260	304	119	683	35.0%
Smudging, sooting, refiring	14	21	2	37	1.9%
Multiple oxid. and reduc. bands	1	3	0	4	0.2%
<b>Total Firing Conditions Sample</b>	<b>726</b>	<b>913</b>	<b>313</b>	<b>1952</b>	

<b>Firing Conditions at 41NA67</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Oxidizing	4	4	0	8	6.2%
Incompletely oxidized	6	6	2	14	10.8%
Reducing	17	12	9	38	29.2%
Reducing, cooled in open air	34	26	8	68	52.3%
Smudging, sooting, refiring	2	0	0	2	1.5%
Multiple oxid. and reduc. bands	0	0	0	0	0.0%
<b>Total Firing Conditions Sample</b>	<b>63</b>	<b>48</b>	<b>19</b>	<b>130</b>	

<b>Firing Conditions at 41SA94</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Oxidizing	3	11	7	21	7.7%
Incompletely oxidized	14	11	1	26	9.6%
Reducing	14	20	3	37	13.6%
Reducing, cooled in open air	45	114	28	187	68.8%
Smudging, sooting, refiring	1	0	0	1	0.4%
Multiple oxid. and reduc. bands	0	0	0	0	0.0%
<b>Total Firing Conditions Sample</b>	<b>77</b>	<b>156</b>	<b>39</b>	<b>272</b>	

<b>Firing Conditions at 41SA116</b>	<b>Plain</b>	<b>Utility ware</b>	<b>Fine ware</b>	<b>Total</b>	<b>Percent</b>
Oxidizing	51	59	15	125	18.5%
Incompletely oxidized	23	17	2	42	6.2%
Reducing	72	102	18	192	28.5%
Reducing, cooled in open air	107	128	62	297	44.1%
Smudging, sooting, refiring	3	6	7	16	2.4%
Multiple oxid. and reduc. bands	1	1	0	2	0.3%
<b>Total Firing Conditions Sample</b>	257	313	104	674	

## Appendix 4 - Sherd Thickness

### Thickness of vessel sherds at 41AG22

Plain	(n=)	Minimum	Maximum	Average	STDev
Base	3	13.5	20.5	15.9	0.1
Body	20	5.5	10.2	7.3	1.4
Rim	2	7.6	8.1	7.9	0.4
<b>Utility Ware</b>					
Body	146	4	16.2	8.4	1.7
Rim	9	6.2	10.1	7.7	1.4
<b>Fine Ware</b>					
Body	4	7.3	8.2	7.7	0.4
Rim	3	5.3	6.6	6.1	0.7

### Thickness of vessel sherds at 41AN21

Plain	(n=)	Minimum	Maximum	Average	STDev
Base	6	7.6	11	10	1.2
Body	7	5.3	8.8	6.8	1.3
<b>Utility Ware</b>					
Body	116	5.7	14.9	8.7	1.6
Rim	9	6.9	9.7	8.4	1.0
<b>Fine Ware</b>					
Body	13	4.6	9.8	7	1.3
Rim	9	6	10	7.2	1.2

### Thickness of vessel sherds at 41CE39

Plain	(n=)	Minimum	Maximum	Average	STDev
Base	6	8.9	14.7	11.3	2.2
Body	59	5	9	7.5	1.0
<b>Utility Ware</b>					
Body	104	5.9	12.6	8.6	1.5
Rim	6	5.5	8.7	6.9	1.3
<b>Fine Ware</b>					
Body	8	4.5	8	6.7	1.1
Rim	6	5.2	7.7	6.8	0.9

**Thickness of vessel sherds at 41CE354**

<b>Plain</b>	<b>(n=)</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>	<b>STDev</b>
Base	13	7.7	14.8	11.1	2
Body	45	4.9	9.3	7.2	1.2
Rim	7	3.9	7.9	6.4	1.4
<b>Fine Ware</b>					
Body	1			5.6	
Rim	1			6.4	

**Thickness of vessel sherds at 41CE20**

<b>Plain</b>	<b>(n=)</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>	<b>STDev</b>
Base	7	8.2	12.8	10.2	1.6
Body	62	4.6	10	7	1.2
Rim	2	5.3	6.8	6.1	1.1
<b>Utility Ware</b>					
Body	145	5.1	17.1	7.7	1.4
Rim	12	5.6	8.3	7	0.9
<b>Fine Ware</b>					
Body	19	5.5	9.4	7	1.0
Rim	5	5.2	7.6	6.5	1.1

**Thickness of vessel sherds at 41CE48**

<b>Plain</b>	<b>(n=)</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>	<b>STDev</b>
Base	2	10.6	10.7	10.7	
Body	58	5.2	15	8.1	1.8
Rim	1			9	
<b>Utility Ware</b>					
Body	161	5.4	11.6	8.3	1.4
Rim	5	4.3	8.9	7.28	1.8
<b>Fine Ware</b>					
Body	19	4.6	8.9	7.1	1.2
Rim	3	6.9	9.1	7.8	1.1

**Thickness of vessel sherds at 41CE293**

<b>Plain</b>	<b>(n=)</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>	<b>STDev</b>
Base	10	9	14.4	11.8	1.9
Body	24	4.6	10	7.1	1.4
Rim	5	5.1	9.5	6.9	1.7
<b>Utility Ware</b>					
Body	191	6	12.2	8.6	1.2
Rim	23	7	11	9	1.2
<b>Fine Ware</b>					
Body	13	4.4	9.7	6.7	1.4
Rim	4	5.4	8.6	6.7	1.4

**Thickness of vessel sherds at 41HO214**

<b>Plain</b>	<b>(n=)</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>	<b>STDev</b>
Base	2	10.2	13.7	12	
Body	51	4.9	9.4	6.4	1.1
Rim	2	5.4	6.7	6	
<b>Utility Ware</b>					
Body	148	5.4	12.2	7.6	1.2
Rim	8	5.7	8.3	7.2	1.0
<b>Fine Ware</b>					
Body	13	5.2	8.4	6.3	0.8
Rim	3	4.9	6.2	5.6	0.7

**Thickness of vessel sherds at 41CE62**

<b>Plain</b>	<b>(n=)</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>	<b>STDev</b>
Base	2	9.1	12	10.6	
Body	49	4	13	8.3	1.5
<b>Utility Ware</b>					
Body	74	5.9	15.4	8.5	1.5
<b>Fine Ware</b>					
Body	3	6	10.9	8.4	2.5
Rim	1			4.6	

**Thickness of vessel sherds at 41NA6**

		(n=)	Minimum	Maximum	Average	STDev
Plain	Body	46	5	9.7	7.2	1.1
	Rim					
Utility Ware	Body	102	6.5	15.7	8.8	1.4
	Rim	7	7.4	9.7	8.2	0.8
Fine Ware	Body	16	5.7	9.7	7.3	1.2
	Rim	2	5.1	6.3	5.7	

**Thickness of vessel sherds at 41NA15**

		(n=)	Minimum	Maximum	Average	STDev
Plain	Base	2	7.7	10.8	9.3	1.1
	Body	10	5.1	8.2	6.6	1.1
Utility Ware	Body	31	5.9	10.5	8.2	1.2
	Rim	7	6	10.2	8.01	1.5
Fine Ware	Body	18	4.6	8.9	6.58	1.1
	Rim	3	6.9	7.4	7.2	0.3

**Thickness of vessel sherds at 41RK200**

		(n=)	Minimum	Maximum	Average	STDev
Plain	Body	146	4.7	9.7	7	1.0
	Rim	2	6	7.2		
Utility Ware	Body	220	4.2	10.1	7	1.1
	Rim	15	5.1	9.1	7.3	1.0
Fine Ware	Body	52	4.5	9.8	6.3	1.1
	Rim	23	3.8	8.9	6	1.5

**Thickness of vessel sherds at 41NA44**

	(n=)	Minimum	Maximum	Average	STDev
<b>Plain</b>					
Base	12	7.5	14	11.1	1.7
Body	126	4.1	12.8	7.2	1.3
Rim	10	5.4	7.9	6.6	0.9
<b>Utility Ware</b>					
Base	2	7.9	8.9	8.4	0.7
Body	423	4.4	12.1	7.5	1.4
<b>Fine Ware</b>					
Rim	54	4.9	10.1	6.9	1.2
Body	104	4.3	9.6	6.6	1.2
Rim	15	4.3	7.5	6.3	0.8

**Thickness of vessel sherds at 41NA54**

	(n=)	Minimum	Maximum	Average	STDev
<b>Plain</b>					
Base	2	9.3	11.7	10.5	1.7
Body	12	3.7	7.5	6	1.2
Rim	1			4.9	
<b>Utility Ware</b>					
Body	62	4.6	10.8	7.7	1.4
Rim	5	5.3	8.2	6.6	1.3
<b>Fine Ware</b>					
Body	3	5.5	7.3	6.7	1.0

**Thickness of vessel sherds at 41NA21**

	(n=)	Minimum	Maximum	Average	STDev
<b>Plain</b>					
Base	16	9.2	13.6	10.8	1.4
Body	229	4.2	9.8	6.7	1.2
Rim	42	3.9	9.5	6.5	1.2
<b>Utility Ware</b>					
Body	544	4.1	11.5	7.2	1.2
Rim	93	3.7	9.4	6.6	1.0
<b>Fine Ware</b>					

Body	394	3.7	8.5	5.9	0.9
Rim	61	3.8	7	5.4	0.7

**Thickness of vessel sherds at 41NA22**

<b>Plain</b>	<b>(n=)</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>	<b>STDev</b>
Base	5	10.2	13	11.8	1.3
Body	51	5.6	10	7.4	0.9
Rim	5	4.9	7.2	6.2	0.9
<b>Utility Ware</b>					
Base	1			12.9	
Body	367	4.9	12	8	1.2
Rim	27	5.6	10.3	8	1.1
<b>Fine Ware</b>					
Body	40	4.1	9.7	7.3	1.2
Rim	6	5.4	9	6.9	1.5

**Thickness of vessel sherds at 41NA23**

<b>Plain</b>	<b>(n=)</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>	<b>STDev</b>
Base	4	9.4	11.3	10.3	1.0
Body	67	5.4	9.9	7.3	1.0
Rim	8	5.1	8.6	6.2	1.1
<b>Utility Ware</b>					
Body	264	3.9	11.5	8.3	1.2
Rim	8	5.3	9	7.3	1.2
<b>Fine Ware</b>					
Body	41	4.4	10.8	7	1.3
Rim	9	5.5	7.3	6.3	0.7

**Thickness of vessel sherds at 41NA27**

<b>Plain</b>	<b>(n=)</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>	<b>STDev</b>
Base	96	7.7	17.9	11.6	2.3
Body	8	6.2	11.3	7.7	1.6
Rim	107	4	10.6	7	1.4
<b>Utility Ware</b>					
Body	425	4.5	12.8	8.3	1.5
Rim	198	4.7	13.8	7.8	1.5

**Fine Ware**

Body	414	3.4	13.1	6.7	1.5
Rim	87	4.3	9.7	6.8	1.0

**Thickness of vessel sherds at 41NA60**

Plain	(n=)	Minimum	Maximum	Average	STDev
Base	12	9.4	12.7	10.6	1.2
Body	90	3.8	10.4	6.3	1.4
Rim	8	4.4	7.2	5.5	1.0

**Utility Ware**

Body	477	4.1	14.2	7.9	1.5
Rim	56	4.3	11.5	7.2	1.6

**Fine Ware**

Body	127	3.1	8.4	6	1.1
Rim	25	3.3	8.4	5.5	1.1

**Thickness of vessel sherds at 41NA111**

Plain	(n=)	Minimum	Maximum	Average	STDev
Base	6	9.5	12.9	10.7	1.3
Body	23	5.7	10.1	7.5	1.1
Rim	2	5.2	5.5	5.4	

**Utility Ware**

Base					
Body	53	6.2	11.3	8.3	1.0
Rim	5	7.5	9.4	8.2	0.7

**Fine Ware**

Body	9	5	8.1	6.7	1.0
Rim	1			8.4	

**Thickness of vessel sherds at 41NA183**

Plain	(n=)	Minimum	Maximum	Average	STDev
Base	2	9.5	10.5	10	0.7
Body	33	5	9.1	7.1	1.0
Rim	3	5.8	7.3	6.3	0.8

**Utility Ware**

Body	49	5	9.6	7.3	1.2
Rim	2	5.4	7.9	6.7	1.8

**Fine Ware**

Body	8	4.6	8	5.8	1.1
Rim	1			6.7	

**Thickness of vessel sherds at 41NA206**

<b>Plain</b>	<b>(n=)</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>	<b>STDev</b>
Base	26	7.6	13.4	10.3	1.3
Body	596	3.5	12.8	6.7	1.4
Rim	113	2.8	9	5.6	1.2
<b>Utility Ware</b>					
Base	1			14	
Body	816	3.7	13.2	7.3	1.5
<b>Fine Ware</b>					
Rim	103	4	10.1	6.7	1.3
Body	245	3	9.4	6	1.1
Rim	72	3.3	8.4	5.6	1.1

**Thickness of vessel sherds at 41NA67**

<b>Plain</b>	<b>(n=)</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>	<b>STDev</b>
Base	4	10.3	12.2	11.1	0.9
Body	46	4.6	9.3	7	1.2
Rim	13	4.5	8.2	6.1	1.0
<b>Utility Ware</b>					
Body	39	4	10	7.1	1.7
Rim	9	5.1	10.7	7	1.9
<b>Fine Ware</b>					
Body	15	3.4	8.2	5.9	1.3
Rim	4	4.9	6.7	6.1	0.9

**Thickness of vessel sherds at 41SA94**

<b>Plain</b>	<b>(n=)</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>	<b>STDev</b>
Base	8	7.9	13.2	11.2	0.7
Body	60	4.8	11	7	1.3
Rim	57	4.9	8	6.3	1.1
<b>Utility Ware</b>					
Body	136	4.6	12.8	7.5	1.2
Rim	20	5.8	10.8	7.3	1.0

**Fine Ware**

Body	29	4.4	9.7	6.5	1.3
Rim	10	4.8	7	5.8	0.7

**Thickness of vessel sherds at 41SA116**

<b>Plain</b>	<b>(n=)</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Average</b>	<b>STDev</b>
Base	9	9	18.8	12.4	3.4
Body	216	4.2	10.5	6.8	1.2
Rim	34	4.2	9.6	6.5	1.2
<b>Utility Ware</b>					
Body	283	3.4	10.5	6.5	1.3
Rim	31	4.3	9.7	6.4	1.4
<b>Fine Ware</b>					
Body	95	4.1	8.4	5.7	0.9
Rim	11	4.9	7.8	5.8	0.8

## Appendix 5 - Fine Ware Decorations from Selected Sites

Other Fine Ware Decorations from the Mayhew Site (41NA21)	Body	Rim
diagonal engraved lines		1
engraved element with triangular tick marks		1
hatched engraved element		3
hatched engraved element with triangular tick marks		1
horizontal and diagonal engraved lines		14
horizontal and diagonal engraved lines with red pigment		1
horizontal and diagonal engraved lines with white pigment		1
horizontal and vertical engraved element		1
horizontal and vertical engraved lines		1
horizontal engraved line and hatched engraved element		1
horizontal engraved line below lip		62
horizontal engraved lines		4
horizontal engraved lines below lip 2+		2
lip notched and horizontal engraved lines		1
rectilinear engraved element		6
broad opposed engraved lines	1	
broad straight engraved line	2	
closely spaced engraved lines 3+	1	
crosshatched engraved lines	1	
crosshatched engraved zone	1	
curvilinear and opposed engraved lines	7	
curvilinear and opposed engraved lines one with triangular tick marks	1	
curvilinear and opposed engraved lines with white pigment	1	
curvilinear engraved element	1	
curvilinear engraved line	15	
curvilinear engraved line with white pigment	1	
curvilinear engraved lines	55	
curvilinear engraved lines 2+	1	
curvilinear engraved lines 2+ with white pigment	1	
curvilinear engraved lines 3+	6	
curvilinear engraved lines 3+ one with triangular tick marks	1	
curvilinear engraved lines 4+	2	

curvilinear engraved lines 5+	2
curvilinear engraved lines 7+	1
engraved element	2
engraved element with triangular tick marks	6
engraved line	5
engraved small circular element	5
engraved triangular element	4
engraved with linear tick marks	2
engraved with row of linear tick marks	2
engraved with row of linear tick marks with white pigment	2
hatched engraved element	4
opposed engraved lines	59
opposed engraved lines one with triangular tick marks	3
opposed engraved lines some with triangular tick marks	10
opposed engraved lines with triangular tick marks	8
opposed engraved lines with triangular tick marks with white pigment	2
opposed engraved lines with white pigment	3
opposed rectilinear engraved element	1
parallel and opposed engraved lines	17
parallel engraved lines	14
parallel engraved lines 2+	18
parallel engraved lines 2+ with white pigment	2
parallel engraved lines 3+	18
parallel engraved lines 3+ with white pigment	2
parallel engraved lines 4+	8
parallel engraved lines 5+	2
parallel engraved lines 5+ with white pigment	1
parallel engraved lines 6+	1
parallel straight engraved lines	252
parallel straight engraved lines 2+	1
parallel straight engraved lines 3+	1
parallel straight engraved lines 4+	1
parallel straight engraved lines with white pigment	21
perpendicular engraved lines	4
rectilinear engraved element	19
rectilinear engraved element and interior straight engraved line	1

straight engraved line	291	
straight engraved line with triangular tick marks	7	
straight engraved line with white pigment	8	
straight engraved lines	1	
terminating parallel engraved lines	5	
widely spaced parallel engraved lines	1	
	915	100

<b>Other Fine Ware Decorations from the Deshazo Site (41NA27)</b>	<b>Body</b>	<b>Rim</b>
circular engraved element		1
crosshatched engraved divider element		2
crosshatched engraved element	32	1
crosshatched engraved lines	17	1
crosshatched engraved panel element	1	1
curvilinear engraved line	45	1
diagonal engraved lines		10
engraved divider element	1	5
engraved element	11	3
engraved element with white pigment		1
engraved interlocking scroll element and divider		8
engraved interlocking scroll element and divider with linear tick marks and black slip		1
engraved oval element	7	1
engraved panel element	2	1
hatched engraved divider and curvilinear element and diagonal brushed		1
hatched engraved element	18	1
hatched engraved triangular element	3	3
horizontal and curvilinear engraved lines		1
horizontal and diagonal engraved lines	2	20
horizontal and vertical engraved lines	3	3
horizontal engraved line	15	26
horizontal engraved line below lip		19
horizontal engraved line below lip with hatched triangles		3
horizontal engraved line with hatched triangles		7
horizontal engraved lines		13
horizontal engraved lines with large excised triangles		4

horizontal engraved lines with large hatched triangles		3
horizontal engraved lines with large hatched triangles and vertical divider		1
horizontal engraved lines with large hatched triangles with white pigment		1
horizontal tool punctated row above crosshatched engraved zone		2
horizontal tool punctated row above diagonal engraved line		1
horizontal tool punctated row above diagonal engraved lines		2
horizontal tool punctated row above engraved element		3
horizontal tool punctated row above horizontal and diagonal engraved lines		1
horizontal tool punctated row above horizontal engraved line		11
horizontal tool punctated row and engraved element with triangular tick marks		1
opposed engraved element	7	1
opposed engraved lines	65	1
rectilinear engraved element	4	3
red slip		1
vertical engraved line		2
broad opposed engraved lines	1	
closely spaced curvilinear engraved lines	3	
closely spaced curvilinear engraved lines with linear tick marks	2	
closely spaced curvilinear trailed engraved lines	1	
crosshatched engraved element above horizontal brushed	6	
crosshatched engraved element and parallel lines one with triangular tick marks	1	
crosshatched engraved element with pendant triangles	1	
crosshatched engraved element with slanted scroll	1	
crosshatched engraved oval element	2	
crosshatched engraved zone	29	
curvilinear and opposed engraved lines	1	
curvilinear and opposed engraved lines with red slip	1	
curvilinear and straight engraved lines with triangular tick marks	1	
curvilinear engraved element	2	
curvilinear engraved line and triangular tick mark	1	
curvilinear engraved line with triangular tick marks	7	
curvilinear engraved lines	1	
curvilinear engraved lines one with hatched triangles	1	
curvilinear engraved lines one with triangular tick marks	1	
curvilinear engraved lines with triangular tick marks	1	

curvilinear hatched engraved zone	1
engraved chevron element	3
engraved circle and cross element	1
engraved element and curvilinear engraved line with triangular tick marks and excised zone	1
engraved element with crosshatched zone scroll and triangular tick marks above horizontal brushed	2
engraved element with hatched triangle	1
engraved element with hatched triangles	3
engraved element with oval and triangular tick marks	1
engraved element with oval tick marks	1
engraved element with triangular tick marks	6
engraved element with triangular tick marks with red slip	1
engraved element with white pigment above opposed brushed	1
engraved interlocking scroll	4
engraved ladder	2
engraved line	1
engraved line with crosshatched triangles	2
engraved line with excised triangles	5
engraved lines with hatched triangles	9
engraved lines with large hatched triangles	6
engraved negative oval element	1
engraved rectangle	1
engraved rectangles with triangular tick marks	3
engraved scroll element	1
engraved scroll element with cross-hatching	1
engraved triangular element	2
engraved vertical panel element	1
engraved with linear tick mark	5
engraved with linear tick marks	2
excised divider element	2
hatched engraved divider element	4
hatched engraved element above horizontal brushed	2
hatched engraved element and curvilinear engraved line with triangular tick marks	2
hatched engraved element and straight line with triangular tick marks	2
hatched engraved element with triangular tick marks	3

hatched engraved panel element with divider	4
horizontal and curvilinear engraved lines with white pigment	1
horizontal and diagonal engraved lines above horizontal brushed	5
horizontal and diagonal engraved lines one with triangular tick marks	4
horizontal and vertical engraved lines above horizontal brushed	6
horizontal engraved line above diagonal brushed	1
horizontal engraved line above horizontal brushed	26
horizontal engraved line with triangular tick marks above horizontal brushed	1
large excised zone	1
opposed engraved element and curvilinear engraved line with triangular tick marks and excised zone	1
opposed engraved lines and excised zone	1
opposed engraved lines one with triangular tick marks	4
opposed engraved lines with triangular tick marks	3
opposed engraved lines with white pigment	1
parallel and opposed engraved element	3
parallel and opposed engraved lines	31
parallel and opposed engraved lines one with triangular tick marks	4
parallel curvilinear engraved lines	41
parallel engraved lines	102
parallel engraved lines and crosshatched engraved zone	6
parallel engraved lines one with triangular tick marks	32
parallel engraved lines one with triangular tick marks with white pigment	1
parallel engraved lines with white pigment and red slip	1
parallel straight engraved lines	109
parallel straight engraved lines 2+	1
parallel straight engraved lines 4+	1
parallel straight engraved lines with triangular tick marks facing each other	1
parallel trailed engraved lines	2
rectilinear engraved element with triangular tick marks	2
straight engraved line	323
straight engraved line and red slip	1
straight engraved line through triangular tick marks with white pigment	1
straight engraved line with linear tick marks	1
straight engraved line with triangular tick mark	3
straight engraved line with triangular tick marks	3

straight engraved line with triangular tick marks with white pigment and crosshatched engraved element	1	
straight engraved line with white pigment	1	
straight engraved lines with oval tick marks	3	
tool punctated row and straight engraved line	7	
widely spaced crosshatched engraved lines	4	
widely spaced curvilinear engraved lines	3	
widely spaced curvilinear engraved lines with linear tick marks	6	
	1,133	172

<b>Other Fine Ware Decorations from the Henry M. Site (41NA60)</b>	<b>Body</b>	<b>Rim</b>
crosshatched engraved element	3	1
curvilinear engraved element	2	1
curvilinear engraved line below lip		1
engraved element	2	2
engraved line below lip		1
engraved triangular element		1
horizontal and diagonal engraved lines	1	3
horizontal and vertical engraved lines		1
horizontal engraved line	1	2
horizontal engraved line below lip		2
horizontal engraved lines below lip		1
parallel engraved lines	11	1
broad straight engraved line	4	
brushed engraved element	2	
brushed exterior and engraved line interior	1	
closely spaced curvilinear engraved lines	7	
closely spaced parallel engraved lines	7	
crosshatched engraved element with scroll filler	1	
crosshatched engraved lines	2	
crosshatched engraved triangular element	1	
crosshatched engraved zone above diagonal brushed	1	
crosshatched engraved zone with triangular tick marks and parallel brushed	1	
curvilinear engraved line	17	
curvilinear engraved lines	3	
curvilinear engraved lines one with triangular tick marks and crosshatched	1	

engraved element		
diagonal engraved lines	1	
engraved line	13	
engraved line and parallel brushed	1	
engraved line with white pigment	1	
engraved lines	2	
excised triangular element and horizontal brushed	1	
excised triangular zone	1	
hatched engraved element above horizontal brushed	1	
hatched engraved panel element	1	
hatched engraved triangular element	2	
horizontal engraved line above diagonal brushed	1	
horizontal engraved line above horizontal brushed	3	
horizontal engraved lines	2	
opposed engraved element	2	
opposed engraved lines	6	
opposed engraved lines above horizontal brushed	1	
opposed engraved lines and parallel brushed	1	
parallel and opposed engraved lines	10	
parallel curvilinear engraved lines	1	
parallel engraved lines 3+ with white pigment	1	
parallel engraved lines 4+	1	
parallel straight engraved lines	1	
rectilinear engraved element	2	
straight engraved line	29	
straight engraved line and parallel brushed	1	
widely spaced crosshatched engraved lines	1	
widely spaced parallel engraved lines	3	
	158	17

<b>Other Fine Ware Decorations from the Spradley Site (41NA206)</b>	<b>Body</b>	<b>Rim</b>
crosshatched engraved lines	7	4
curvilinear and opposed engraved element	4	1
curvilinear engraved lines	35	1
diagonal engraved line	1	5
diagonal engraved lines		11

engraved element	17	2
engraved line	30	1
engraved panel element		2
engraved scroll element	2	1
hatched engraved element	15	1
horizontal and diagonal engraved lines	1	7
horizontal and vertical engraved lines		2
horizontal engraved line	5	16
horizontal engraved line and hatched engraved element		1
horizontal engraved line below lip		22
horizontal engraved lines		3
horizontal engraved lines one with large hatched triangles		1
opposed engraved element	6	1
opposed engraved lines	69	7
parallel engraved lines	140	1
broad excised line	1	
broad parallel engraved lines	2	
broad straight engraved line	3	
broad straight excised line	1	
broad terminating engraved lines	1	
circular engraved element	2	
closely spaced parallel engraved lines	1	
crosshatched engraved element	16	
crosshatched engraved element with white pigment	1	
crosshatched engraved scroll element with applied strip	1	
crosshatched engraved triangular element	1	
crosshatched engraved triangular zone	1	
crosshatched engraved zone	7	
curvilinear and hatched engraved element	1	
curvilinear and opposed engraved lines	4	
curvilinear engraved element	4	
curvilinear engraved element with triangular tick marks	1	
curvilinear engraved line	15	
curvilinear engraved line with crosshatched ovals with red pigment	1	
curvilinear engraved line with triangular tick marks	1	
curvilinear engraved lines 2+	3	

curvilinear engraved lines 3+	1
curvilinear engraved lines 4+	1
curvilinear engraved lines 5+	1
curvilinear engraved lines with red pigment	1
diagonal engraved lines above horizontal brushed	1
engraved concentric circles	1
engraved element with hatched triangle	3
engraved element with hatched triangles	1
engraved element with white pigment	1
engraved lines	2
engraved triangular element	3
engraved with linear tick mark	2
engraved with triangular tick marks	2
engraved zone	1
excised triangular zone	2
excised zone	3
hatched engraved element with triangular tick marks	1
hatched engraved triangular element	3
hatched engraved zone	2
horizontal engraved line with white pigment above diagonal brushed	1
opposed engraved element with triangular tick marks and excised zone	1
opposed engraved lines with red pigment	1
parallel and opposed engraved element	6
parallel and opposed engraved lines	50
parallel curvilinear engraved lines	1
parallel engraved lines 2+	3
parallel engraved lines and crosshatched engraved zone	2
parallel engraved lines with excised zone	1
parallel straight engraved lines	9
parallel straight engraved lines 2+	1
perpendicular engraved lines	3
straight engraved line	163
straight engraved line and excised zone	2
straight engraved line with hatched triangle	1
straight engraved line with triangular tick marks	1
straight engraved line with white pigment	2

straight engraved lines	4	
terminating parallel engraved lines	1	
vertical engraved lines	3	
widely spaced crosshatched engraved lines	1	
widely spaced parallel engraved lines	2	
	691	90

<b>Other Fine Ware Decorations from the Wylie Price Site (41SA94)</b>	<b>Body</b>	<b>Rim</b>
closely spaced diagonal engraved lines		1
curvilinear and excised lines		4
curvilinear hatched engraved zones		2
engraved circular element		1
engraved tool punctated element		1
hatched engraved element	3	3
hatched engraved triangular element	16	1
hatched engraved zone and oval element	1	1
hatched engraved zones with white pigment		1
horizontal and curvilinear engraved lines	3	5
horizontal and curvilinear engraved lines with red pigment		1
horizontal and diagonal engraved lines	6	2
horizontal and vertical engraved lines		2
horizontal engraved line	1	10
horizontal engraved line below lip		4
horizontal engraved line below lip with hatched triangle		1
horizontal engraved lines	7	6
broad parallel engraved lines	1	
circular and hatched engraved triangular element	2	
closely spaced curvilinear engraved lines	3	
closely spaced parallel engraved lines	2	
crosshatched engraved circular element	2	
crosshatched engraved element	1	
crosshatched engraved lines	4	
crosshatched engraved zone	6	
crosshatched engraved zones	10	
curvilinear and crosshatched engraved element	1	
curvilinear and hatched engraved element	3	

curvilinear and hatched engraved triangular element	1
curvilinear and opposed engraved element	1
curvilinear engraved element	3
curvilinear engraved line	7
curvilinear engraved lines	2
curvilinear hatched engraved element	4
engraved element	2
engraved hooked arm element	4
engraved negative oval element	1
engraved oval element	9
engraved scroll element	8
engraved triangular element	1
excised zone	1
hatched and crosshatched engraved zones	2
hatched engraved circular element	4
hatched engraved panel element	1
hatched engraved scroll element	3
hatched engraved triangle	1
hatched engraved triangular element and curvilinear line	1
hatched engraved zone	6
hatched engraved zone and hooked arm element	1
horizontal and hatched engraved triangular element	1
horizontal and opposed engraved lines	1
opposed engraved element	1
opposed engraved lines	11
opposed engraved lines and excised zone	1
parallel and opposed engraved element	3
parallel and opposed engraved lines	2
parallel engraved lines	20
straight engraved line	51
straight engraved line and crosshatched engraved zone	1
straight engraved line with excised triangular zone	1
straight engraved line with hatched triangle	1
straight engraved zone	1
straight excised zone	2
widely spaced curvilinear engraved lines	1

<b>Other Fine Ware Decorations from the McElroy Site (41SA116)</b>	<b>Body</b>	<b>Rim</b>
broad horizontal engraved line below lip		2
crosshatched engraved element with concentric circles with white pigment		1
curvilinear hatched engraved triangle		1
diagonal and opposed engraved lines		2
diagonal engraved line		1
diagonal engraved line and diagonal ladder element		1
diagonal engraved lines		2
engraved element	6	1
engraved element with red slip		1
hatched engraved circular element		1
hatched engraved element	16	1
hatched engraved zone		1
horizontal and curvilinear engraved lines		2
horizontal and diagonal engraved lines	3	2
horizontal engraved line	1	5
horizontal engraved line below lip		2
horizontal engraved line with hatched pendant triangles		1
horizontal engraved lines	1	1
interior diagonal engraved line		1
widely spaced diagonal engraved lines		1
widely spaced horizontal engraved lines		1
zig-zag engraved line		1
broad curvilinear and opposed engraved lines	1	
broad straight engraved line	1	
closely spaced parallel engraved lines	1	
crosshatched engraved element	6	
crosshatched engraved element and circle with triangular tick marks	1	
crosshatched engraved lines	2	
crosshatched engraved zone	3	
crosshatched engraved zone and straight line with triangular tick marks	1	
curvilinear and opposed engraved element	1	
curvilinear engraved element	2	
curvilinear engraved line	6	

curvilinear engraved line with oval tick marks	1	
curvilinear engraved lines	3	
curvilinear engraved lines and excised zone	1	
engraved circle	1	
engraved circle and cross element	2	
engraved circular element	1	
engraved element with linear tick marks	1	
engraved element with triangular tick marks	3	
engraved ladder	2	
engraved line	12	
engraved oval element	3	
engraved triangular element	2	
hatched engraved triangle	1	
hatched engraved triangular element	1	
opposed engraved element	1	
opposed engraved lines	16	
opposed engraved lines and circular punctated	1	
opposed engraved lines and excised zone	1	
parallel and opposed engraved element	3	
parallel and opposed engraved lines	31	
parallel curvilinear engraved lines	1	
parallel engraved lines	30	
parallel engraved lines 2+	1	
parallel engraved lines 4+	2	
parallel engraved lines 5+	3	
perpendicular engraved lines	1	
straight engraved line	26	
terminating parallel engraved lines	1	
widely spaced parallel engraved lines	2	
	206	32

<b>Other Fine Ware Decorations from Mission Dolores (41SA25)</b>	<b>Body</b>	<b>Rim</b>
crosshatched engraved zone	47	1
crosshatched engraved element	41	3
crosshatched engraved lines	12	2
diagonal and opposed engraved lines		1

diagonal engraved line		6
diagonal engraved lines	1	2
diagonal engraved lines one with triangular tick marks		1
engraved chevron element		1
engraved element	14	4
engraved element with hatched triangle		1
engraved element with triangular tick marks	4	2
hatched engraved element	61	7
hatched engraved triangles		1
horizontal and curvilinear engraved lines with white pigment		1
horizontal and diagonal engraved lines	1	17
horizontal and diagonal engraved lines one with triangular tick marks		1
horizontal and opposed engraved lines		1
horizontal and vertical engraved lines		1
horizontal engraved line	1	6
horizontal engraved line below lip		2
horizontal engraved line below lip		11
interior curvilinear engraved line		1
opposed engraved lines	66	1
parallel curvilinear engraved lines	1	1
straight engraved line	228	4
vertical engraved ladder		1
vertical engraved lines		2
crosshatched and hatched engraved element	1	
crosshatched engraved oval element	1	
crosshatched engraved zones	1	
curvilinear and hatched engraved element	2	
curvilinear and opposed engraved lines	3	
curvilinear engraved element	1	
curvilinear engraved line	15	
curvilinear engraved line with triangular tick marks	14	
curvilinear engraved line with triangular tick marks with white pigment	2	
curvilinear engraved lines	27	
curvilinear engraved lines with white pigment	1	
curvilinear hatched engraved element	1	
engraved element with linear and triangular tick marks	1	

engraved ladder	1	
engraved ladder with white pigment	1	
engraved line	1	
engraved line with triangular tick marks	4	
engraved lines	4	
engraved lines with triangular tick marks	2	
engraved triangular element	1	
engraved with triangular tick marks	32	
excised triangular zone	1	
hatched engraved circular element	1	
hatched engraved element and curvilinear engraved line with linear tick marks	1	
hatched engraved element with triangular tick marks	2	
hatched engraved zone	67	
horizontal engraved lines	1	
opposed engraved lines one with triangular tick marks	1	
parallel and opposed engraved lines	16	
parallel and opposed engraved lines one with triangular tick marks	1	
parallel engraved lines	42	
parallel engraved lines and crosshatched engraved zone	2	
parallel engraved lines one with triangular tick marks	2	
parallel straight engraved lines	148	
parallel straight engraved lines 2+	2	
parallel straight engraved lines and curvilinear line	2	
parallel straight engraved lines one with hatched triangles	1	
rectilinear engraved element	22	
rectilinear engraved element with triangular tick marks	2	
rectilinear engraved lines	5	
straight engraved line with hatched triangle	1	
straight engraved line with hatched triangles	1	
straight engraved line with linear tick marks	8	
straight engraved line with triangular tick marks	34	
straight engraved line with triangular tick marks with white pigment	1	
straight engraved line with white pigment	1	
	958	82

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