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Cover art: Red-slipped Ripley Engraved vessel (Article 1, Figure 5)

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Table of Contents

| | |
|---|----|
| A Late Caddo Cemetery at the A. Davis Site in the Little Cypress Creek Basin, Upshur County, Texas <i>Timothy K. Perttula and Bo Nelson</i> | 1 |
| The Tom Hanks Site (41CP239): A Late Caddo, Titus Phase Mound Site in the Big Cypress Creek Basin, Camp County, Texas <i>Timothy K. Perttula</i> | 17 |
| The Dave Spencer Site on Middle Lilly Creek in Camp County, Texas <i>Timothy K. Perttula and Bo Nelson</i> | 27 |
| The Mud Creek Site in the Angelina River Basin, Cherokee County, Texas <i>Timothy K. Perttula and Bo Nelson</i> | 31 |
| A Frankston Phase Settlement and Cemetery at the H. C. Slider Site on the Neches River in Cherokee County, Texas <i>Timothy K. Perttula and Bo Nelson</i> | 41 |
| Analysis of the Ceramic Sherds from Area C at the Ware Acres Site (41GG31), Gregg County, Texas <i>Timothy K. Perttula, Robert Z. Selden, Jr., and Bo Nelson</i> | 57 |
| Temporal Dynamics of East Texas Caddo Sites with 10 or More Radiocarbon Dates <i>Robert Z. Selden, Jr. and Timothy K. Perttula</i> | 81 |

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A Late Caddo Cemetery at the A. Davis Site in the Little Cypress Creek Basin, Upshur County, Texas

Timothy K. Perttula and Bo Nelson

INTRODUCTION

The A. Davis site is a previously unreported Late Caddo period Titus phase cemetery in the Pineywoods of the Little Cypress Creek basin in Upshur County, Texas (Figure 1). There are notes and collections from the site in the Buddy Jones collection at the Gregg County Historical Museum, and our analysis of those materials are presented in this article.

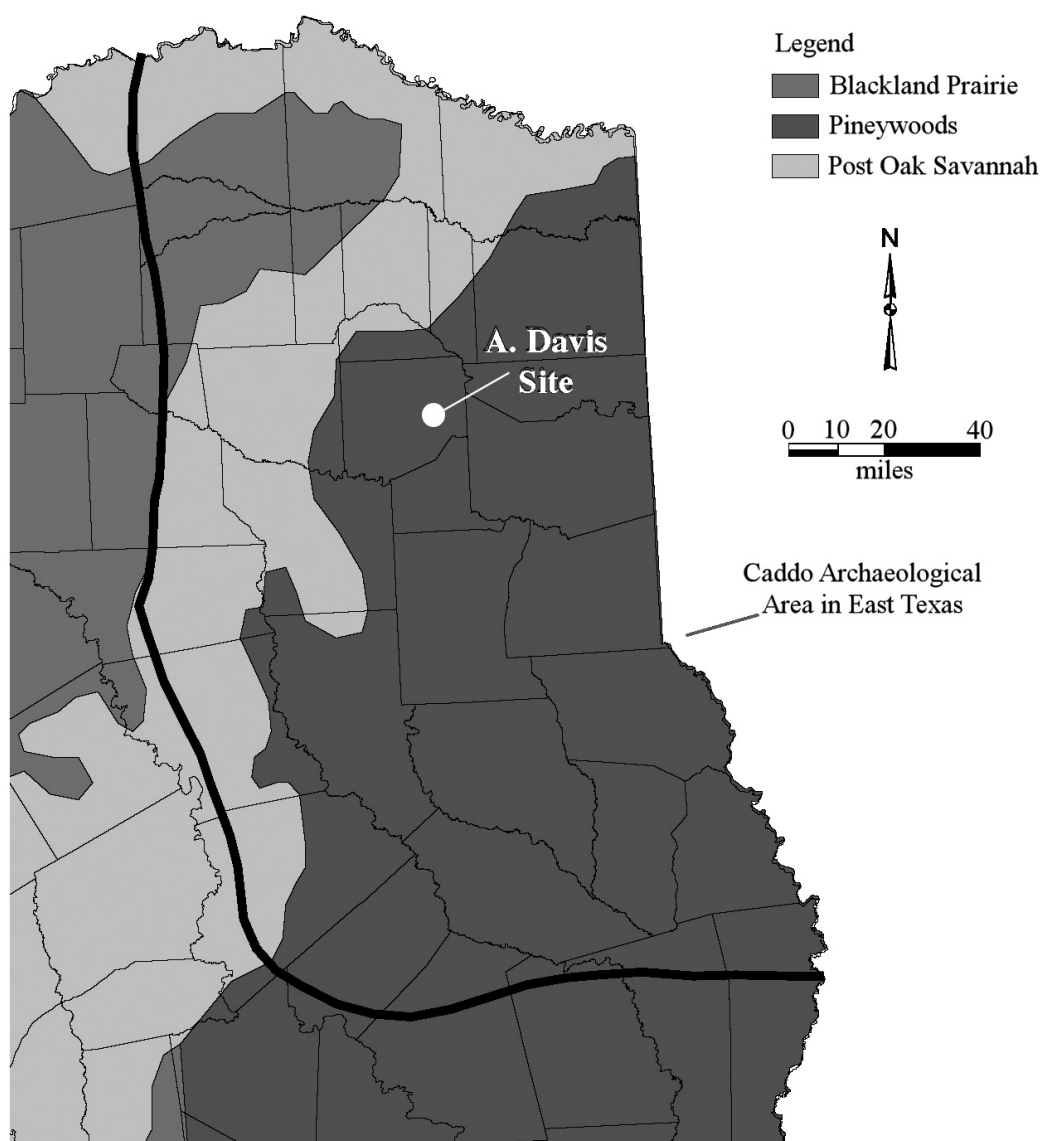


Figure 1. General location of the A. Davis site in Upshur County in East Texas.

AVAILABLE SITE INFORMATION

The A. Davis site is on a natural rise between two small creeks on property owned in 1961 by A. Davis. The site is just east of the Frank Smith property line (Figure 2). The Titus phase Frank Smith cemetery (41UR326) is on the Frank Smith property (Perttula et al. 2012b).

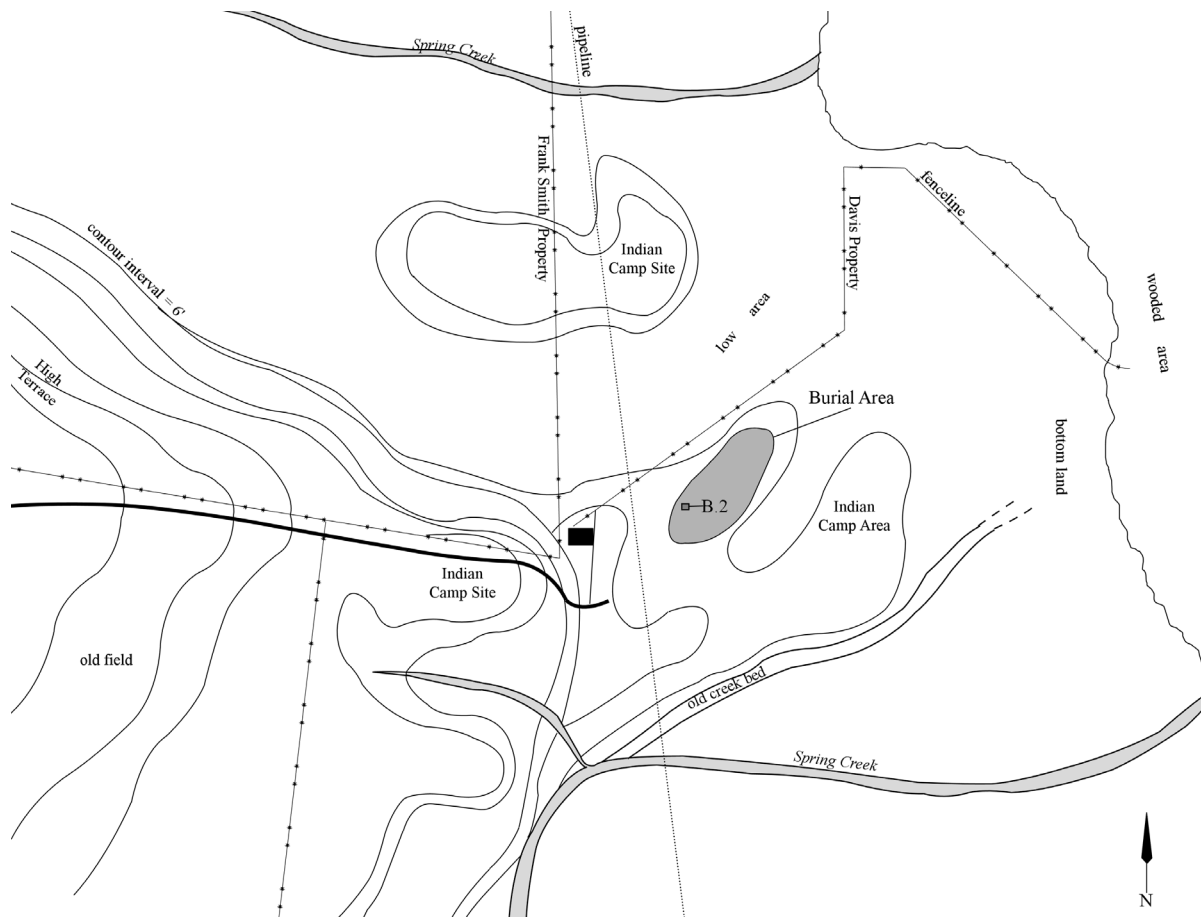


Figure 2. Buddy Jones map of the A. Davis site.

Buddy Jones investigated the A. Davis site in February 1961. He excavated at least one Caddo burial (Burial 2) that had whole ceramic vessels as funerary objects, and apparently also excavated Burial 1, based on the fact that there are artifacts from the Burial 1 fill in the collection. A map Jones drew at the time indicates that 11 burials were known at the site, and presumably the other nine burials had been excavated by other unknown individuals, but their locations were still known and apparent (Figure 3). These burials were well-spaced across the natural rise.

VESSEL RECORDATION FORMS FROM BURIAL 2

There are seven whole or mostly whole vessels in Burial 2 at the A. Davis site. These include two utility ware jars (with brushed-incised punctated and incised decorations, respectively), a Ripley Engraved, *var. Galt* bowl, three Ripley Engraved, *var. McKinney* carinated bowls, and one Ripley Engraved, *var. Pilgrims* carinated bowl.

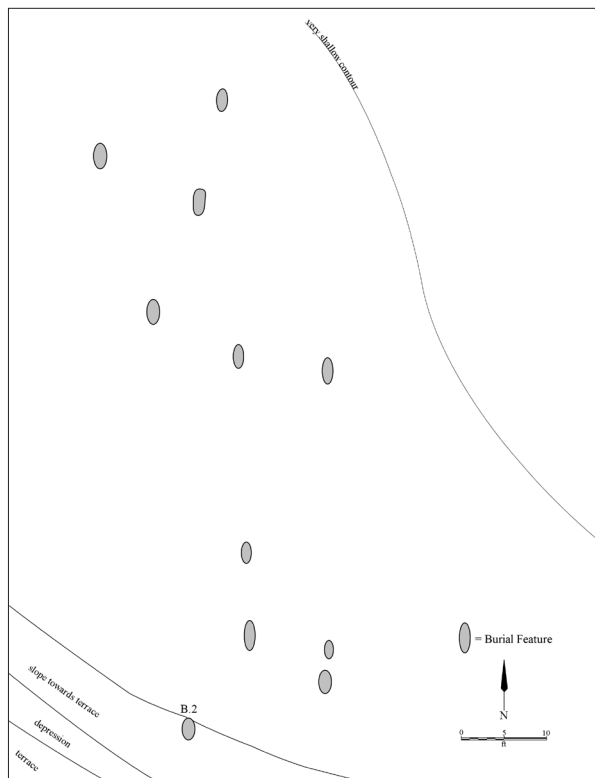


Figure 3. Map of the burials at the A. Davis site.

SITE NAME OR SITE NUMBER: A. Davis Burial site

VESSEL NO.: 2003.08.1207

NON-PLASTICS AND PASTE: grog

VESSEL FORM: Jar

RIM AND LIP FORM: Everted rim and a rounded lip

CORE COLOR: F (fired in a reducing environment and cooled in the open air)

INTERIOR SURFACE COLOR: reddish-brown; int. red wash; fire clouding on the body and base

EXTERIOR SURFACE COLOR: reddish-brown; fire clouds on the rim, body, and base

WALL THICKNESS (RIM, BODY, AND BASE IN MM): rim, 3.6 mm; body, 5.1 mm; base, 7.9 mm

INTERIOR SURFACE TREATMENT: smoothed

EXTERIOR SURFACE TREATMENT: none

HEIGHT (IN CM): 12.6

ORIFICE DIAMETER (IN CM): 15.2

DIAMETER AT BOTTOM OF RIM OR NECK (IN CM): 15.0

BASE DIAMETER (IN CM) AND SHAPE OF BASE: 6.4; flat and circular

ESTIMATED VOLUME (IN LITERS): 1.15

DECORATION (INCLUDING MOTIF AND ELEMENTS WHEN APPARENT): The rim has two rows of tool punctations, one under the lip and the other at the rim-body juncture. The area between the punctated rows has horizontal brushing marks as well as incised triangles drawn over the brushing. The vessel body has both diagonal and vertical brushing marks that extend to within 2.0 cm of the base (Figure 4).

PIGMENT USE AND LOCATION ON VESSEL: none

TYPE AND VARIETY [IF KNOWN]: Unidentified utility ware

SITE NAME OR SITE NUMBER: A. Davis Burial site

VESSEL NO.: 2003.08.1208

NON-PLASTICS AND PASTE: grog



Figure 4. Brushed-punctated jar, Burial 2, A. Davis site.

VESSEL FORM: Bowl

RIM AND LIP FORM: direct rim and a rounded lip

CORE COLOR: F (fired in a reducing environment and cooled in the open air)

INTERIOR SURFACE COLOR: red

EXTERIOR SURFACE COLOR: red

WALL THICKNESS (RIM, BODY, AND BASE IN MM): rim, 4.0 mm

INTERIOR SURFACE TREATMENT: burnished

EXTERIOR SURFACE TREATMENT: burnished

HEIGHT (IN CM): 7.0

ORIFICE DIAMETER (IN CM): 14.7

DIAMETER AT BOTTOM OF RIM OR NECK (IN CM): N/A

BASE DIAMETER (IN CM) AND SHAPE OF BASE: 4.4; flat and circular

ESTIMATED VOLUME (IN LITERS): 0.40

DECORATION (INCLUDING MOTIF AND ELEMENTS WHEN APPARENT): The vessel has a red slip on both interior and exterior vessel surfaces. The rim panel has an engraved scroll and circle motif repeated four times around the vessel. The central circle elements have an internal central diamond element. The scroll fill zones include vertical excised lines as well as excised triangles and brackets (Figure 5). There is also a single horizontal engraved line on the interior vessel surface at the carination.

PIGMENT USE AND LOCATION ON VESSEL: none

TYPE AND VARIETY [IF KNOWN]: Ripley Engraved, *var. Galt*

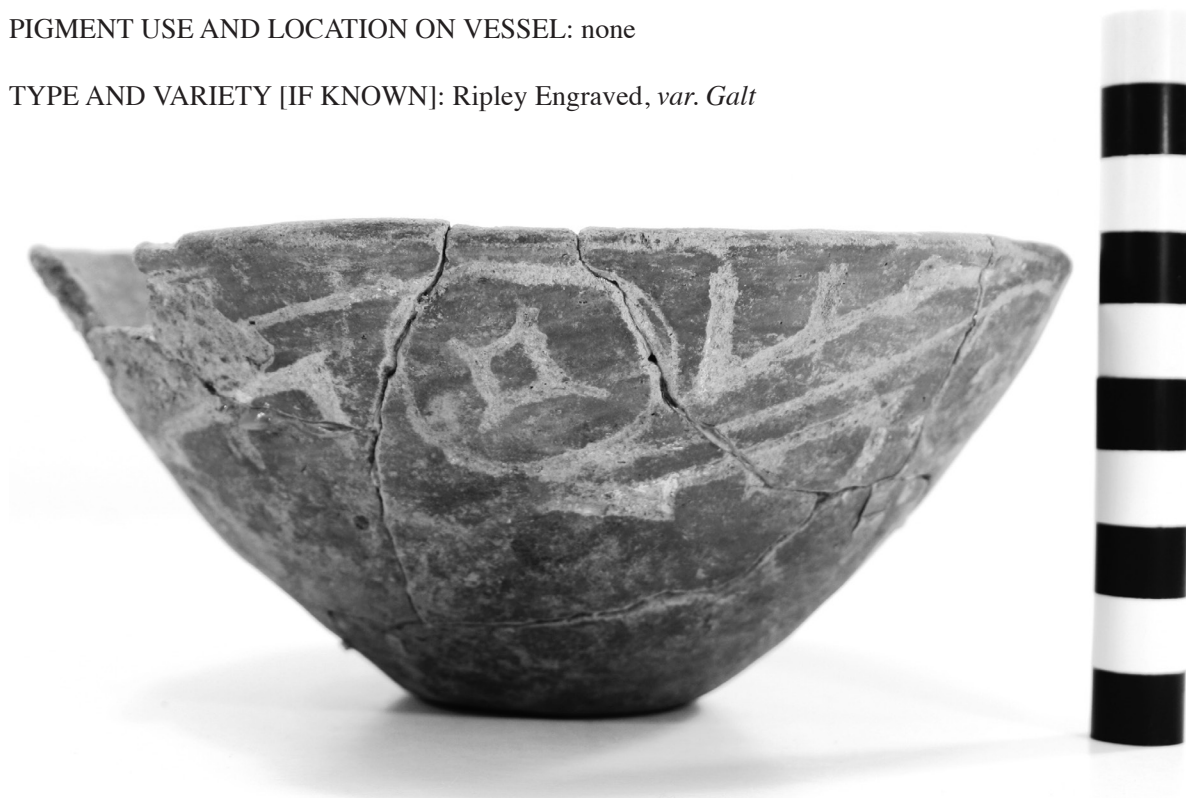


Figure 5. Ripley Engraved, *var. Galt* bowl, Burial 2, A. Davis site.

SITE NAME OR SITE NUMBER: A. Davis Burial site

VESSEL NO.: 2003.08.1212

NON-PLASTICS AND PASTE: grog

VESSEL FORM: Carinated bowl

RIM AND LIP FORM: Direct rim and a rounded, exterior folded lip

CORE COLOR: F (fired in a reducing environment and cooled in the open air)

INTERIOR SURFACE COLOR: dark yellowish-brown; fire clouds on the rim, body, and base

EXTERIOR SURFACE COLOR: dark yellowish-brown; fire clouds on the rim, body, and base

WALL THICKNESS (RIM, BODY, AND BASE IN MM): rim, 6.0 mm

INTERIOR SURFACE TREATMENT: burnished

EXTERIOR SURFACE TREATMENT: burnished

HEIGHT (IN CM): 7.6

ORIFICE DIAMETER (IN CM): 18.4

DIAMETER AT BOTTOM OF RIM OR NECK (IN CM): 18.0

BASE DIAMETER (IN CM) AND SHAPE OF BASE: 6.2; flat and circular

ESTIMATED VOLUME (IN LITERS): 0.84

DECORATION (INCLUDING MOTIF AND ELEMENTS WHEN APPARENT): The central elements of the motif are engraved diamonds and circles, each repeated two times around the vessel. The circles have interior central dots, while the diamonds have a central interior diamond and negative oval (Figure 6). The diamonds are the central element in horizontal scrolls that end in excised brackets. There are alternating rows of excised pendant triangles and dashes under the vessel lip and at the carination. There is also a single horizontal engraved line on the interior vessel surface at the carination.



Figure 6. Ripley Engraved, *var. McKinney* carinated bowl, Burial 2, A. Davis site.

PIGMENT USE AND LOCATION ON VESSEL: none

TYPE AND VARIETY [IF KNOWN]: Ripley Engraved, *var. McKinney*

SITE NAME OR SITE NUMBER: A. Davis Burial site

VESSEL NO.: 2003.08.1213

NON-PLASTICS AND PASTE: grog

VESSEL FORM: Carinated bowl

RIM AND LIP FORM: Direct rim and a rounded, exterior folded lip

CORE COLOR: F (fired in a reducing environment and cooled in the open air)

INTERIOR SURFACE COLOR: dark yellowish-brown

EXTERIOR SURFACE COLOR: dark yellowish-brown; fire clouds on the body

WALL THICKNESS (RIM, BODY, AND BASE IN MM): rim, 8.2 mm

INTERIOR SURFACE TREATMENT: smoothed

EXTERIOR SURFACE TREATMENT: burnished

HEIGHT (IN CM): 10.8

ORIFICE DIAMETER (IN CM): 20.7

DIAMETER AT BOTTOM OF RIM OR NECK (IN CM): 20.5

BASE DIAMETER (IN CM) AND SHAPE OF BASE: 6.6; flat and circular

ESTIMATED VOLUME (IN LITERS): 1.3

DECORATION (INCLUDING MOTIF AND ELEMENTS WHEN APPARENT): The central elements of the motif are engraved diamonds repeated four times around the vessel. The diamonds have a central interior diamond (Figure 7). The diamonds are the central element in connected horizontal scrolls. There are rows of excised pendant triangles under the vessel lip and at the carination. There is also a single horizontal engraved line on the interior vessel surface at the carination.

PIGMENT USE AND LOCATION ON VESSEL: none

TYPE AND VARIETY [IF KNOWN]: Ripley Engraved, *var. McKinney*

SITE NAME OR SITE NUMBER: A. Davis Burial site

VESSEL NO.: 2003.08.1214



Figure 7. Ripley Engraved, *var. McKinney* carinated bowl, Burial 2, A. Davis site.

NON-PLASTICS AND PASTE: gray

VESSEL FORM: Carinated bowl

RIM AND LIP FORM: Direct rim and a rounded, exterior folded lip

CORE COLOR: F (fired in a reducing environment and cooled in the open air)

INTERIOR SURFACE COLOR: yellowish-brown

EXTERIOR SURFACE COLOR: dark yellowish-brown

WALL THICKNESS (RIM, BODY, AND BASE IN MM): rim, 6.6 mm

INTERIOR SURFACE TREATMENT: smoothed

EXTERIOR SURFACE TREATMENT: burnished

HEIGHT (IN CM): 14.3

ORIFICE DIAMETER (IN CM): 29.0

DIAMETER AT BOTTOM OF RIM OR NECK (IN CM): 28.6

BASE DIAMETER (IN CM) AND SHAPE OF BASE: 9.6; flat and circular

ESTIMATED VOLUME (IN LITERS): 3.7

DECORATION (INCLUDING MOTIF AND ELEMENTS WHEN APPARENT): The central elements of the motif are engraved diamonds and circles, each repeated two times around the vessel. The circles each have a single interior central diamond with a negative oval, while the diamonds have a central interior diamond and negative oval (Figure 8). The diamonds are the central element in horizontal scrolls that end in cross-hatched engraved brackets. There are rows of excised pendant triangles under the vessel lip and at the carination. There is also a single horizontal engraved line on the interior vessel surface at the carination.

PIGMENT USE AND LOCATION ON VESSEL: none

TYPE AND VARIETY [IF KNOWN]: Ripley Engraved, *var. McKinney*



Figure 8. Ripley Engraved, *var. McKinney* carinated bowl, Burial 2, A. Davis site.

SITE NAME OR SITE NUMBER: A. Davis Burial site

VESSEL NO.: 2003.08.1380

NON-PLASTICS AND PASTE: grog

VESSEL FORM: Carinated bowl

RIM AND LIP FORM: Direct rim and a rounded, exterior folded lip

CORE COLOR: F (fired in a reducing environment and cooled in the open air)

INTERIOR SURFACE COLOR: dark brown

EXTERIOR SURFACE COLOR: brown

WALL THICKNESS (RIM, BODY, AND BASE IN MM): rim, 6.2 mm; body, 7.0 mm

INTERIOR SURFACE TREATMENT: smoothed

EXTERIOR SURFACE TREATMENT: burnished

HEIGHT (IN CM): 6.8

ORIFICE DIAMETER (IN CM): 12.1

DIAMETER AT BOTTOM OF RIM OR NECK (IN CM): 12.2

BASE DIAMETER (IN CM) AND SHAPE OF BASE: 5.3; flat and circular

ESTIMATED VOLUME (IN LITERS): 0.49

DECORATION (INCLUDING MOTIF AND ELEMENTS WHEN APPARENT): The rim panel has an engraved interlocking horizontal scroll motif repeated four times around the vessel. The main part of the horizontal scroll is connected to the upper part of the rim and the vessel carination with hatched brackets. There are engraved hooked arms on either side of the interlocking horizontal scrolls. Each repeating motif is divided by a hatched bracket (Figure 9).

PIGMENT USE AND LOCATION ON VESSEL: white pigment

TYPE AND VARIETY [IF KNOWN]: Ripley Engraved, *var. Pilgrims*



Figure 9. Ripley Engraved, *var. Pilgrims* carinated bowl, Burial 2, A. Davis site.

SITE NAME OR SITE NUMBER: A. Davis Burial site

VESSEL NO.: 2003.08.1381

NON-PLASTICS AND PASTE: grog

VESSEL FORM: Jar

RIM AND LIP FORM: Everted rim and rounded lip

CORE COLOR: F (fired in a reducing environment and cooled in the open air)

INTERIOR SURFACE COLOR: yellowish-brown

EXTERIOR SURFACE COLOR: yellowish-brown; fire clouds on the rim, body, and base

WALL THICKNESS (RIM, BODY, AND BASE IN MM): rim, 6.2 mm; body, 7.9 mm; base, 7.4 mm

INTERIOR SURFACE TREATMENT: smoothed

EXTERIOR SURFACE TREATMENT: none

HEIGHT (IN CM): N/A

ORIFICE DIAMETER (IN CM): 18.0

DIAMETER AT BOTTOM OF RIM OR NECK (IN CM): 17.8

BASE DIAMETER (IN CM) AND SHAPE OF BASE: 8.4; flat and circular

ESTIMATED VOLUME (IN LITERS): N/A

DECORATION (INCLUDING MOTIF AND ELEMENTS WHEN APPARENT): There are vertical incised lines on the rim, and a single horizontal incised line at the rim-body juncture (Figure 10).

PIGMENT USE AND LOCATION ON VESSEL: none

TYPE AND VARIETY [IF KNOWN]: Unidentified utility ware

ARTIFACTS FROM THE FILL OF BURIAL 1

There apparently were no complete vessels in Burial 1, or none remained at the time Buddy Jones investigated the burial feature. Instead there were 36 plain and decorated sherds from the burial fill, along with a ferruginous sandstone grinding slab fragment. All but one of the sherds are from grog-tempered vessels; one plain body sherd is bone-tempered. There are 15 plain body sherds (93% grog-tempered) and four grog-tempered base sherds.

Four of the sherds are from fine wares, including a bottle with curvilinear engraved lines (n=2) and two carinated bowl sherds. One of these is a rim (direct with a rounded, exterior folded lip) with a horizontal engraved line under the lip, and the other has parallel engraved lines.



Figure 10. Incised jar, Burial 2, A. Davis site.

There are 13 decorated utility ware sherds in the Burial 1 fill, seemingly from more than one vessel. This includes an everted rim jar sherd with a tool punctated row under the lip, as well as brushed (n=6), brushed-punctated (n=1), incised (n=2), and incised-punctated sherds (n=3). One of the incised-punctated sherds is from a Maydelle Incised jar with a row of tool punctations above diagonal incised lines. The brushed sherds have parallel, opposed, and overlapping brushed marks, while the brushed-punctated sherd is from a Pease Brushed-Incised vessel that has parallel brushed marks with a row of tool punctations pushed through the brushing. The two incised body sherds have parallel lines. One of the incised-punctated sherds has parallel incised lines adjacent to a row of tool punctations, and the other has an incised zone filled with a row of tool punctations.

MISCELLANEOUS ARTIFACTS FROM THE JONES EXCAVATION

In addition to the whole vessels from Burial 2 and the artifacts from the fill of Burial 1, there are also 52 sherds from miscellaneous contexts at the site (Table 1); 22 of the sherds are decorated. These likely are from the fill of Burial 2. The plain shell-tempered sherds mark a Late Caddo occupation, as shell-tempered vessels (traded from either McCurtain or Belcher phase Caddo groups living to the north on the Red River, or east on the Red River below the Great Bend, respectively) were not made in the Big Cypress Creek basin, and tend to appear only after ca. A.D. 1400 in this region (Perttula et al. 2012a). The remainder of the sherds are either grog-tempered (79%) or bone-tempered (17%).

Table 1. Miscellaneous artifacts from the A. Davis site.

| Ceramic ware | Grog-tempered | Bone-tempered | Shell-tempered |
|---------------------------|---------------|---------------|----------------|
| Plain | 21 | 7 | 2 |
| Punctated | 6 | 2 | - |
| Brushed | 1 | - | - |
| Brushed-Punctated | 1 | - | - |
| Brushed-Punctated-Incised | 1 | - | - |
| Incised | 5 | - | - |
| Applied | 1 | - | - |
| Engraved | 5 | - | - |
| Totals | 41 | 9 | 2 |

There are 13 rims in the miscellaneous collection of sherds from at least 6-7 different vessels. These include four plain grog-tempered rims with direct rims and rounded-exterior folded and flat lips; these are likely from bowls and carinated bowls. There are also plain body sherds from shell-tempered (n=2), grog-tempered (n=15), and bone-tempered (n=7) vessels, as well as six grog-tempered base sherds.

The other nine rims are from decorated vessels: incised (n=3), punctated (n=2), brushed-punctated (n=1), applied (n=1), and engraved (n=2). All but one of the punctated rims are from grog-tempered vessels; the other rim has bone temper. The incised rims have diagonal or horizontal elements (Figure 11b), with direct profiles and rounded to flat lips. The punctated rims have horizontal and diagonal rows of tool punctations. The one brushed-punctated rim is from a Pease Brushed-Incised jar with horizontal brushing on the rim itself, with a border of tool punctations under the lip and a second row at mid-rim; the punctations have been pushed through the brushing marks. The last utility ware rim has a diagonal applied element.

One fine ware rim has a horizontal engraved line under the lip, while the other has a horizontal engraved line and an excised bracket divider. This rim is from a Ripley Engraved, *var. unspecified* carinated bowl.

The decorated body sherds include sherds from utility wares (n=10) and fine wares (n=3). The utility wares include sherds with rows of tool punctations (n=4) (see Figure 11c), rows of fingernail punctations (n=1), diagonal and horizontal incised lines (n=1), parallel incised lines (n=2), parallel brushed (n=1), and an incised-brushed-punctated lower rim and body sherd. This particular sherd is from a Pease Brushed-Incised jar with horizontal incised lines on the rim, and vertical brushing marks on the vessel body. There is at least one vertical row of tool punctations pushed through the brushing.

Two of the engraved sherds are from bottles, including a grog-tempered Ripley Engraved bottle with widely-spaced curvilinear engraved lines and hatched pendant triangles (see Figure 11a). The other engraved body sherd has horizontal lines and portions of a circular element, possibly a Ripley Engraved carinated bowl motif.

In addition to the ceramic sherds, a fragment of a Middle-to-Late Archaic hematite grooved axe (see Turner 2006) was in the collection (GCHM accession no. 2003.08.1210).



Figure 11. Decorated sherds from miscellaneous contexts: a, Ripley Engraved bottle body; b, horizontal incised rim; c, tool punctated body.

SUMMARY AND CONCLUSIONS

The whole vessels and miscellaneous sherds from burial contexts at the A. Davis site indicate that the primary component here is a Late Caddo Titus phase cemetery, likely a family cemetery used by neighboring farmstead families in the Little Cypress Creek basin. The grooved axe fragments points to a limited use of the landform during some part of the lengthy Archaic period. The predominance of Ripley Engraved, *var. McKinney* fine ware vessels in Burial 2 suggests that this burial, at least, dates to the latter part of the Titus phase (after ca. A.D. 1550), as do most of the other ancestral Caddo burials in cemeteries in this part of the Little Cypress Creek basin (see Perttula et al. 2012b).

ACKNOWLEDGMENTS

We thank Patti Haskins of the Gregg County Historical Museum for the opportunity to study the vessels and collections from the A. Davis site. Lance Trask prepared several of the figures used in this article.

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The Tom Hanks Site (41CP239): A Late Caddo, Titus Phase Mound Site in the Big Cypress Creek Basin, Camp County, Texas

Timothy K. Perttula

INTRODUCTION

The Tom Hanks site (41CP239) is one of a number of Late Caddo, Titus phase (ca. A.D. 1430-1680) mound sites in the Big Cypress Creek basin “heartland.” It is situated along an unnamed eastern-flowing tributary to Big Cypress Creek, between Walkers Creek to the north and Dry Creek to the south (Figure 1). Robert L. Turner, Jr. found and reported the site in 1990, and obtained a small surface collection. The artifacts from this surface collection are the subject of this article.

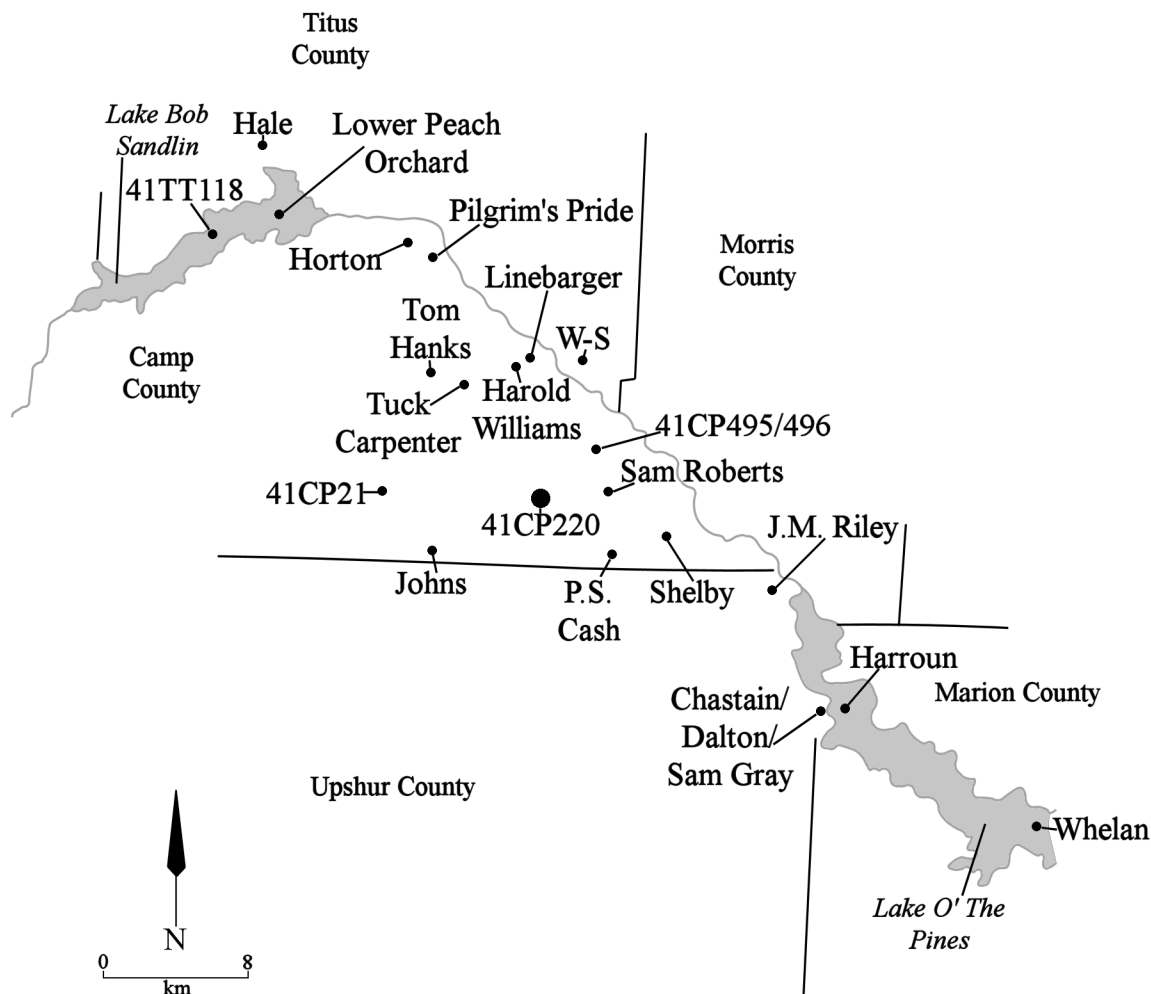


Figure 1. Location of the Tom Hanks mound site in the Big Cypress Creek basin in Camp County, Texas.

According to Pertulla (2012:381-388 and Figure 13-2), there are 12 known Titus phase mound sites in the Big Cypress Creek basin. Most of these mound sites have only one constructed mound, although the Tom Hanks site has two mounds, and the Harroun (41UR10) and Whelan (41MR2) sites have four small earthen mounds. These mounds were generally built over the burned remains of important structures used by the social and political elite in different Titus phase political communities in the basin.

SITE SETTING

The Tom Hanks site is on the crest of an upland landform (370 feet amsl) south of an unnamed and intermittent tributary that flows generally eastward to Big Cypress Creek. Big Cypress Creek lies about 2 km to the east. The site is in a cleared pasture with several constructed chicken houses (Figure 2).

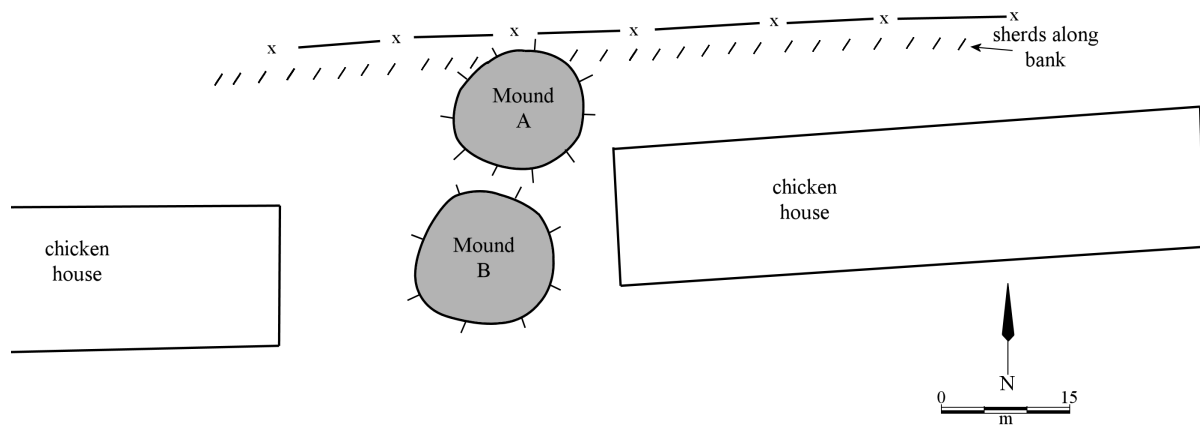


Figure 2. Map of the Tom Hanks site.

The two constructed mounds (Mounds A and B) are side-by-side on the landform, and are 12.2-13.7 m in diameter and 1.2 m in height (see Figure 2). When Turner located the site, the mounds were visible, and there were also numerous Caddo artifacts observed along a cut bank created by bulldozing just north of Mound A (see Figure 2). No archaeological investigations were conducted in the two mounds before they were scraped away during chicken house construction.

ARTIFACTS

Artifacts collected from the Tom Hanks site include animal bone, daub, lithic debris, and a variety of plain and decorated Caddo ceramic sherds (n=304). There are also two late 19th century artifacts in the collection.

Animal Bone

There is a single piece of burned animal bone in the Tom Hanks site collection.

Daub

The collection contains small to large pieces of daub (n=9). This suggests that there is a burned ancestral Caddo house structure on the site, perhaps under one or both of the two mounds.

Lithic Debris

Both pieces of local quartzite lithic debris are non-cortical and non-heat-treated flakes.

Plain Ceramic Sherds

The plain sherds (n=140) include three rims, 130 body sherds, and seven base sherds. The plain to decorated sherd ratio for the assemblage from the site is 0.85, consistent with a Late Caddo ceramic assemblage in the Big Cypress Creek basin. The plain sherds are primarily from grog-tempered vessels (87%), but 13% of the sherds have burned bone temper.

Decorated Ceramic Sherds

The 164 decorated sherds are from utility ware (n=126, 77%) and fine ware (n=38, 23%) vessels (Table 1). Approximately 62% of the rims in the assemblage are from utility ware vessels (jars, primarily), followed by plain wares (23%), and fine wares (15%); the plain ware and fine ware sherds are bowls, carinated bowls, compound bowls, and bottles. These values provide some idea of the relative proportion of the different wares in the overall assemblage.

Table 1. Decorated sherds in the Tom Hanks site ceramic assemblage.

| Decorative Method | No. | Percentage |
|-----------------------------|-----|------------|
| Fine wares | | |
| Engraved | 37 | 22.6 |
| Red-slipped | 1 | 0.6 |
| Utility wares | | |
| Appliqued | 1 | 0.6 |
| Appliqued-incised-brushed | 1 | 0.6 |
| Brushed | 79 | 48.2 |
| Brushed-appliqued | 3 | 1.8 |
| Brushed-incised | 12 | 7.3 |
| Brushed-punctated | 2 | 1.2 |
| Incised | 16 | 9.8 |
| Incised-appliqued | 1 | 0.6 |
| Incised-appliqued-punctated | 1 | 0.6 |
| Incised-punctated | 2 | 1.2 |
| Neck Banded | 3 | 1.8 |
| Punctated | 5 | 3.0 |
| Totals | 164 | 100.0 |

FINE WARES

The fine wares at the Tom Hanks site include sherds from engraved carinated bowls, compound bowls, and bottles (Figure 3b-i) as well as one bowl or carinated bowl sherd with a red ochre-rich slip on both interior and exterior vessel surfaces (Figure 3a). As previously mentioned, these comprise 23% of the decorated sherds in the site's ceramic assemblage.

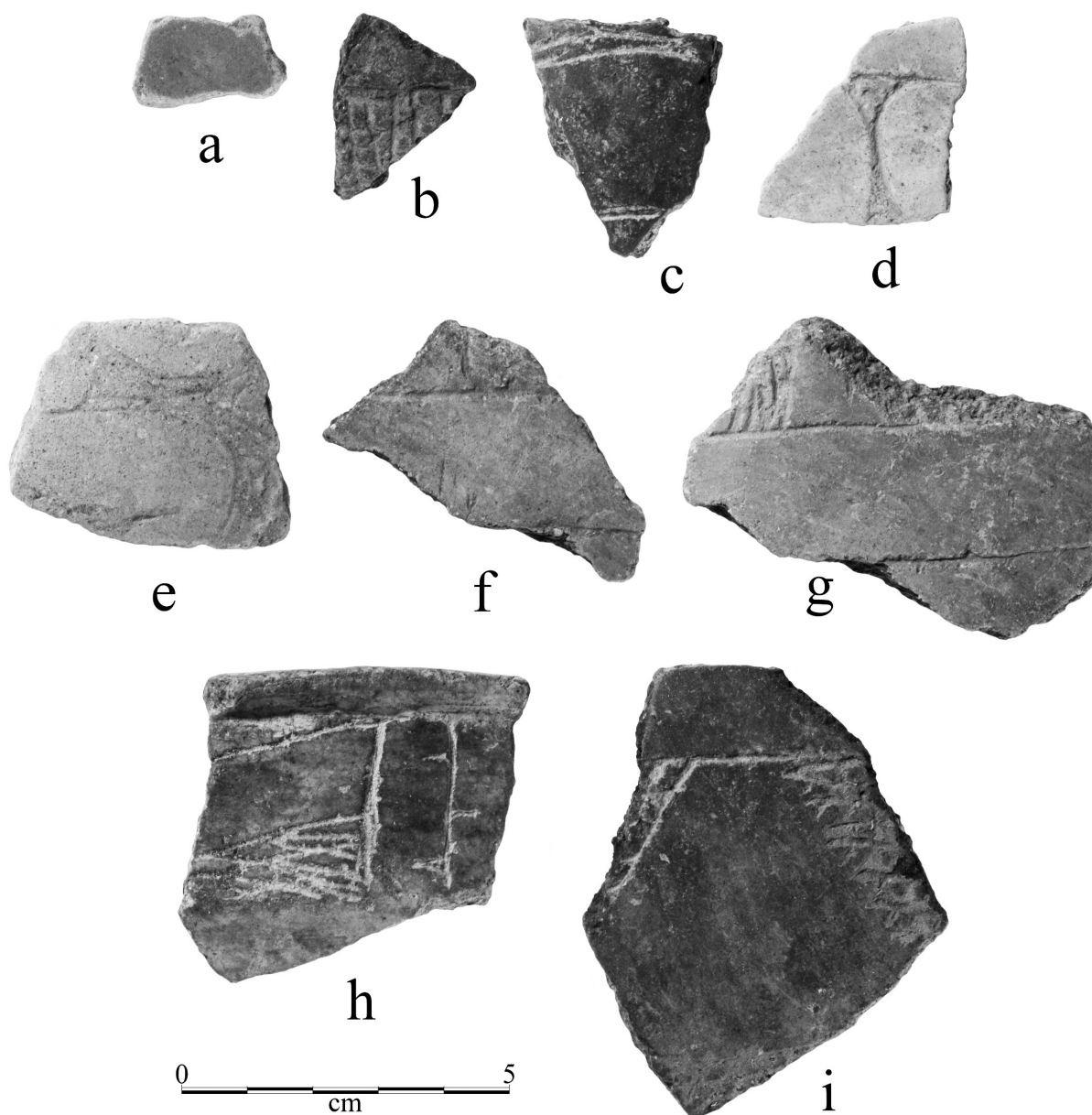


Figure 3. Engraved and red-slipped fine ware sherds from the Tom Hanks site: a, red-slipped body sherd; b, cross-hatched engraved zone; c, curvilinear lines, Bottle; d, bracket/scroll divider; e, scroll and circle element; f-g, compound bowl sherds with horizontal engraved lines and hatched zone; h, Ripley Engraved rim; i, cross-hatched and hatched elements.

The engraved bottle sherds (n=6) from the site have curvilinear engraved lines (see Figure 3c), straight lines (n=2), a straight line with excised rays (n=1, probably from a Ripley Engraved bottle, see Suhm and Jelks 1962:Plate 65f, h), a V-shaped element (n=1), and a circular element with an internal straight engraved line. This latter sherd is also from a Ripley Engraved bottle.

One engraved sherd from a short-rimmed carinated bowl has horizontal lines and a circular element. This sherd is likely from a Simms Engraved vessel, based on the distinctive short rim (cf. Suhm and Jelks 1962:Plate 71a-d, f). The other identifiable fine ware type in the Tom Hanks ceramic assemblage is Ripley Engraved. Ripley Engraved sherds include a rim with a continuous scroll (i.e., lacks a central element, see Figure 3h), and body sherds with scroll (see Figure 3d), scroll and circle (see Figure 3e), and circle (n=3) elements. Another Ripley Engraved sherd is from the rim of a vessel with parallel engraved lines and excised pendant triangles, while another sherd from the rim panel of a Ripley Engraved carinated bowl has portions of a cross-hatched bracket and a horizontal scroll.

There are a number of carinated bowl sherds that have stylistically undiagnostic geometric engraved elements. These include diagonal engraved lines on a rim (n=1), parallel lines (n=2), opposed engraved lines (n=2), and a single straight line on body sherds (n=5). One body sherd has a curvilinear engraved line, three others have cross-hatched engraved zones (see Figure 3b), and one has both hatched and cross-hatched zones (see Figure 3i).

Compound bowl sherds are represented by seven sherds from upper and/or lower panels of these large vessels. Two have widely-spaced horizontal engraved lines and an associated hatched zone (see Figure 3f-g), while the five other compound bowl sherds simply have one or two widely-spaced horizontal engraved lines (likely on the upper panel of vessels).

UTILITY WARES

The utility ware sherds in the Tom Hanks ceramic assemblage are dominated by sherds from vessels with brushed decorative elements, either as the only means of decoration (62.7% of the utility wares, see Table 1), or in combination with applied (1.8%), applied-incised (0.6%), incised (7.3%), or punctated (1.2%) elements. Taken together, 77% of the utility wares from the site have brushed decorative elements, and 59% of all the decorated sherds in the site collection have brushed decorative elements.

Incised body sherds from Maydelle Incised jars comprise 12.7% of the utility wares in the Tom Hanks ceramic assemblage. These sherds have cross-hatched (n=1, Figure 4b), parallel (n=11, Figure 4a, c), opposed (n=2), and straight (n=2) lines.

Only two sherds have incised-punctated decorative elements. The first is a lower rim-body sherd with horizontal incised lines on the rim and a row of tool punctates at the rim-body juncture (see Figure 4d), while the second is a Maydelle Incised rim with a diagonal incised line (likely forming a triangular element) and a tool punctated-filled zone (Figure 5c).

The few punctated sherds have rows of tool punctates under the vessel lip (see Figure 5b, n=1) and on the body (see Figure 5a, n=1), and one rim sherd has a row of circular punctations under the lip. Two body sherds have only a single tool punctate.

There are three body sherds from La Rue Neck Banded jars in the Tom Hanks site ceramic assemblage. They have parallel neck bands on the rim and upper part of the vessel (Figure 6a-c).

The one applied sherd is a body sherd with a straight applied fillet (Figure 7f). Another body sherd has a straight applied ridge with diagonal incised lines on the applied element (Figure 7a). Three applied body sherds also have brushing marks: one with a straight applied ridge and parallel brushing, a

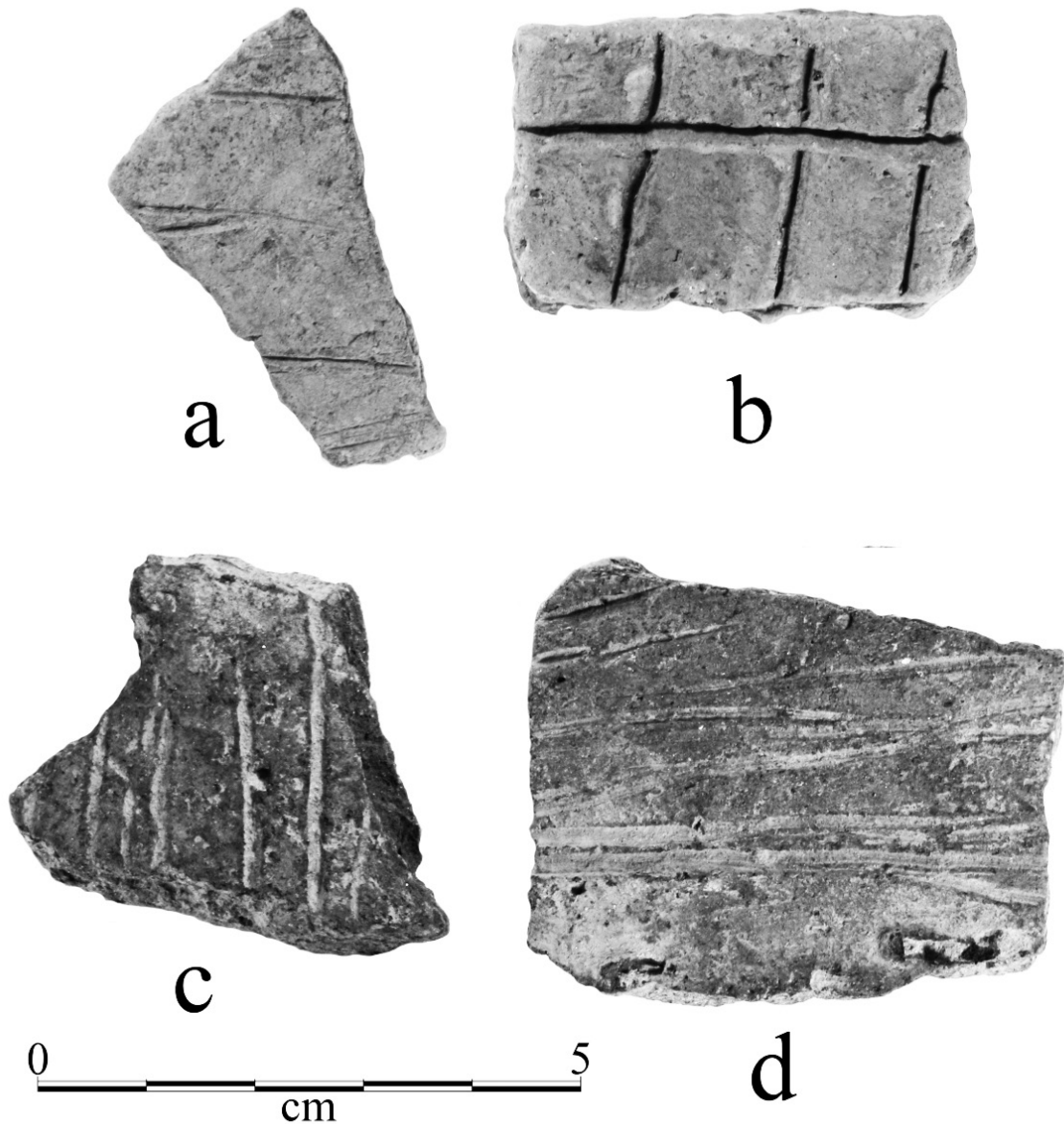


Figure 4. Incised and incised-punctated sherds: a, c, parallel incised lines; b, cross-hatched lines; d, horizontal incised lines on lower rim above row of tool punctates.

Harleton Applied sherd with a V-shaped applied ridge and vertical brushing marks, and a third with a straight applied fillet and parallel brushing (Figure 7e).

One distinctive rim has vertical incised lines on either side of a vertical applied fillet; there is also a tool punctated row under the vessel lip (see Figure 7c). Another body sherd has parallel applied ridges with parallel incised lines between the ridges, and there is an opposing area with parallel brushing marks (see Figure 7d).

Sherds from the site with only brushing include both rim and body sherds from jars. These jars, probably from Bullard Brushed vessels, have horizontal brushing on the rim (n=3, Figure 8a) and diagonal brushing on the rim (n=1, Figure 8f), and horizontal (n=1), parallel (n=73, likely the brushing is oriented vertically, Figure 8b-e), opposed (n=1), and overlapping (n=1) brushed marks on the vessel body.

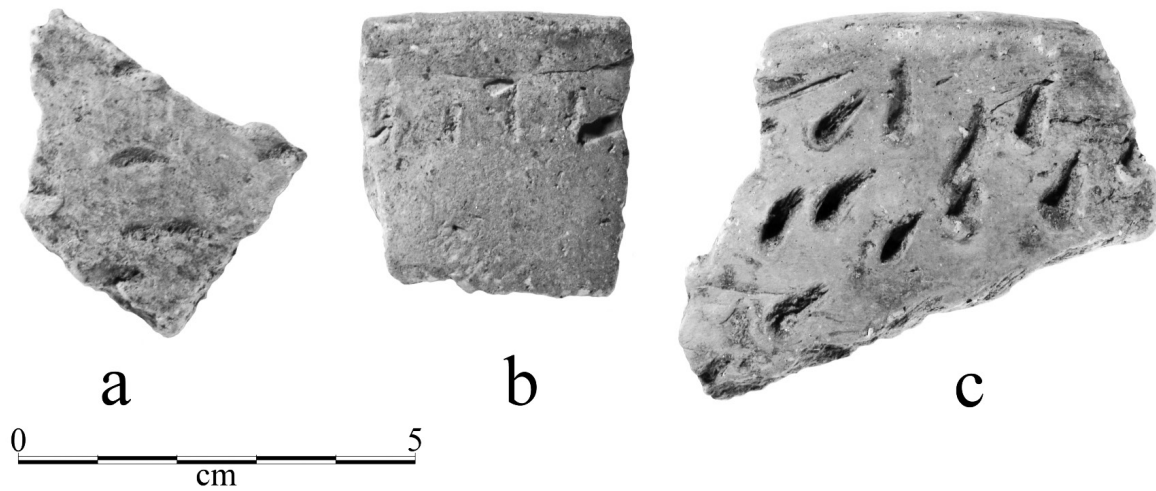


Figure 5. Punctated and incised-punctated sherds: a, tool punctated rows; b, tool punctated row under lip; c, diagonal incised and tool punctated-filled zone.

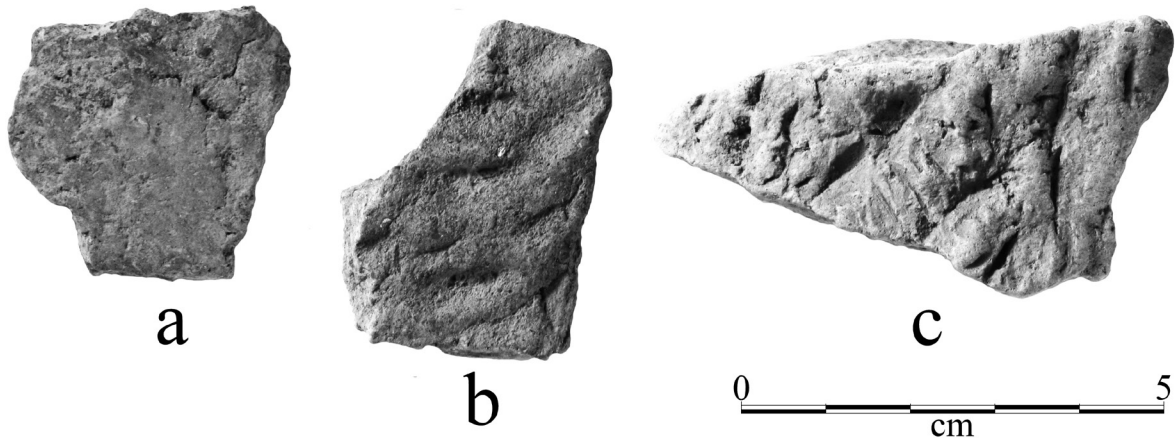


Figure 6. Neck Banded body sherds.

There are 12 brushed-incised body sherds in the utility wares. Nine have parallel brushing marks and incised lines, one has parallel incised lines and opposed brushing marks, another has diagonal and horizontal incised lines and diagonal brushing marks, and the last sherd has overlapping brushed marks and incised lines. The two brushed-punctated sherds comprise 1.6% of the utility wares at the site. One rim has horizontal brushing marks with a tool punctated row pushed through the brushing, while a body sherd has parallel and opposed brushing marks with a tool punctated row pushed through the brushing (see Figure 7b).

Late 19th Century Artifacts in the Collection

The late 19th century artifacts from the Tom Hanks site include one brown lead-glazed stoneware sherd that was popular in East Texas between ca. 1870-1900 (see Lebo 1987), along with an iron button. The button, likely from a set of overalls, is stamped with “ATLANTA M.L. & CO.” along one side of its outer perimeter.

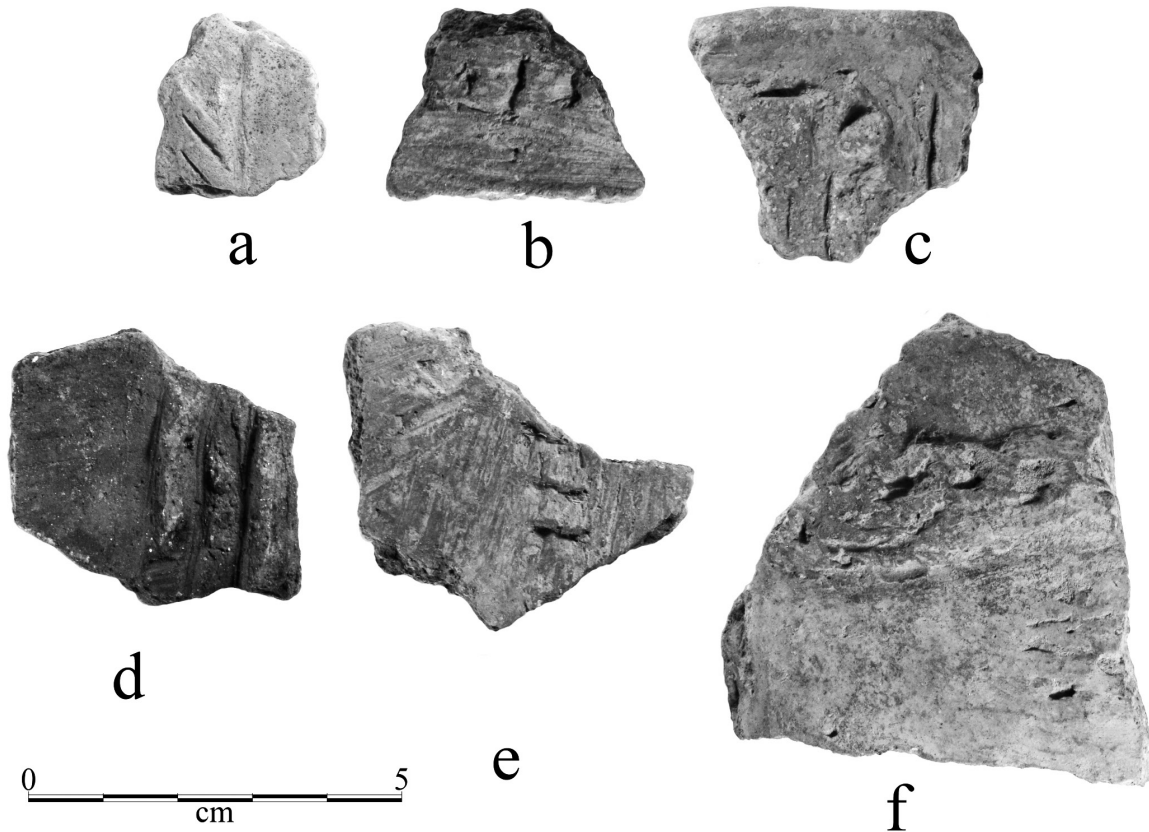


Figure 7. Various utility wares in the Tom Hanks site ceramic assemblage: a, straight applied ridge with diagonal incised lines on the applied element; b, parallel and opposed brushed and tool punctated row through the brushing; c, vertical incised lines-vertical applied fillet-tool punctated row under lip; d, parallel applied ridges-parallel incised lines between ridges-opposed brushed; e, straight applied fillet and parallel brushed; f, straight applied fillet.

SUMMARY AND CONCLUSIONS

The Tom Hanks site (41CP239) is a Late Caddo, Titus phase (ca. A.D. 1430-1680) mound center in the mid-reaches of the Big Cypress Creek basin. This site has two small earthen mounds that probably capped important structures of the political elite that had been burned before they were buried with several feet of sediments that marked their place in the community. There are several other Titus phase mound sites and large community cemeteries in this part of the Big Cypress Creek basin, including mounds at the Pilgrim's Pride (41CP304) and Tiddle Lake (41CP246) sites and community cemeteries at the Harold Williams (41CP10), Tuck Carpenter (41CP5), and W-S (41TT741) sites (Perttula 2012:369 and Figure 13-2).

Robert L. Turner, Jr. obtained a small surface collection of Titus phase artifacts from a disturbed area not far to the north of the mounds. The assemblage is comprised of ceramic sherds from plain ware, utility ware, and fine ware vessels. The sherds are primarily from vessels tempered with grog, but bone-tempered vessels are also present. The greatest part of the ceramic assemblage is from utility wares, particularly utility wares with brushing marks on the rim and/or body of cooking and storage jars. But there are a wide range of decorative methods and elements in the utility wares besides brushing, including applied, brushed-incised, brushed-punctated, incised, neck banded, and punctated decorations in various rim and body combinations. Identified utility wares at the Tom Hanks site include Bullard Brushed, Harleton Applied, La Rue Neck Banded, and Maydelle Incised. The fine ware sherds (engraved and red-slipped) are from carinated bowls, compound bowls, and bottles, primarily from Ripley Engraved vessels, the most common fine ware in Titus

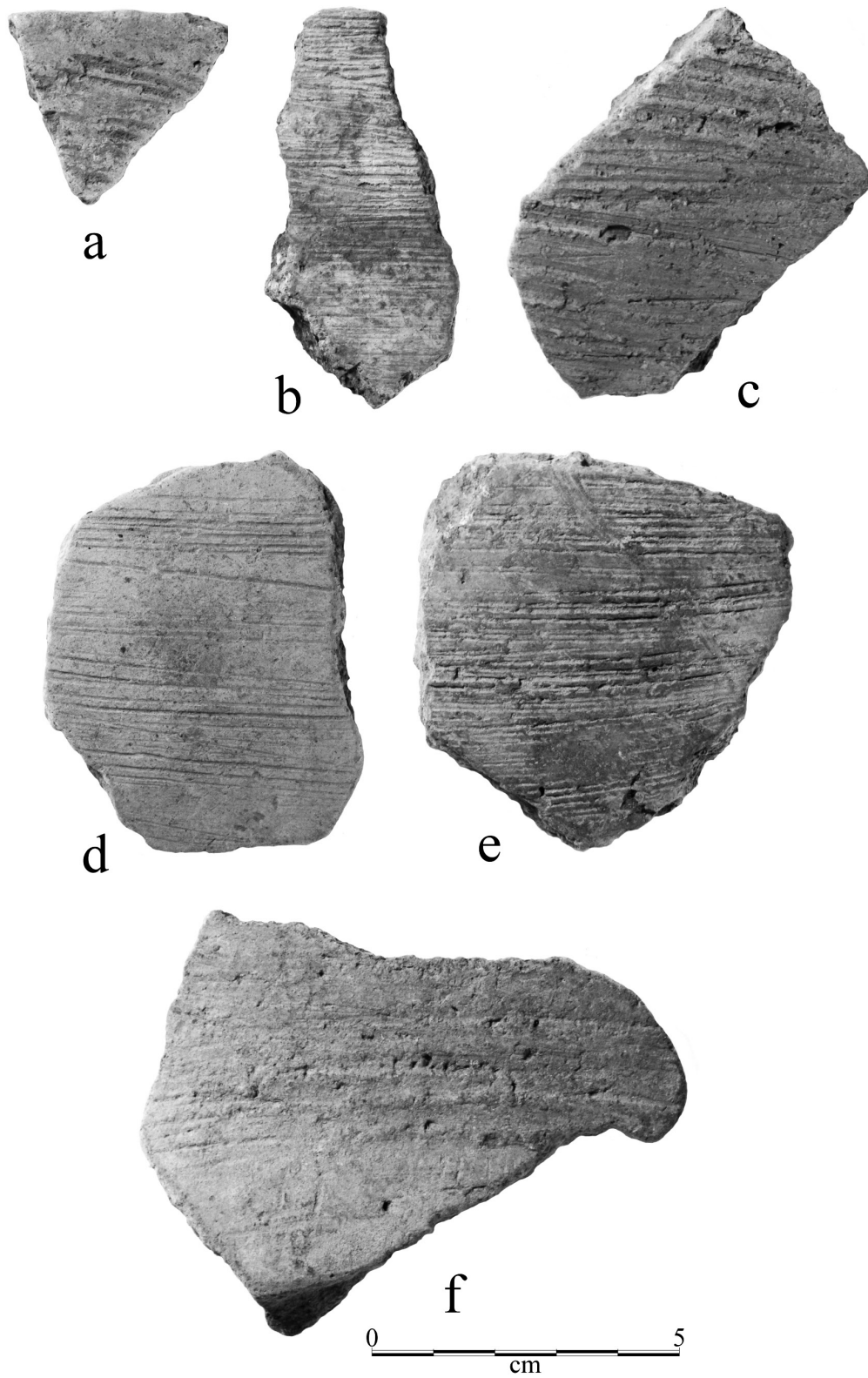


Figure 8. Brushed sherds: a, horizontal brushed; b-e, parallel brushed; f, horizontal and diagonal brushed.

phase sites in the Big Cypress Creek basin. There is one engraved sherd that may be from a short-rimmed Simms Engraved vessel. The engraved motifs feature scrolls, scroll and circle, and circle elements, and their predominance suggests that the Tom Hanks site occupation likely pre-dates ca. A.D. 1600, but the probable age of the occupation is far from well established. Finally, several substantial pieces of daub in the collection indicate that there is at least one burned Caddo structure at the Tom Hanks site.

ACKNOWLEDGMENTS

Lance Trask prepared the maps and artifact figures used in this article.

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The Dave Spencer Site on Middle Lilly Creek in Camp County, Texas

Timothy K. Perttula and Bo Nelson

INTRODUCTION

The Dave Spencer site (41CP497) is an ancestral Caddo site in the Middle Lilly Creek valley in southwestern Camp County, Texas (Figure 1). It is situated on a lower upland ridge slope (350-355 feet amsl) about 200 m south of the current channel of Middle Lilly Creek. This creek is an eastward-flowing stream in the Little Cypress Creek basin.

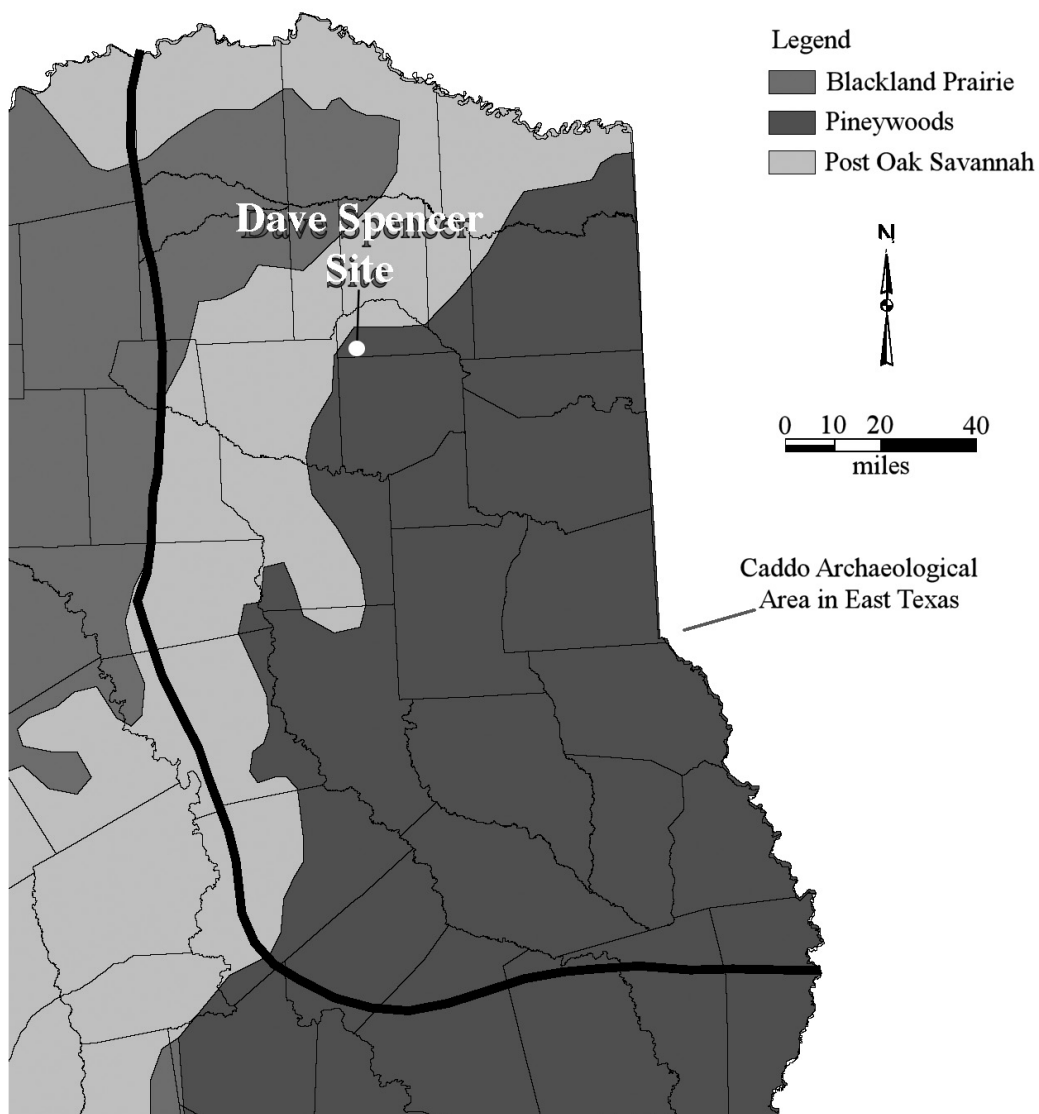


Figure 1. The location of the Dave Spencer site in Camp County in the East Texas Pineywoods. Figure prepared by Lance Trask.

Robert L. Turner, Jr. identified the site some years ago, and obtained a surface collection from it. The analysis of the artifacts in that surface collection are the subject of this article.

ARTIFACT COLLECTION

The surface collection made by Turner includes both lithic and ceramic artifacts, but primarily the latter.

Lithic Artifacts

The lithic artifacts from the Dave Spencer site consist of three pieces of lithic debris from stone tool manufacture and maintenance activities. This includes a cortical piece of heat-treated novaculite and two pieces of local quartzite. One of the quartzite pieces had a stream-rolled cortical surface, and has been heat-treated.

Ceramic Sherds

There are 74 ceramic sherds in the Dave Spencer site surface collection, 53 plain sherds and 21 decorated sherds. The plain to decorated sherd ratio is 2.52. Approximately 85% of the sherds are from grog-tempered vessels, and the other 15% are tempered with crushed and burned bone.

Plain Sherds

One of the 53 plain sherds is from a bottle, and the other plain sherds include 42 body sherds and 10 base sherds. Approximately 13% of the plain sherds are from bone-tempered vessels.

Utility Ware Sherds

The utility wares (n=10) at the Dave Spencer site include both incised and punctated vessels. Twenty percent of the utility wares are from bone-tempered vessels. Three body sherds, all grog-tempered, have parallel incised lines. The remainder of the utility wares are from punctated vessels. One bone-tempered rim has a row of tool punctations at the lip, and there are four body sherds with rows of tool punctations. Two body sherds are covered with fingernail punctations.

Fine Ware Sherds

The fine ware sherds include sherds from red-slipped bowls (n=3) and eight engraved rim and body sherds from carinated bowls and a bottle; 18% of the sherds are from bone-tempered vessels. The red-slipped sherds are from grog-tempered vessels, and they either have a red slip on both sherd surfaces (n=2) or only on the exterior surface.

The engraved carinated bowl sherds have simple geometric decorative elements: diagonal lines (n=2), a straight line (n=3), parallel lines (n=1), and vertical lines (n=1). The engraved lines are finely drawn, not broad in execution. The one engraved bottle sherd has a narrow zone filled with diagonal hatched lines; a red ochre-rich pigment has been rubbed in the engraved design.

SUMMARY AND CONCLUSIONS

The Dave Spencer site is an ancestral Caddo site, probably a domestic settlement, in the Middle Lilly Creek valley in the Little Cypress Creek basin in the East Texas Pineywoods. A small surface collection has been obtained from the site by Robert L. Turner, Jr. Other than lithic debris, the surface collection contains

a sample of plain ware sherds, utility ware (incised and punctated jars), and fine ware (red-slipped and engraved carinated bowls and bottles) sherds from grog-tempered (85%) and bone-tempered (15%) vessels.

Although none of the decorated sherds can be definitely identified as belonging to one of the current East Texas Caddo ceramic types (e.g., Suhm and Jelks 1962), it is possible to determine the temporal affiliation of the Dave Spencer site by comparison with other known and/or radiocarbon-dated sites in the Big and Little Cypress Creek basins (see Perttula and Ellis 2012). In the Big and Little Cypress Creek basins, pre-A.D. 1200 Caddo sites do not have brushed utility ware ceramics. Utility wares are dominated by punctated, incised, and punctated-incised elements and motifs, and various kinds of engraved fine wares. There are no brushed sherds in the Dave Spencer ceramic assemblage, which strongly suggests it was occupied sometime prior to ca. A.D. 1200.

The pre-A.D. 1200-1250 East Texas Caddo sites in the Big and Little Cypress Creek basins in East Texas comprise a distinctive assemblage of relatively simple straight and geometric designs on fine wares and utility wares, and curvilinear engraved and excised designs on bottles; the Dave Spencer site belongs to this cultural tradition. In none of the sites that date to this time period that have been well-documented is brushed utility ware at all common (accounting for less than 4% of all the decorated sherds in any one assemblage), and in most cases, brushed utility wares are not a feature of these assemblages (Perttula and Ellis 2012:Table 8-24). It is apparently only after ca. A.D. 1260 that brushed utility wares make their appearance in East Texas Caddo assemblages, and its manufacture and use is one of the ceramic signatures of the Middle Caddo period in many sites in both the Big and Little Cypress Creek stream basins.

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The Mud Creek Site in the Angelina River Basin, Cherokee County, Texas

Timothy K. Perttula and Bo Nelson

INTRODUCTION

There are four vessels in the Buddy Jones collection at the Gregg County Historical Museum from the Mud Creek site, also known as the Damon Ramey site; it has not been formally recorded and does not have a state trinomial. This site is near Reklaw, Texas, by U.S. 84 where it crosses Mud Creek, a major southward-flowing tributary to the Angelina River (Figure 1). Bill Young, now deceased, had told the senior author several years ago about a Caddo cemetery at this approximate location on Mud Creek.

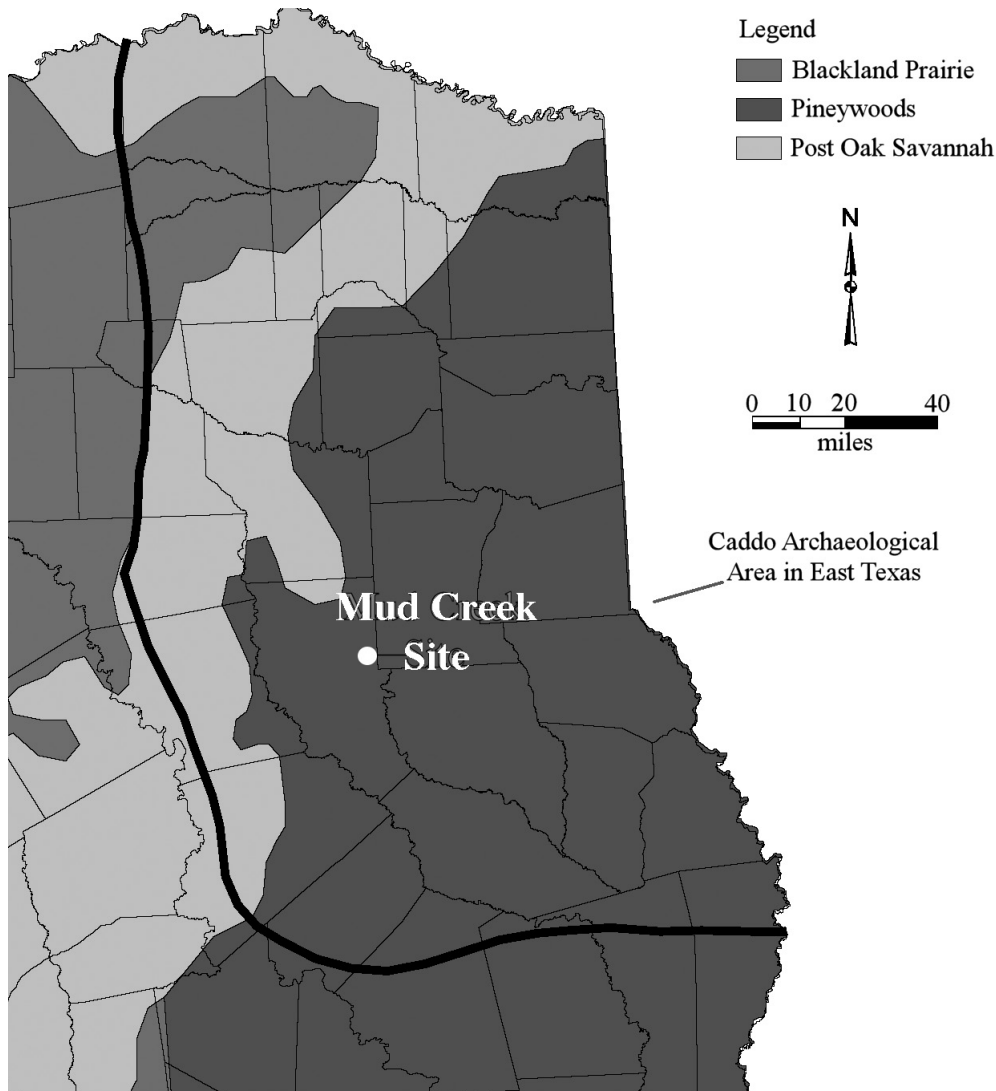


Figure 1. The location of the Mud Creek site in Cherokee County, in the East Texas Pineywoods.

According to Jones, a total of five burials were excavated here, although it is not known if all five burials were excavated by Jones or instead by other unknown individuals. The four vessels documented from the site are from Burials 3 and 4.

VESSEL RECORDATION FORMS

SITE NAME OR SITE NUMBER: Mud Creek

VESSEL NO.: #7, 2003.08.739, Burial 3

NON-PLASTICS AND PASTE: grog/sandy paste

VESSEL FORM: Bowl

RIM AND LIP FORM: Direct rim and an exterior folded Redwine mode lip with 15 scalloped/folded edges (Figure 2c)

CORE COLOR: F (fired in a reducing environment and cooled in the open air)

INTERIOR SURFACE COLOR: reddish-brown

EXTERIOR SURFACE COLOR: reddish-brown

WALL THICKNESS (RIM, BODY, AND BASE IN MM): rim, 6.2 mm

INTERIOR SURFACE TREATMENT: burnished

EXTERIOR SURFACE TREATMENT: burnished

HEIGHT (IN CM): 5.5

ORIFICE DIAMETER (IN CM): 17.1

DIAMETER AT BOTTOM OF RIM OR NECK (IN CM): N/A

BASE DIAMETER (IN CM) AND SHAPE OF BASE: 7.2; flat and circular base

ESTIMATED VOLUME (IN LITERS): 0.4

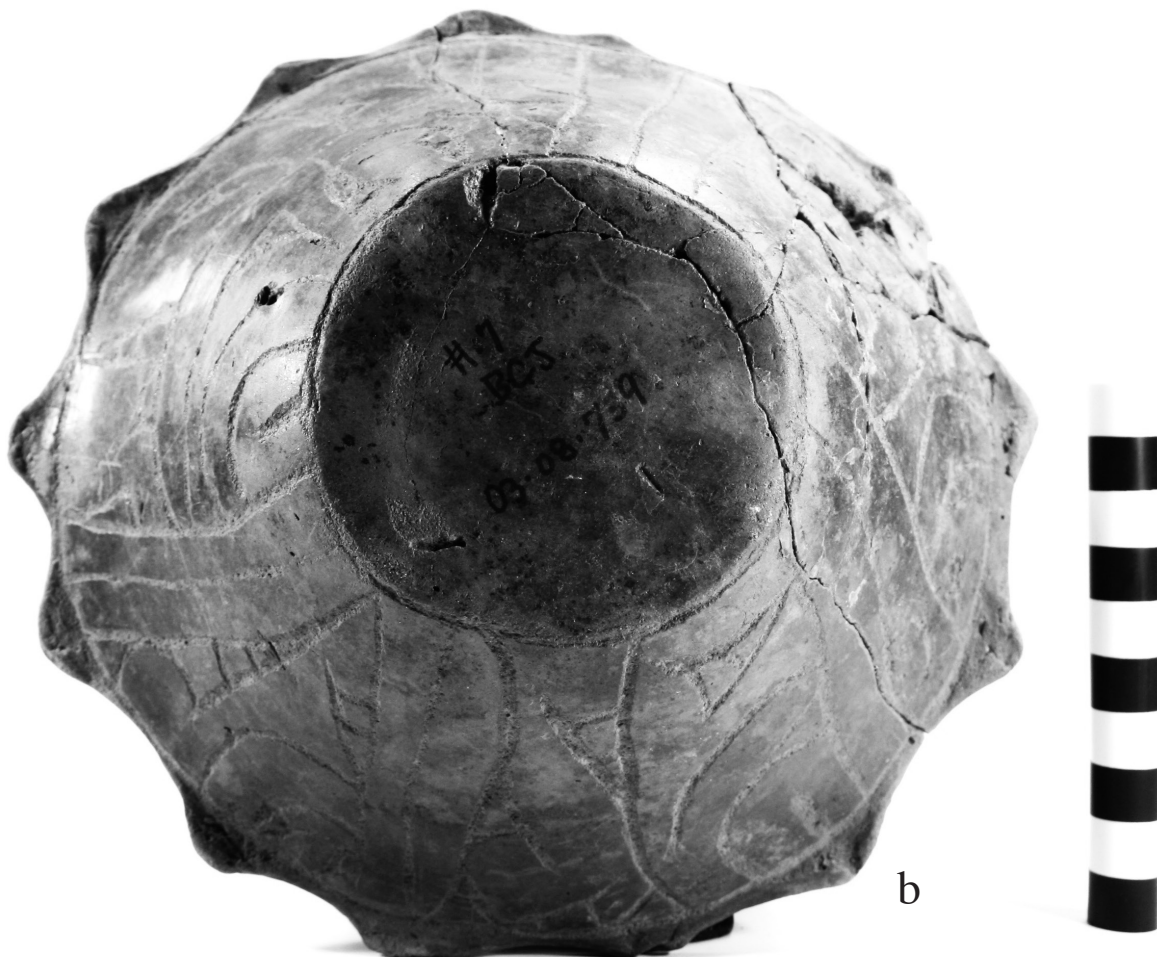
DECORATION (INCLUDING MOTIF AND ELEMENTS WHEN APPARENT): The bowl is decorated with four engraved panels divided by sets of two diagonal engraved lines that extend from near the rim (and a single horizontal engraved line that encircles the vessel) to the vessel base. The panels are filled with narrow triangular-shaped hatched zones, open triangles, sets of concentric semi-circles, and hooked arm elements. No two panels have the same combination or spatial arrangement of decorative elements (Figure 2a-b).

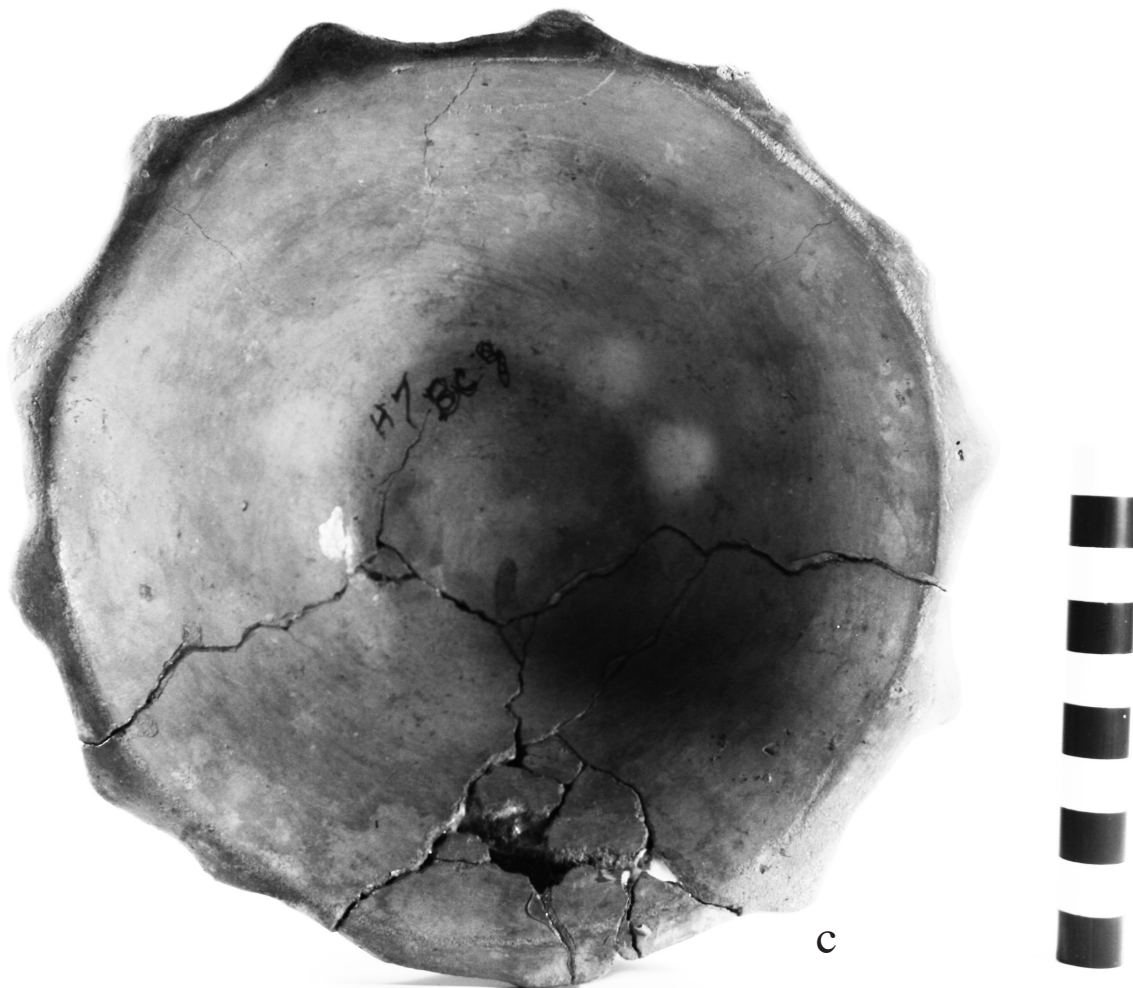
PIGMENT USE AND LOCATION ON VESSEL: none

TYPE AND VARIETY [IF KNOWN]: Unidentified fine ware



Figure 2. Engraved bowl with Redwine mode rim from Burial 3 at the Mud Creek site: a, side view; b, bottom view; c, top view showing Redwine mode rim.





SITE NAME OR SITE NUMBER: Mud Creek

VESSEL NO.: 2003.08.789, Burial 3

NON-PLASTICS AND PASTE: grog

VESSEL FORM: Carinated bowl, globular

RIM AND LIP FORM: Direct rim and a rounded lip

CORE COLOR: F (fired in a reducing environment and cooled in the open air)

INTERIOR SURFACE COLOR: dark yellowish-brown; fire clouds on the rim and base

EXTERIOR SURFACE COLOR: dark yellowish-brown; fire clouds on the rim, body, and base

WALL THICKNESS (RIM, BODY, AND BASE IN MM): rim, 4.3 mm

INTERIOR SURFACE TREATMENT: burnished on the rim, otherwise smoothed

EXTERIOR SURFACE TREATMENT: burnished

HEIGHT (IN CM): 11.9

ORIFICE DIAMETER (IN CM): 13.8

DIAMETER AT BOTTOM OF RIM OR NECK (IN CM): 13.4

BASE DIAMETER (IN CM) AND SHAPE OF BASE: 8.2; circular and flat base

ESTIMATED VOLUME (IN LITERS): 0.98

DECORATION (INCLUDING MOTIF AND ELEMENTS WHEN APPARENT): The rim is divided into seven horizontal panels by sets of narrow vertical columns. These columns are filled with sets of chevron-shaped engraved lines (Figure 3).

PIGMENT USE AND LOCATION ON VESSEL: none

TYPE AND VARIETY [IF KNOWN]: cf. Poynor Engraved, *var. Blackburn* (Perttula 2011:Figure 6-64a-b')



Figure 3. cf. Poynor Engraved, *var. Blackburn* globular carinated bowl, Burial 3 at the Mud Creek site.

SITE NAME OR SITE NUMBER: Mud Creek

VESSEL NO.: 2003.08.1759, Burial 4

NON-PLASTICS AND PASTE: grog/sandy paste

VESSEL FORM: Bottle

RIM AND LIP FORM: Direct rim and a flat lip

CORE COLOR: A (fired and cooled in an oxidizing environment)

INTERIOR SURFACE COLOR: red

EXTERIOR SURFACE COLOR: red

WALL THICKNESS (RIM, BODY, AND BASE IN MM): rim, 3.9 mm

INTERIOR SURFACE TREATMENT: none

EXTERIOR SURFACE TREATMENT: burnished; possibly slipped

HEIGHT (IN CM): 15.6

ORIFICE DIAMETER (IN CM): 4.4

DIAMETER AT BOTTOM OF RIM OR NECK (IN CM): 6.7; maximum body width of 10.3 cm

BASE DIAMETER (IN CM) AND SHAPE OF BASE: 8.3; circular and flat

ESTIMATED VOLUME (IN LITERS): 0.5

DECORATION (INCLUDING MOTIF AND ELEMENTS WHEN APPARENT): There is an engraved decoration on the bottle neck, and the body is plain. There are two rectangular panels with nested circles, ovals, and an interior hooked arm element (Figure 4).

PIGMENT USE AND LOCATION ON VESSEL: none

TYPE AND VARIETY [IF KNOWN]: cf. Poynor Engraved, regional *var. L.* (Perttula 2011:Figure 6-65).

SITE NAME OR SITE NUMBER: Mud Creek

VESSEL NO.: 2003.08.19, Burial 4

NON-PLASTICS AND PASTE: grog

VESSEL FORM: Globular four-sided carinated bowl

RIM AND LIP FORM: Everted rim and a rounded lip

CORE COLOR: B (fired and cooled in a reducing environment)



Figure 4. cf. Poynor Engraved, *var. L* bottle, Burial 4, Mud Creek site.

INTERIOR SURFACE COLOR: dark grayish-brown; fire clouds on the rim and body

EXTERIOR SURFACE COLOR: dark grayish-brown; fire clouds on the rim, body, and base

WALL THICKNESS (RIM, BODY, AND BASE IN MM): rim, 4.9 mm

INTERIOR SURFACE TREATMENT: burnished

EXTERIOR SURFACE TREATMENT: burnished

HEIGHT (IN CM): 10.8

ORIFICE DIAMETER (IN CM): 13.8

DIAMETER AT BOTTOM OF RIM OR NECK (IN CM): 13.7

BASE DIAMETER (IN CM) AND SHAPE OF BASE: 8.3; circular and flat

ESTIMATED VOLUME (IN LITERS): 0.89

DECORATION (INCLUDING MOTIF AND ELEMENTS WHEN APPARENT): The rim is divided into eight oval-shaped panels by a series of hatched engraved brackets or panel dividers. The top and bottom of the rim panel is defined by single horizontal engraved lines (Figure 5).

PIGMENT USE AND LOCATION ON VESSEL: none

TYPE AND VARIETY [IF KNOWN]: Poynor Engraved, *var. Hood* (Perttula 2011:Figure 6-64e).



Figure 5. Poynor Engraved, *var. Hood* carinated bowl, Burial 4, Mud Creek site.

SUMMARY

Four ancestral Caddo ceramic vessels from the Mud Creek site in Cherokee County, Texas have been documented in the Buddy Jones collection at the Gregg County Historical Museum from two burials in an unrecorded cemetery here. The vessels are grog-tempered fine wares from several different varieties of Poynor Engraved, a local fine ware made by Frankston phase (ca. A.D. 1400-1650) Caddo peoples in the Neches-Angelina River basins. These different varieties, including cf. *var. Blackburn*, *var. Hood*, and regional variety *Var. L* suggest that the Caddo cemetery was in use sometime between ca. A.D. 1400-1560 (Perttula 2011:Table 6-37).

ACKNOWLEDGMENTS

We appreciate the logistical support and assistance provided by Patti Haskins of the Gregg County Historical Museum. Lance Trask prepared Figure 1.

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A Frankston Phase Settlement and Cemetery at the H. C. Slider Site on the Neches River in Cherokee County, Texas

Timothy K. Perttula and Bo Nelson

INTRODUCTION

The H. C. Slider site is a previously undocumented Late Caddo habitation site and cemetery in the Neches River valley in western Cherokee County, in the East Texas Pineywoods (Figure 1). The site was found and investigated by Buddy Calvin Jones in November and December 1967. His notes and collections from the site are curated at the Gregg County Historical Museum in Longview, Texas.

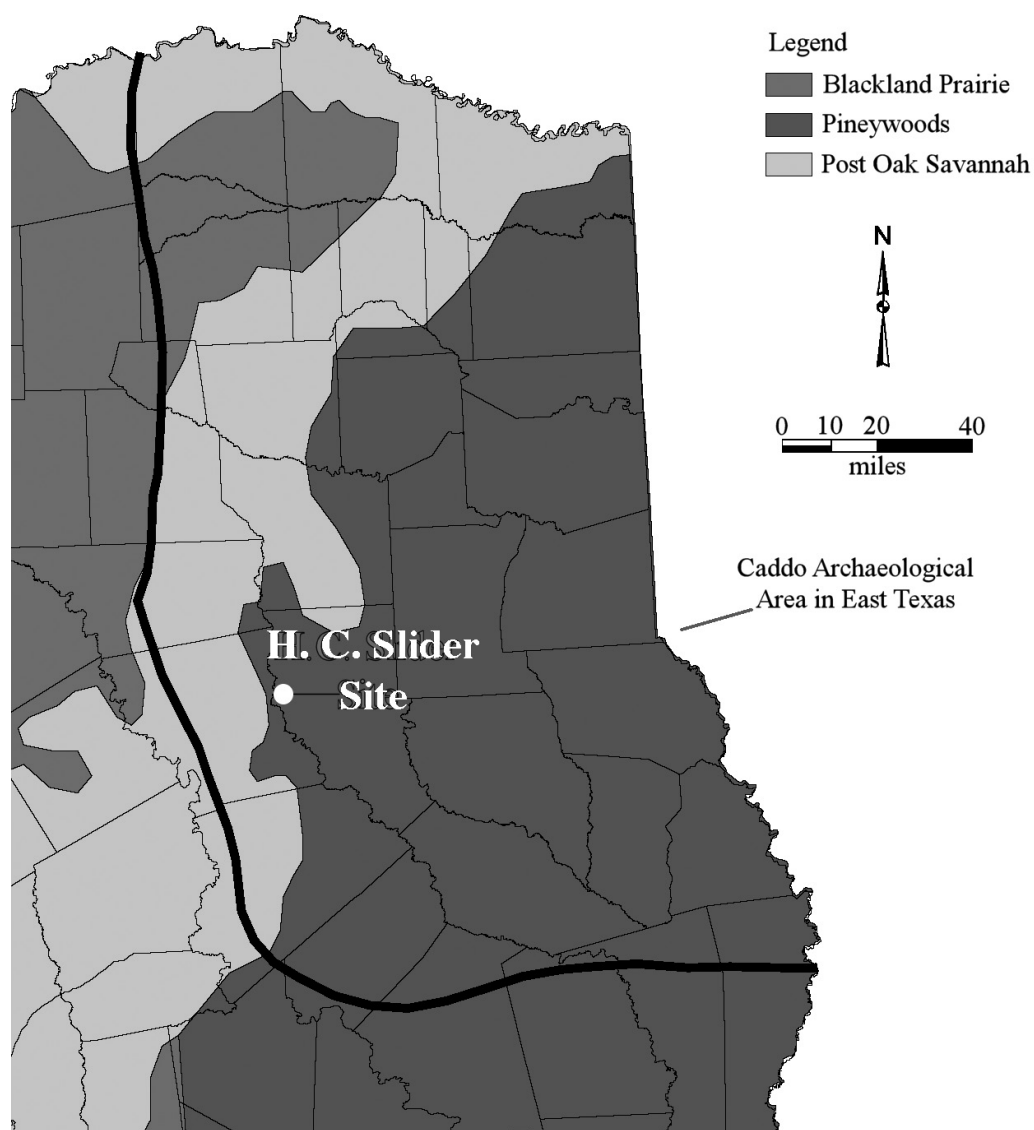


Figure 1. The location of the H. C. Slider site in East Texas.

According to Jones' notes, the site is on three sandy knolls along a Neches River terrace, approximately 11 miles southwest of the city of Jacksonville. These knolls (A-C) have midden deposits with ceramic sherds and lithic artifacts (Figure 2). Knoll A has a cemetery, and Jones excavated four burials (Burials 1-4) at the northern end of the knoll (Figure 3).

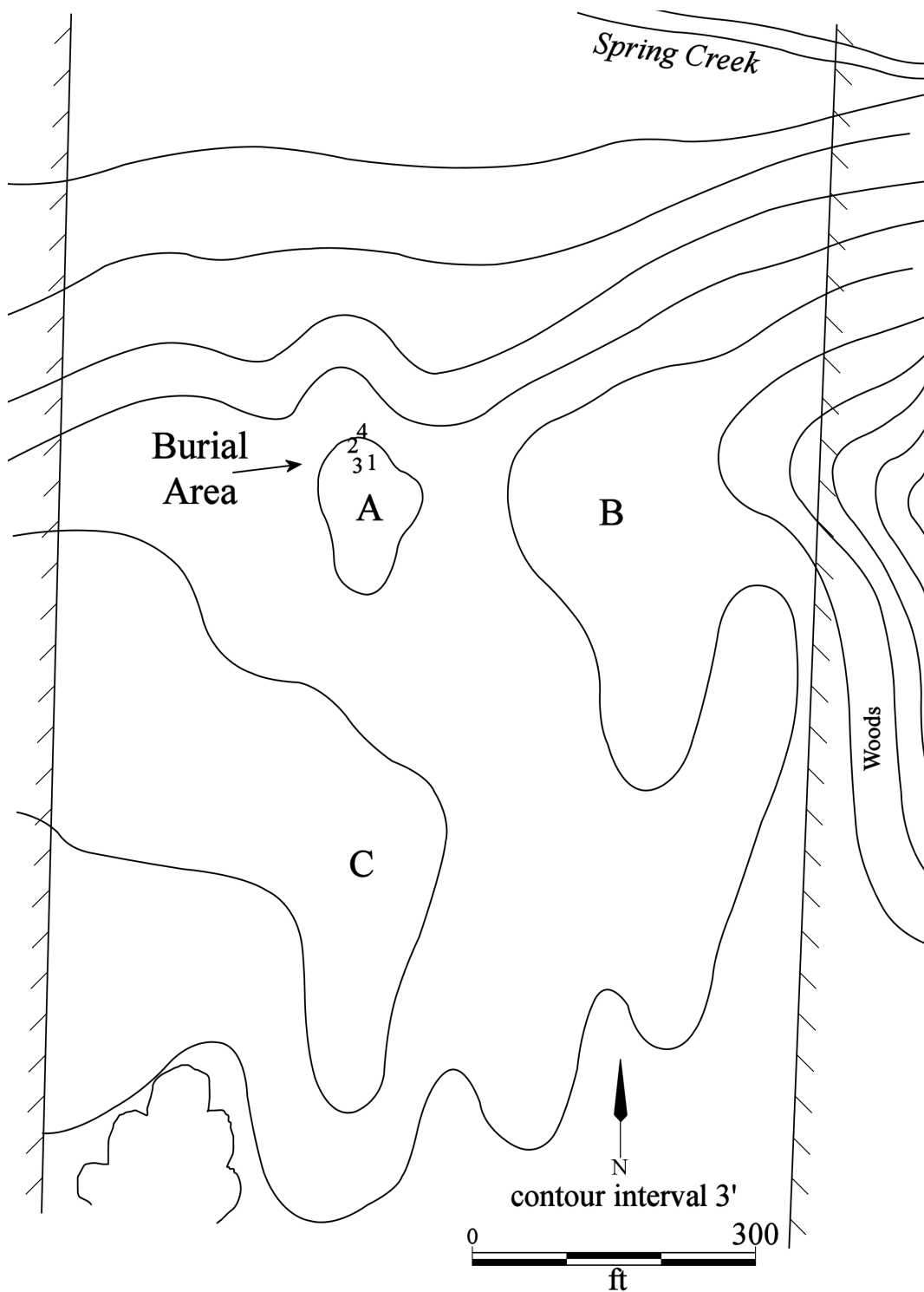


Figure 2. Map of Knolls A-C at the H. C. Slider site.

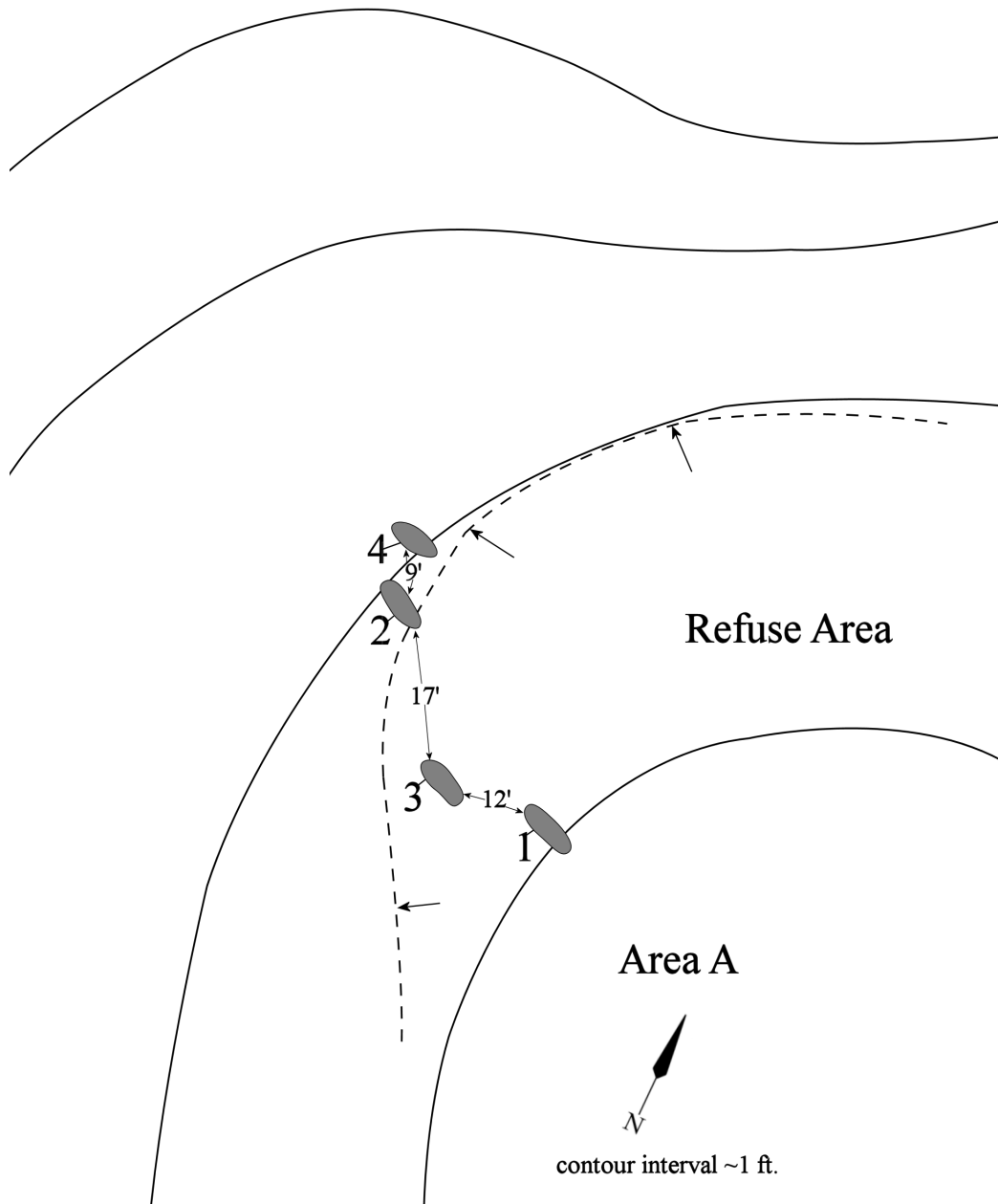


Figure 3. Burials 1-4 in Area A at the H. C. Slider site.

BURIAL EXCAVATIONS

The four burials excavated by Jones at the H. C. Slider site are dispersed across a ca. 10 m long area at the northwestern edge of the Area A knoll (see Figure 4). The burial pits were oriented northwest-southeast, with single individuals interred in an extended position, with their heads apparently at the southeastern end of the pits, facing to the northwest. Each of the burials contains ceramic vessels as associated funerary offerings.

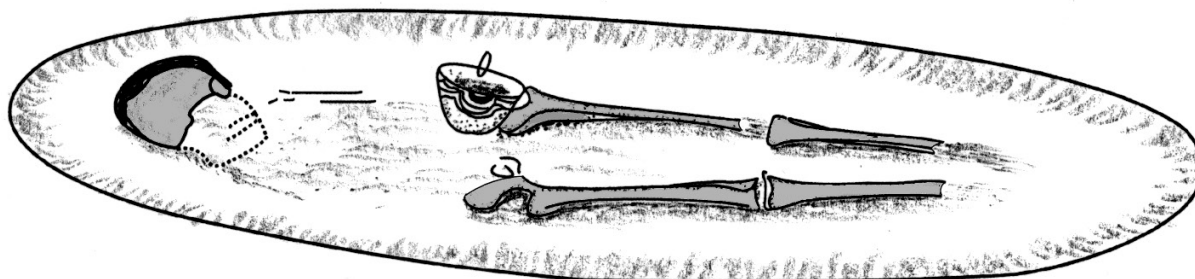


Figure 4. Burial 1 at the H. C. Slider site.

Burial 1

Burial 1 is that of a young adult; the human remains were poorly preserved, including part of the cranium and portions of the upper and lower leg bones (Figure 4). The burial pit extended to 1.12 m below the surface, reaching about 2 cm into the sterile B-horizon red clay. A single engraved effigy vessel was placed with this individual (Figure 5), resting against the left leg and pelvis area.

SITE NAME OR SITE NUMBER: H. C. Slider

VESSEL NO.: 2003.08.67, Burial 1, Vessel 1

NON-PLASTICS AND PASTE: grog

VESSEL FORM: Bowl with a tab tail (37 x 24 mm) and an effigy head (51 x 10 mm), probably a turkey (Figure 6a)

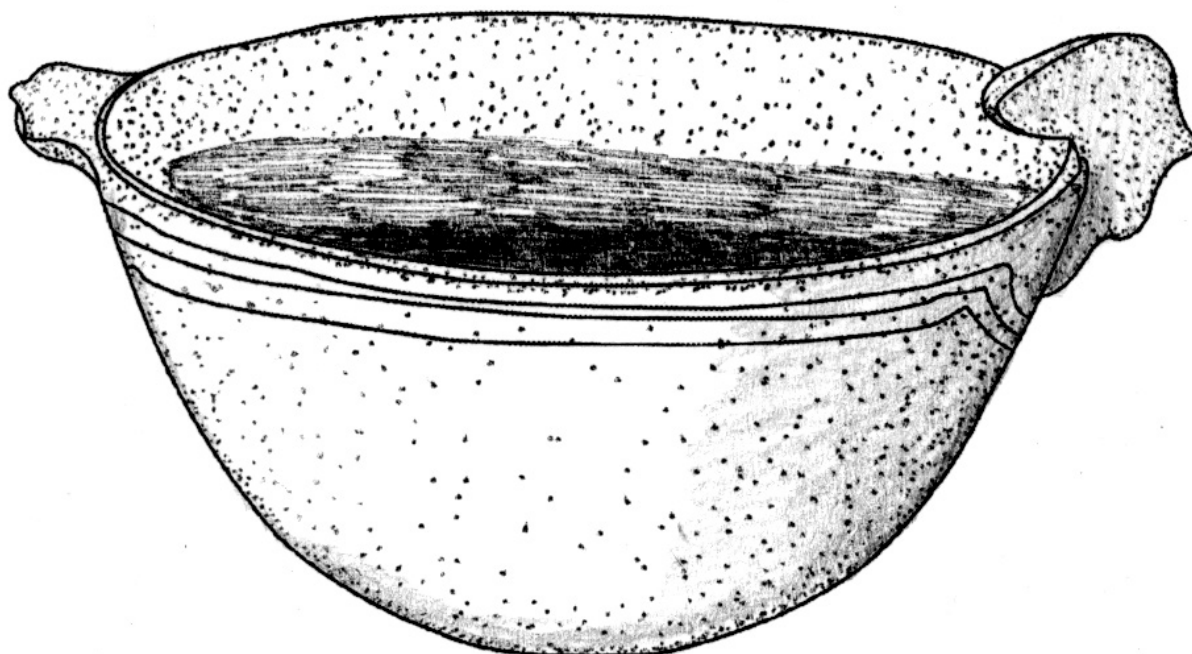


Figure 5. Vessel 1, Burial 1 at the H. C. Slider site.



Figure 6. Hood Engraved, *var. Hood* effigy bowl in Burial 1: a, side view; b, view under effigy head.

RIM AND LIP FORM: Direct rim with a rounded lip

CORE COLOR: F (fired in a reducing environment and cooled in the open air)

INTERIOR SURFACE COLOR: yellowish-brown; fire clouds on the rim and body

EXTERIOR SURFACE COLOR: dark yellowish-brown; fire clouds on the rim, body, and base

WALL THICKNESS (RIM, BODY, AND BASE IN MM): rim, 8.2 mm

INTERIOR SURFACE TREATMENT: smoothed

EXTERIOR SURFACE TREATMENT: burnished

HEIGHT (IN CM): 8.4; 10.5 cm at the top of the effigy head

ORIFICE DIAMETER (IN CM): 14.0

DIAMETER AT BOTTOM OF RIM OR NECK (IN CM): N/A

BASE DIAMETER (IN CM) AND SHAPE OF BASE: 9.5; flat and circular

ESTIMATED VOLUME (IN LITERS): 0.47

DECORATION (INCLUDING MOTIF AND ELEMENTS WHEN APPARENT): There are three horizontal engraved lines encircling the vessel along the rim (Figure 6a). Underneath the effigy head and the tab tail, the horizontal engraved lines turn to curvilinear lines as they dip under the vessel appendages (Figure 6b).

PIGMENT USE AND LOCATION ON VESSEL: red pigment rubbed in the engraved lines

TYPE AND VARIETY [IF KNOWN]: Hood Engraved, *var. Hood* (Perttula 2011:271)

Burial 2

Burial 2 was in a grave pit that was 91 cm in depth and 76 cm in width; the burial pit was estimated to be 1.52 m in length (Figure 7). Only fragmentary cranial remains and teeth were preserved in the grave. Six ceramic vessels were placed in the grave as funerary offerings: two jars above the head, a bottle by what would have been the left leg, and three vessels (two carinated bowls and a jar) by what would have been the lower right leg (see Figure 7). The vessels include two Killough Pinched jars, one with a pedestal base (Figure 8a, d), a Poynor Engraved bottle (Figure 8b), a Poynor Engraved carinated bowl (Figure 8c), a plain globular carinated bowl (Figure 8f), and a Bullard Brushed jar (Figure 8e).

Three of the vessels from Burial 2 remain in the Gregg County Historical Museum collections, and they have been documented for this article.

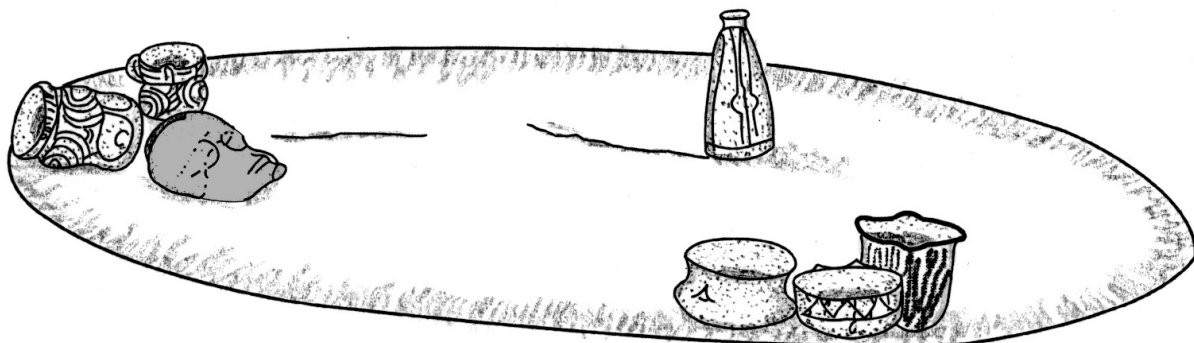


Figure 7. Burial 2 at the H. C. Slider site.

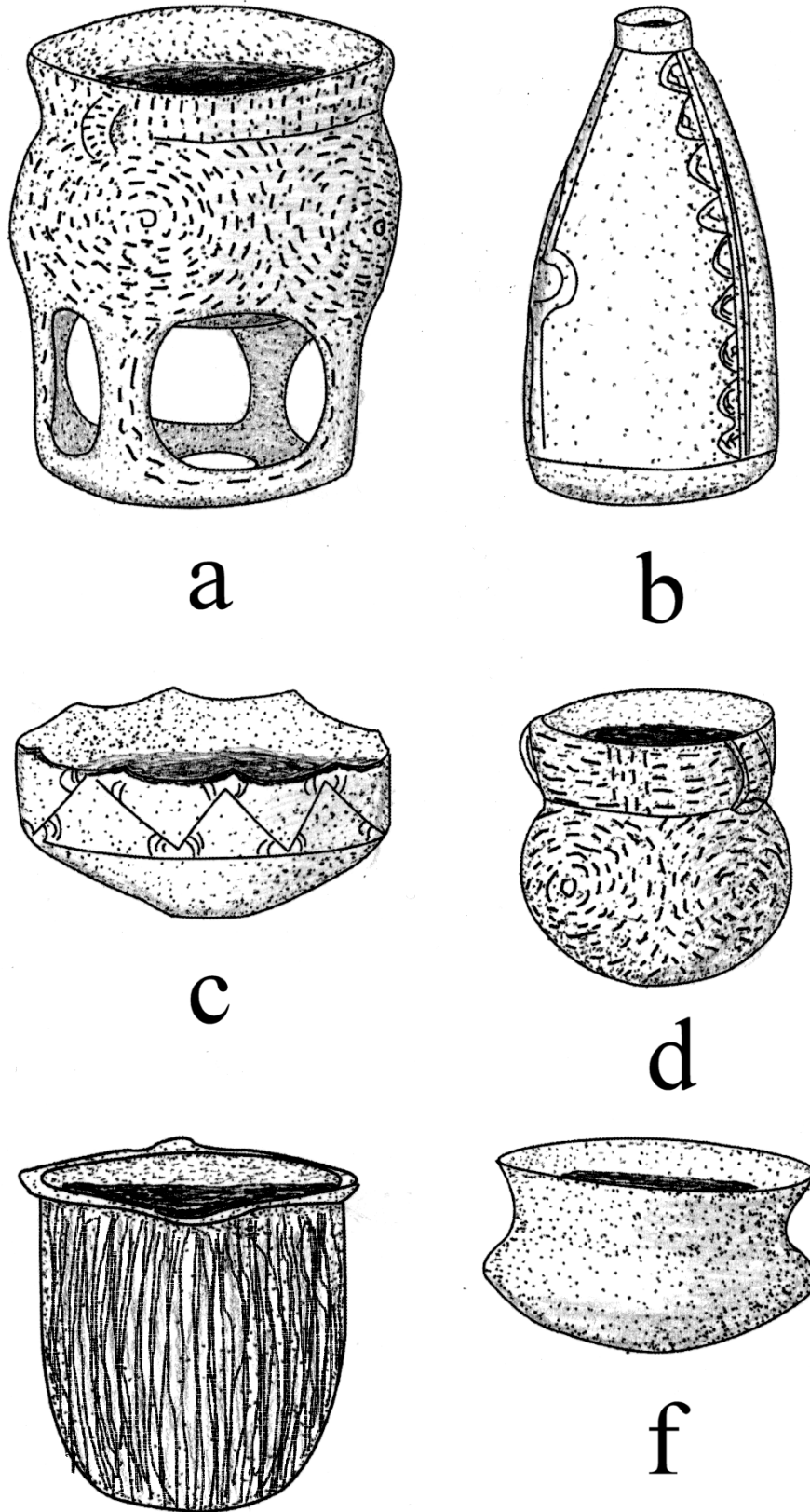


Figure 8. Drawings of Vessels 2-7 from Burial 2 at the H. C. Slider site: a, Killough Pinched (Vessel 2); b, Poynor Engraved bottle (Vessel 4); c, Poynor Engraved carinated bowl (Vessel 6); d, Killough Pinched jar (Vessel 3); e, Bullard Brushed jar (Vessel 7); f, plain carinated bowl (Vessel 5).

SITE NAME OR SITE NUMBER: H. C. Slider

VESSEL NO.: 2003.08.24, Burial 2, Vessel 3 (see Figure 8d)

NON-PLASTICS AND PASTE: grog

VESSEL FORM: Jar with two strap handles (Figure 9); the strap handles measure 43 x 23 mm in height and width

RIM AND LIP FORM: Everted rim and a rounded, exterior folded lip

CORE COLOR: B (fired and cooled in a reducing environment)

INTERIOR SURFACE COLOR: very dark grayish-brown

EXTERIOR SURFACE COLOR: dark grayish-brown

WALL THICKNESS (RIM, BODY, AND BASE IN MM): rim, 5.5 mm

INTERIOR SURFACE TREATMENT: smoothed

EXTERIOR SURFACE TREATMENT: none

HEIGHT (IN CM): 11.5

ORIFICE DIAMETER (IN CM): 10.8

DIAMETER AT BOTTOM OF RIM OR NECK (IN CM): 10.4

BASE DIAMETER (IN CM) AND SHAPE OF BASE: 7.7; flat and circular

ESTIMATED VOLUME (IN LITERS): 1.2

DECORATION (INCLUDING MOTIF AND ELEMENTS WHEN APPARENT): There are six horizontal rows of pinching on the rim, divided by either strap handles (with horizontal pinched decorations on them) or two sets of four vertical pinched rows (Figure 9). The vessel body has four pinched concentric circles divided by upper and lower incised chevron-shaped elements (Figure 9).

PIGMENT USE AND LOCATION ON VESSEL: none

TYPE AND VARIETY [IF KNOWN]: Killough Pinched

SITE NAME OR SITE NUMBER: H. C. Slider

VESSEL NO.: 2003.08.86, Burial 2, Vessel 6 (see Figure 8c)

NON-PLASTICS AND PASTE: grog, bone, and hematite

VESSEL FORM: Carinated bowl with six lip lugs (Figure 10)

RIM AND LIP FORM: Direct rim and a rounded lip



Figure 9. Killough Pinched jar, Burial 2, Vessel 3.

CORE COLOR: A (fired and cooled in an oxidizing environment)

INTERIOR SURFACE COLOR: reddish-brown; fire clouds on the body

EXTERIOR SURFACE COLOR: reddish-brown to yellowish-brown; fire clouds on the body and base

WALL THICKNESS (RIM, BODY, AND BASE IN MM): rim, 5.9 mm

INTERIOR SURFACE TREATMENT: smoothed

EXTERIOR SURFACE TREATMENT: burnished

HEIGHT (IN CM): 9.4

ORIFICE DIAMETER (IN CM): 15.5



Figure 10. Poynor Engraved, *Var. A* carinated bowl, Burial 2, Vessel 6.

DIAMETER AT BOTTOM OF RIM OR NECK (IN CM): 15.5

BASE DIAMETER (IN CM) AND SHAPE OF BASE: 8.3; flat and circular

ESTIMATED VOLUME (IN LITERS): 0.88

DECORATION (INCLUDING MOTIF AND ELEMENTS WHEN APPARENT): The rim panel has seven sets of engraved nested triangles around the vessel (see Figure 10). Each of the nested triangles has either sets of curvilinear lines, hatched areas, or cross-hatched ovals in two or three corners.

PIGMENT USE AND LOCATION ON VESSEL: none

TYPE AND VARIETY [IF KNOWN]: Poynor Engraved, *Var. A* (Perttula 2011:Figure 6-65)

SITE NAME OR SITE NUMBER: H. C. Slider

VESSEL NO.: 2003.08.759, Burial 2, Vessel 7 (see Figure 8e)

NON-PLASTICS AND PASTE: bone, grog, and hematite

VESSEL FORM: Jar with a short rim and four flattened outward rim peaks (Figure 11)

RIM AND LIP FORM: Direct rim and rounded, exterior folded lip

CORE COLOR: G (fired in a reducing environment and cooled in the open air)

INTERIOR SURFACE COLOR: very dark grayish-brown to black; organic residue on the rim and body

EXTERIOR SURFACE COLOR: yellowish-brown; fire clouds and organic residue on the body

WALL THICKNESS (RIM, BODY, AND BASE IN MM): rim, 7.0 mm

INTERIOR SURFACE TREATMENT: smoothed

EXTERIOR SURFACE TREATMENT: none

HEIGHT (IN CM): 16.7

ORIFICE DIAMETER (IN CM): 14.1

DIAMETER AT BOTTOM OF RIM OR NECK (IN CM): 13.8

BASE DIAMETER (IN CM) AND SHAPE OF BASE: 8.9; flat and circular

ESTIMATED VOLUME (IN LITERS): 2.1

DECORATION (INCLUDING MOTIF AND ELEMENTS WHEN APPARENT): There is vertical brushing on the rim and the body, extending to within 5 cm of the vessel base (Figure 11).

PIGMENT USE AND LOCATION ON VESSEL: none

TYPE AND VARIETY [IF KNOWN]: Bullard Brushed

Burial 3

Burial 3 is that of a poorly preserved adult interment in a pit that was 1.75 m in length, 76 cm in width, and 96 cm in depth (Figure 12). Only leg bones were preserved, along with a few fragments of crania and teeth. There were frequent charcoal lumps along the floor of the grave, suggesting that fires had been lit in the grave before the body was interred, probably part of the Six Day burial rites of the Caddo (cf. Gonzalez 2005).

Three vessels (Vessels 8-10) are associated with Burial 3 (see Figure 12), two by the head and upper left leg and a third that was found at 46 cm bs in the grave fill. These vessels are a brushed-pinched jar with strap handles (Figure 13c), a large plain carinated bowl (Figure 13f), and a diagonal incised jar (Figure 13d).

One of the vessels from Burial 3 remains in the H. C. Slider collections at the Gregg County Historical Museum, a cf. Killough Pinched jar with two strap handles (see Figure 13c).

SITE NAME OR SITE NUMBER: H. C. Slider

VESSEL NO.: 2003.08.58, Burial 3, Vessel 9

NON-PLASTICS AND PASTE: grog and bone

VESSEL FORM: Jar with two strap handles (58 x 36 mm in height and width) (Figure 14)

RIM AND LIP FORM: Everted rim and rounded lip



Figure 11. Bullard Brushed jar, Burial 2, Vessel 7.

Fill vessel
18" below surface

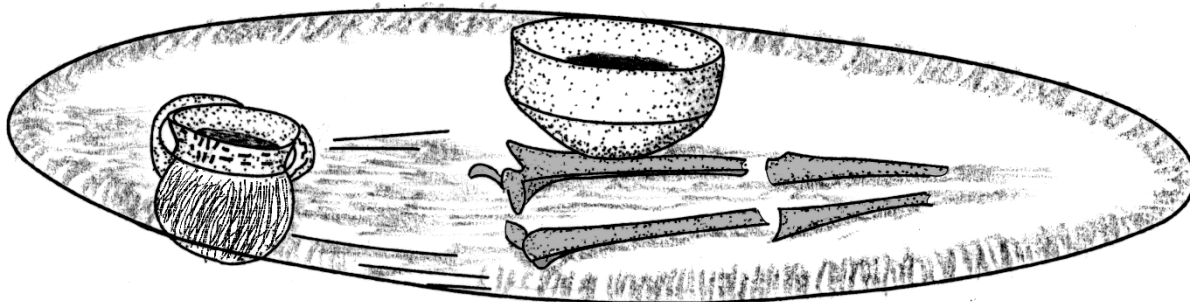



Figure 12. Burial 3 at the H. C. Slider site.

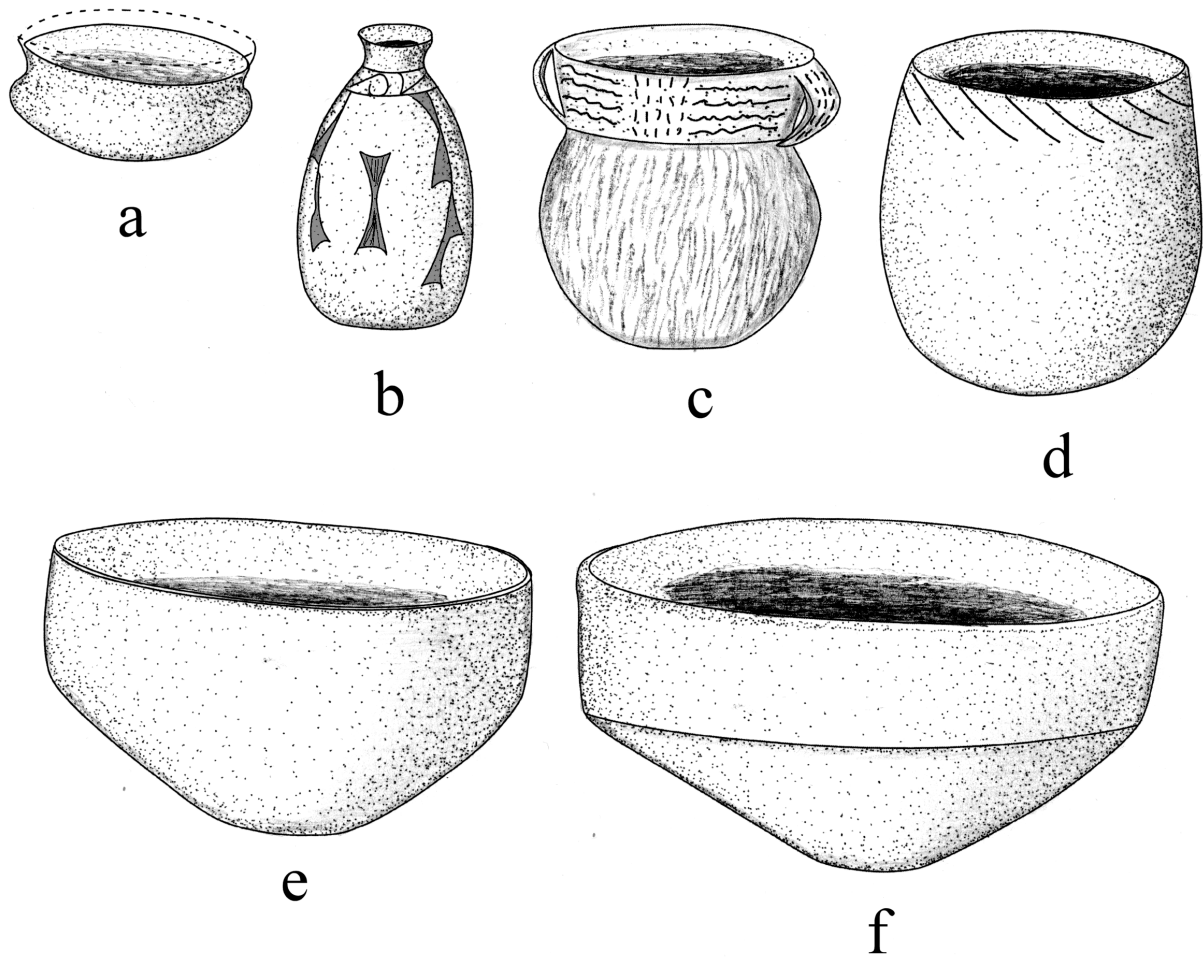


Figure 13. Vessels from Burial 3 and 4 at the H. C. Slider site: a, plain carinated bowl (Vessel 12, Burial 4); b, Poynor Engraved bottle (Vessel 11, Burial 4); c, pinched-brushed jar (Vessel 9, Burial 3); d, incised jar (Vessel 8, Burial 3); e, plain carinated bowl (Vessel 13, Burial 4); f, plain carinated bowl (Vessel 10, Burial 3).

CORE COLOR: F (fired in a reducing environment but cooled in the open air)

INTERIOR SURFACE COLOR: yellowish-brown; fire clouds and organic residue on the rim and body

EXTERIOR SURFACE COLOR: yellowish-brown; fire clouds on the rim, body, and base

WALL THICKNESS (RIM, BODY, AND BASE IN MM): rim, 7.1 mm

INTERIOR SURFACE TREATMENT: smoothed

EXTERIOR SURFACE TREATMENT: none

HEIGHT (IN CM): 16.9

ORIFICE DIAMETER (IN CM): 15.0

DIAMETER AT BOTTOM OF RIM OR NECK (IN CM): 14.6



Figure 14. cf. Killough Pinched jar, Burial 3, Vessel 9.

BASE DIAMETER (IN CM) AND SHAPE OF BASE: 8.0; flat and circular

ESTIMATED VOLUME (IN LITERS): 2.3

DECORATION (INCLUDING MOTIF AND ELEMENTS WHEN APPARENT): The rim has five horizontal rows of pinching that are divided by either the two strap handles (both with vertical pinched rows) or two sets of three vertical pinched rows (Figure 14). The vessel body has diagonal to vertical brushing to within 1 cm of the vessel base.

PIGMENT USE AND LOCATION ON VESSEL: none

TYPE AND VARIETY [IF KNOWN]: cf. Killough Pinched

Burial 4

No human remains were preserved in Burial 4; the size and depth of the grave pit suggests that this was the burial of an adult. The pit was 76 cm in depth, 74 cm in width, and approximately 150 cm in length (Figure 15). Three vessels were placed in the grave as funerary offerings, two—a Poynor Engraved bottle and a plain carinated bowl (see Figure 13a-b) near what would have been the right side of the head, and a large plain carinated bowl (see Figure 13e) by what would have been the lower left leg.

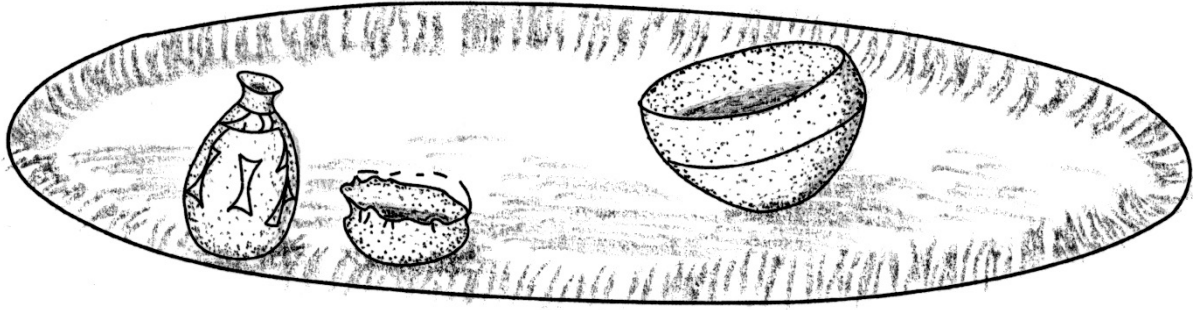


Figure 15. Burial 4 at the H. C. Slider site.

Elbow Pipe Sherd

An elbow pipe bowl rim sherd from the H. C. Slider site is in the Gregg County Historical Museum collections, but its provenience within the site is not known. The elbow pipe stem, tempered with grog, has four horizontal engraved lines on the upper part of the stem, and sets of curvilinear engraved lines on the lower part of the stem, perhaps extending onto the lower part of the bowl (Figure 16). This particular pipe resembles an upper Neches Var. C. elbow pipe (Perttula 2011:Figure 6-23). These pipes are found in ca. A.D. 1400-1650 Frankston phase sites, in both domestic and mortuary contexts.

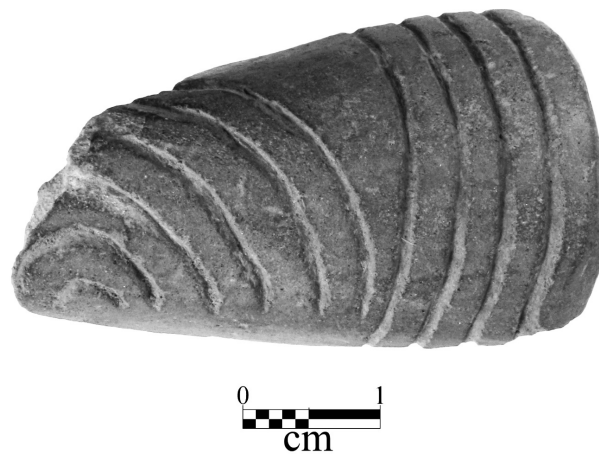


Figure 16. Engraved elbow pipe sherd from the H. C. Slider site.

SUMMARY AND CONCLUSIONS

The H. C. Slider site is a Late Caddo Frankston phase domestic settlement with a small cemetery on an alluvial terrace of the Neches River in western Cherokee County, Texas. Buddy Jones investigated the site in November and December 1967, documented three distinct midden deposits on terrace knolls (see Figure

2), and knoll A had a small cemetery with four burials. Jones excavated the four burials, all of which were aligned with the body's head at the southeast end of the grave, the body in an extended, supine position, facing to the northwest. This is a common form of burial treatment in the upper Neches River basin at this time.

The burials each had associated funerary offerings, namely between 1-6 ceramic vessels. A total of 13 vessels were included with the burials, both fine wares (n=4), utility wares (n=5), and plain wares (n=4). Among the fine wares are a Hood Engraved, *var. Hood* effigy bowl, one Poynor Engraved, *Var. A* carinated bowl, and two cylindrical Poynor Engraved bottles with short necks, while the utility wares include three Killough Pinched jars (one with a pedestal base), a diagonal incised jar (possibly Maydelle Incised), and a Bullard Brushed jar. The plain wares are globular-shaped (n=2) and simple (n=2) carinated bowls of several sizes.

The decorated vessels, and the distinctive vessel forms, from the burials are stylistically consistent with a Frankston phase component in the upper Neches River valley. The occurrence of the one *Var. A* Poynor Engraved vessel and the Hood Engraved, *var. Hood* effigy vessel at the site suggests that the burials date from the early part of the Frankston phase, from ca. A.D. 1400-1480 (see Perttula 2011:Table 6-37).

ACKNOWLEDGMENTS

We thank Patti Haskins for her help with our documentation efforts at the Gregg County Historical Museum. Lance Trask prepared the maps, burial figures, and vessel drawings based on the originals prepared by Buddy Jones.

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Analysis of the Ceramic Sherds from Area C at the Ware Acres Site (41GG31), Gregg County, Texas

Timothy K. Perttula, Robert Z. Selden, Jr., and Bo Nelson

INTRODUCTION

The Ware Acres site (41GG31) was discovered by Buddy Calvin Jones in 1951 on an alluvial terrace of Grace Creek, a southern-flowing tributary to the Sabine River in the southwestern part of the city of Longview, Texas (Figure 1). The site is best known for Jones' discovery and excavation of an eighteenth-century Caddo burial with an abundance of European trade goods (Jones 1968:21-24). However, Jones also investigated other parts of the site, which contained extensive Caddo habitation deposits, especially one area at the southern part of the site that had Late Caddo Titus phase midden deposits and remnants of house structures. A large assemblage of ceramic sherds were collected from this area, and although Jones (1968:17) indicated that "a complete analysis of them will be given in a later report," this was never done.

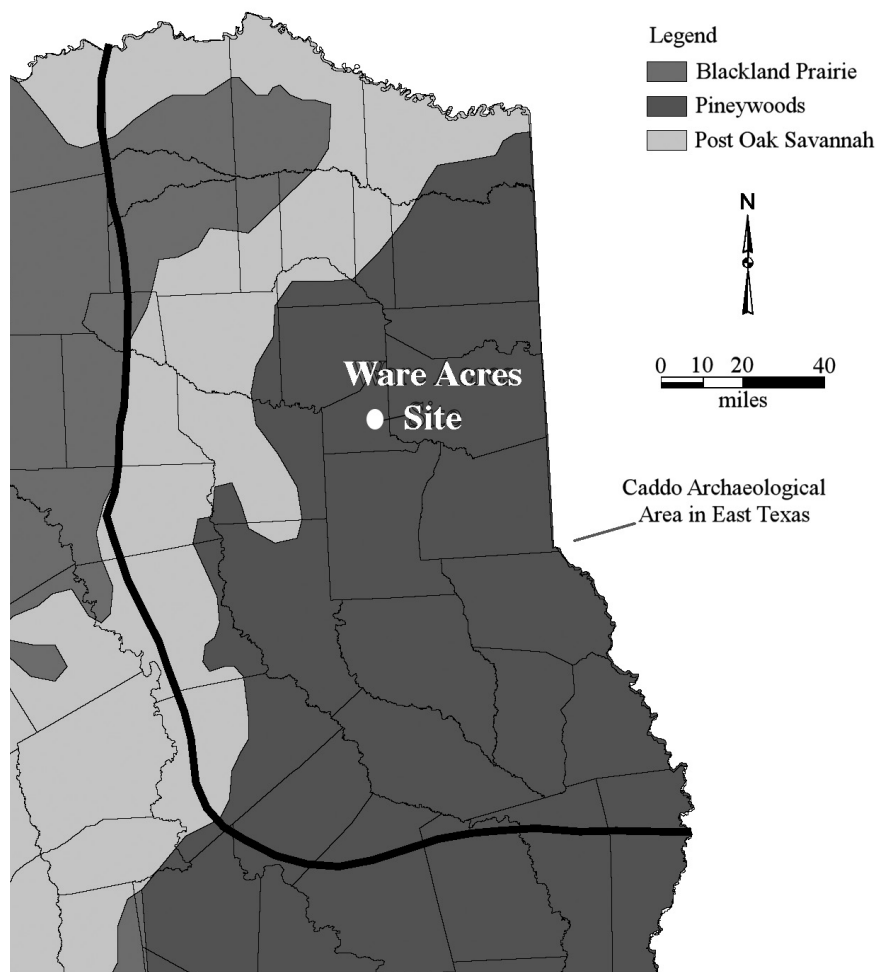


Figure 1. Location of the Ware Acres site in the East Texas Pineywoods.

This article presents an analysis of these ceramic sherds, primarily to put the ceramic assemblage findings from this important East Texas site on record. The stylistic attributes and known ceramic types in the Ware Acres assemblage are also compared to the ceramic assemblage from the Pine Tree Mound site (Fields and Gadus 2012), as the Ware Acres site may be a component of the Pine Tree Mound Titus phase community found in the middle reaches of the Sabine River basin.

SITE SETTING AND EXCAVATIONS BY BUDDY JONES

In 1959, Jones became aware that the Ware Acres site was threatened with the development of an urban housing project, and he initiated investigations in three areas of the site: Areas A, B, and C (Figure 2). These three areas are primarily situated on the crest of an alluvial terrace (5-6 m above the Grace Creek floodplain) east of an old channel of Grace Creek.

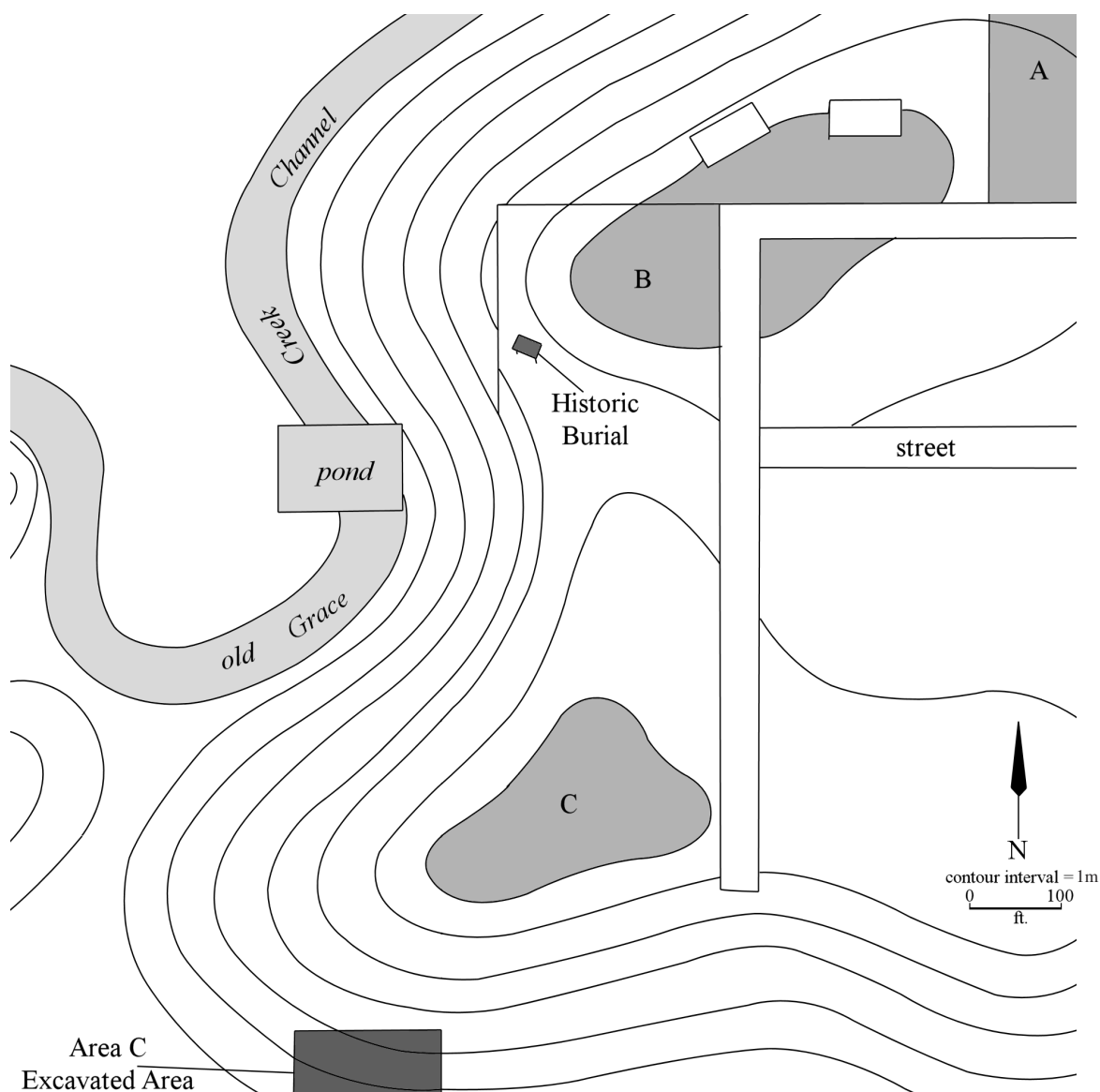


Figure 2. Map of the Ware Acres site, with the locations of Areas A-C, and the historic Caddo burial near Area B.

In addition to Archaic period projectile points found across the site as well as various ground stone tools, the three areas were noted to have had different kinds of ceramic sherds. Jones (1968:14) indicated that Early Caddo period (i.e., “Late Alto-like”) sherds were present in Area A, and the midden deposits here extended to ca. 40 cm bs. In Area B, the midden deposits were of comparable depth, and the historic Caddo burial feature was in this area (see Figure 2). The historic Caddo burial in Area B was discovered and excavated in January 1960. The individual, likely an adult, was buried in an extended supine position in a 1.83 m long and 84 cm wide grave whose floor rested at 76 cm bs. Funerary offerings were abundant with the deceased, including two plain ceramic vessels (a jar and a carinated bowl), two ceramic pipes, 1988 glass beads—711 Cornaline d’Aleppo red over green drawn beads; 850 white tubular beads; 56 white seed beads; 367 black seed beads; and two drawn blue beads—two iron knives (case and clasp), a pewter ring, and several lumps of vermilion pigment. Another iron knife was collected from the surface of Area B. Ceramic sherds found on the surface and in disturbed contexts in Area B were grog, grit and bone-tempered, and were plain (from jars), brushed (from large jars, likely from Bullard Brushed vessels), engraved (Ripley Engraved or Taylor Engraved carinated bowls), and punctated (tool punctated jar sherds) wares that “seems to differ from the Titus...materials from” Area C (Jones 1968:24).

Area C was located on the southern part of the terrace, and the archaeological deposits extended to the base of the terrace slope. The midden reached to ca. 76 cm bs, and it contained an abundance of ceramic sherds, animal bone, and a few lithic artifacts. Jones (1968:17) excavated a 4.6 x 6.1 m area in the southern part of Area C (see Figure 2) in either 1959 or 1960, and recovered over 15,000 ceramic sherds, including more than 2,500 rim sherds, from Ripley Engraved, Taylor Engraved, Wilder Engraved, Bullard Brushed, Karnack Brushed-Incised, and Harleton Appliqued vessels. The ceramic sherds we discuss in this article—although numbering less than 2000 sherds in the Gregg County Historical Museum collections from the site—are from this Area C excavated area. Jones (1968:17-18) also noted that there were remnants of house structures—marked by “dark ash colored areas”—in Area C that were graded away in modern house construction on the crest of the terrace, upslope from the thickest part of the midden deposits. Titus phase ceramic sherds and occupational deposits were also identified on two rises west of Area C, south and west of the old Grace Creek channel (see Figure 2).

CERAMIC SHERD ASSEMBLAGE

The studied ceramic sherd assemblage from the Ware Acres site consists of 1942 rim, body, and base sherds (Table 1). We do not know what happened to the remainder of the assemblage, or whether this studied sherd assemblage is representative of the entire large assemblage mentioned by Jones (1968:17). What we can say is that although the sherd assemblage is dominated by sherds from engraved fine ware vessels (i.e., 78% of the rims are from fine wares), nevertheless plain ware vessels (11% of the rims) and incised, punctated, brushed, etc. utility ware vessels (12% of the rims) are also relatively common, such that all three wares must have been in regular use by ancestral Caddo people at the site, and then were broken and discarded in trash midden deposits.

Table 1. Ceramic sherd assemblage from the Ware Acres site.

| Ware | Rim | Body | Base | N |
|---------|-----|------|------|------|
| Plain | 85 | 713 | 19 | 817 |
| Utility | 90 | 147 | - | 237 |
| Fine | 596 | 292 | - | 888 |
| Total | 771 | 1152 | 19 | 1942 |

TECHNOLOGICAL PARAMETERS

The focus of the analysis of the Ware Acre ceramic sherds is on the decorative styles and motifs of the utility ware and fine ware sherd assemblages, but we did identify the tempers that were used in vessel manufacture, and also measured rim orifice diameters to determine the range in sizes of the vessels that had been in use at the site.

Grog or crushed sherds was overwhelmingly the temper used by Caddo potters at the Ware Acres site for vessel manufacture, as 90.5% of the sherds have grog temper. Another 8.9% of the sherds had burned bone temper, and 0.6% had a combination of grog and bone.

The plain ware vessels (bowls, carinated bowls, and jars) had orifice diameters that ranged from 13-30 cm, but more than 50% of the measurable plain rims were less than 19 cm in orifice diameter, suggesting the common use of small to medium-sized plain wares (Figure 3). Large plain ware vessels comprised 46% of the measured rims. One plain bowl has a drilled suspension hole below the vessel lip.

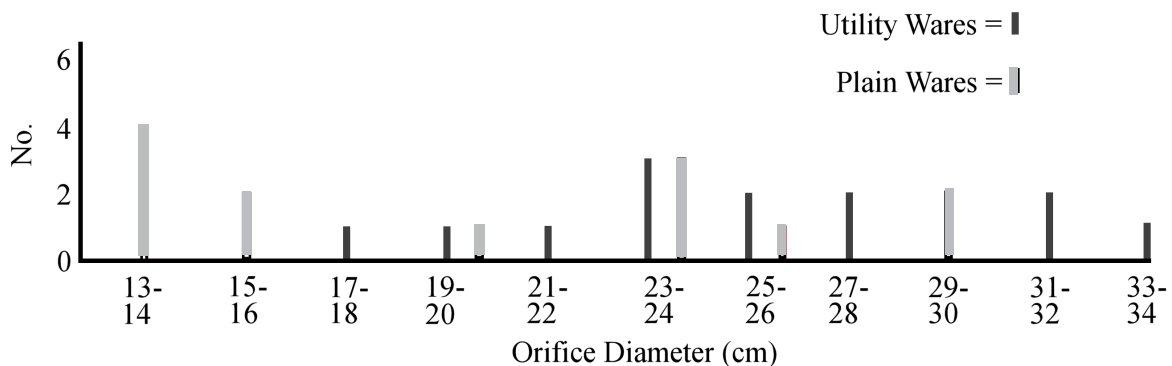


Figure 3. Orifice diameters for plain and utility wares at the Ware Acres site.

Utility ware vessels were larger in orifice diameter, with a range from 18-34 cm (see Figure 3). The utility wares tended to be large in size, between 20-30 cm in orifice diameter, as 69% of the measurable rims were in this range. Another 23% of the plain ware rims were from very large vessels (31-34 cm bs), and the remaining 8% were from small to medium-sized. The manufacture of large utility wares (primarily jars) suggests that communal cooking and use of vessels for storage of food stuffs were important activities carried out at the site.

The fine wares are dominated by large vessels, with orifice diameters ranging from 20-30 cm (78% of the measurable rims, Figure 4). Small to medium-sized vessels account for 18% of the rims, and very large fine ware carinated bowls comprise 4% of the rim sample. The disproportion of large vessel rims at the site suggest that the fine wares—typically used for food service—were intended to be used for both individual servings as well as for communal food serving, perhaps in the context of feasts and other community-level activities carried on by Caddo peoples at Ware Acres.

Fine Wares

The fine ware sherds from the Ware Acres site are dominated by sherds from Ripley Engraved carinated bowls. Only seven engraved bottle sherds could be identified in the assemblage, and other than having curvilinear engraved line elements, nothing more definitive about them can be offered.

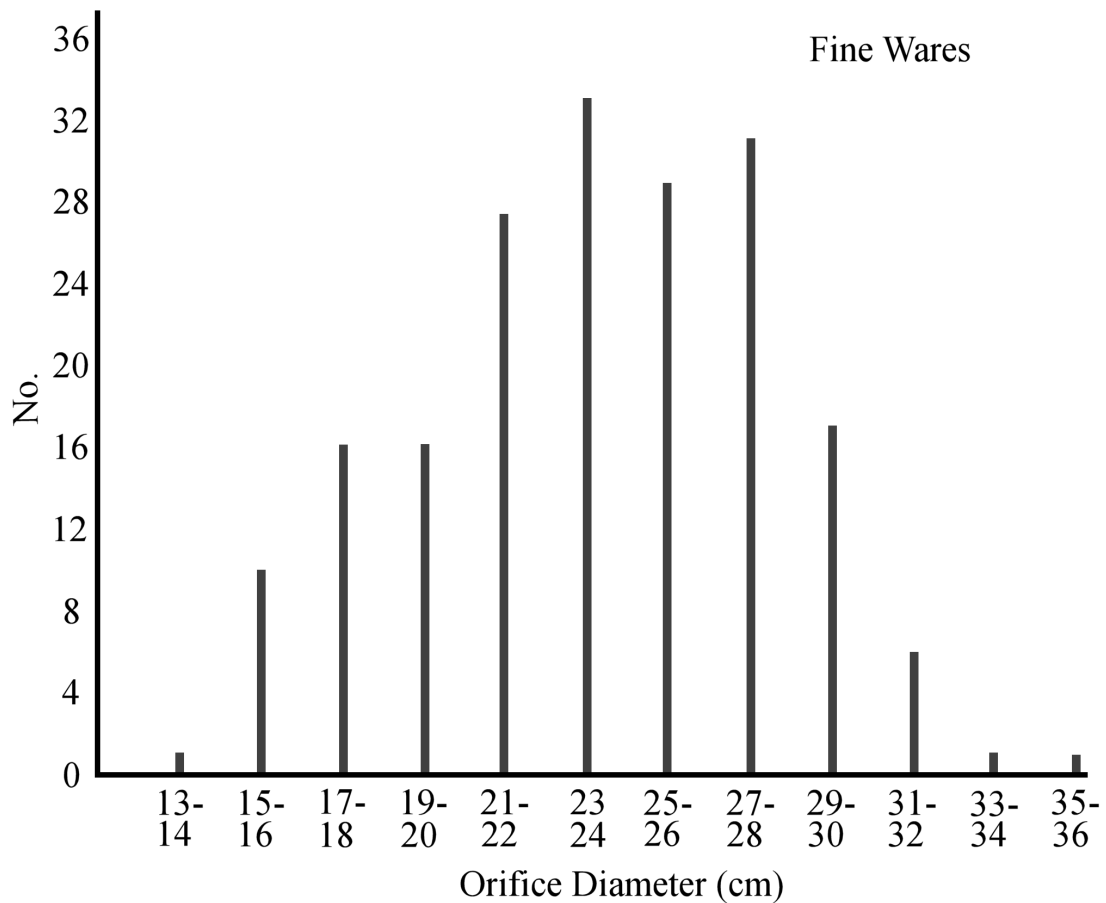


Figure 4. Orifice diameters for fine wares at the Ware Acres site.

Of the sherds large enough to identify decorative motifs and specific styles of engraved Caddo ceramics (n=423), almost 88% of the sherds are from Ripley Engraved vessels. About 9% are from Taylor Engraved vessels, 3.5% from distinctive short-rimmed Simms Engraved vessels, and 0.2% from a single Patton Engraved vessel.

There are a few distinctive engraved vessel sherds from Ripley Engraved and Taylor Engraved carinated bowls that also have a brushed body (n=8, 0.9%) (Figure 5c-d), six sherds (0.7%) that have engraved and punctated elements, one sherd with engraved-punctated-brushing elements, and one body sherd with engraved-appliqued elements. The use of pigments is very rare (n=10 sherds, 1.1%) in the Ware Acre fine ware sherds, as only seven sherds have a white kaolin clay pigment rubbed in the engraved lines, and three sherds have a hematite-rich clay pigment in the engraved lines.

Ripley Engraved

As mentioned above, sherds from Ripley Engraved carinated bowls are by far the most common fine ware in the Area C midden deposits at the Ware Acres site. The great majority of the identified rim and body sherds from Ripley Engraved vessels have what Thurmond (1990:Figure 6a) defined as the pendant triangle motif. This motif is poorly named because the excised pendant triangles on the upper and lower rim panel are secondary elements to central engraved circles and horizontal scrolls with central diamond elements. Important Ripley Engraved motifs are illustrated in Figure 6.



Figure 5. Various engraved rim sherds from the Ware Acres site: a, horizontal engraved; b, Ripley Engraved, with tick marks and a continuous scroll motif; c, Ripley Engraved, slanted scroll motif with horizontal brushed body; d, Taylor Engraved with horizontal brushed body.

Perttula et al. (2010) defined varieties of Ripley Engraved based on these motifs on carinated bowls and compound bowls, based on their occurrence in vessel assemblages at a number of Late Caddo Titus phase cemeteries discussed in Thurmond (1990). Thus, the pendant triangle motif is identified as Ripley Engraved, *var. McKinney*; the scroll motif is *var. Gandy*; the scroll and circle motif is *var. Galt*; the scroll and semi-circle motif is *var. Caldwell*; the circle and nested triangle motif is *var. Cash*; the continuous scroll motif is *var. Carpenter*; the interlocking horizontal scroll motif is *var. Pilgrims*; the alternating nested triangles motif is *var. Williams*; and the horizontal diamond motif is *var. Reed*.

At Ware Acres, 62% of the rim and body sherds are from Ripley Engraved, *var. McKinney* carinated bowls with circle and diamond central elements—with the diamonds part of horizontal scrolls—and upper and lower horizontal rows of excised pendant triangles on horizontal engraved lines that define the rim panels. The central circles have inner diamond-shaped elements as well as central dots (Figures 7a-c, 8c, and 9d), as well as diamonds with rays and negative ovals (Figure 8a, e-f) and open circles (Figure 8g),

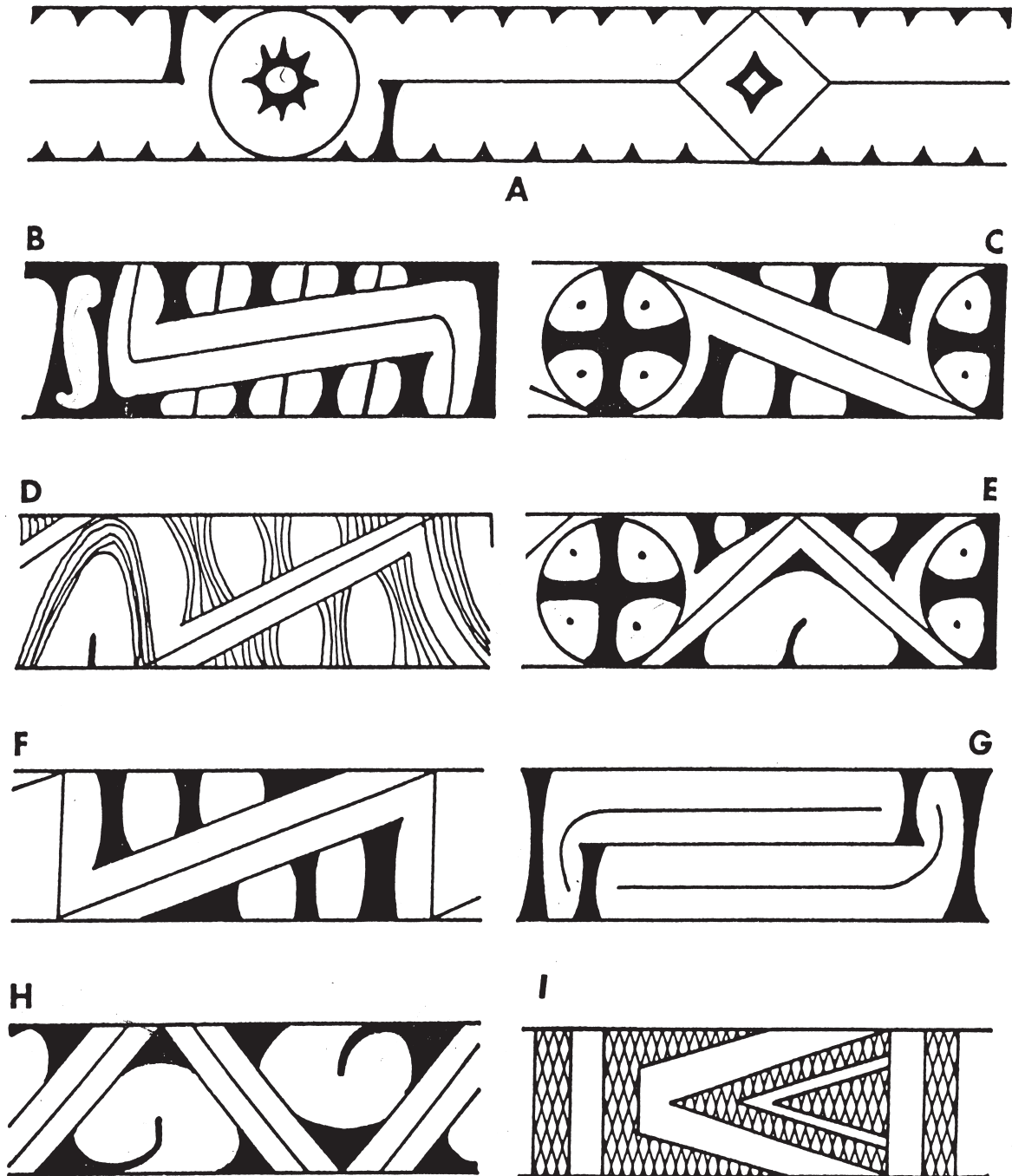


Figure 6. Ripley Engraved motifs (from Thurmond 1990:Figure 6): a, pendant triangle; b, scroll; c, scroll and circle; d, scroll and semi-circle; e, circle and nested triangle; f, continuous scroll; g, interlocking horizontal scroll; h, alternating nested triangles; i, horizontal diamond.

while the central diamond element has inner excised diamonds (Figures 8b and 9a-b), inner diamonds and dots (Figure 8d) and inner circles with rays (Figure 8d). Sometimes the central diamond element is open or undecorated at its inner center (Figure 9c).

More than 17% of the Ripley Engraved sherds have slanted scroll motifs, either as part of *var. Gandy*, *var. Gault*, *var. Caldwell*, or *var. Carpenter* vessels (see Figure 6b-d, f). Not enough of the rim motif is apparent

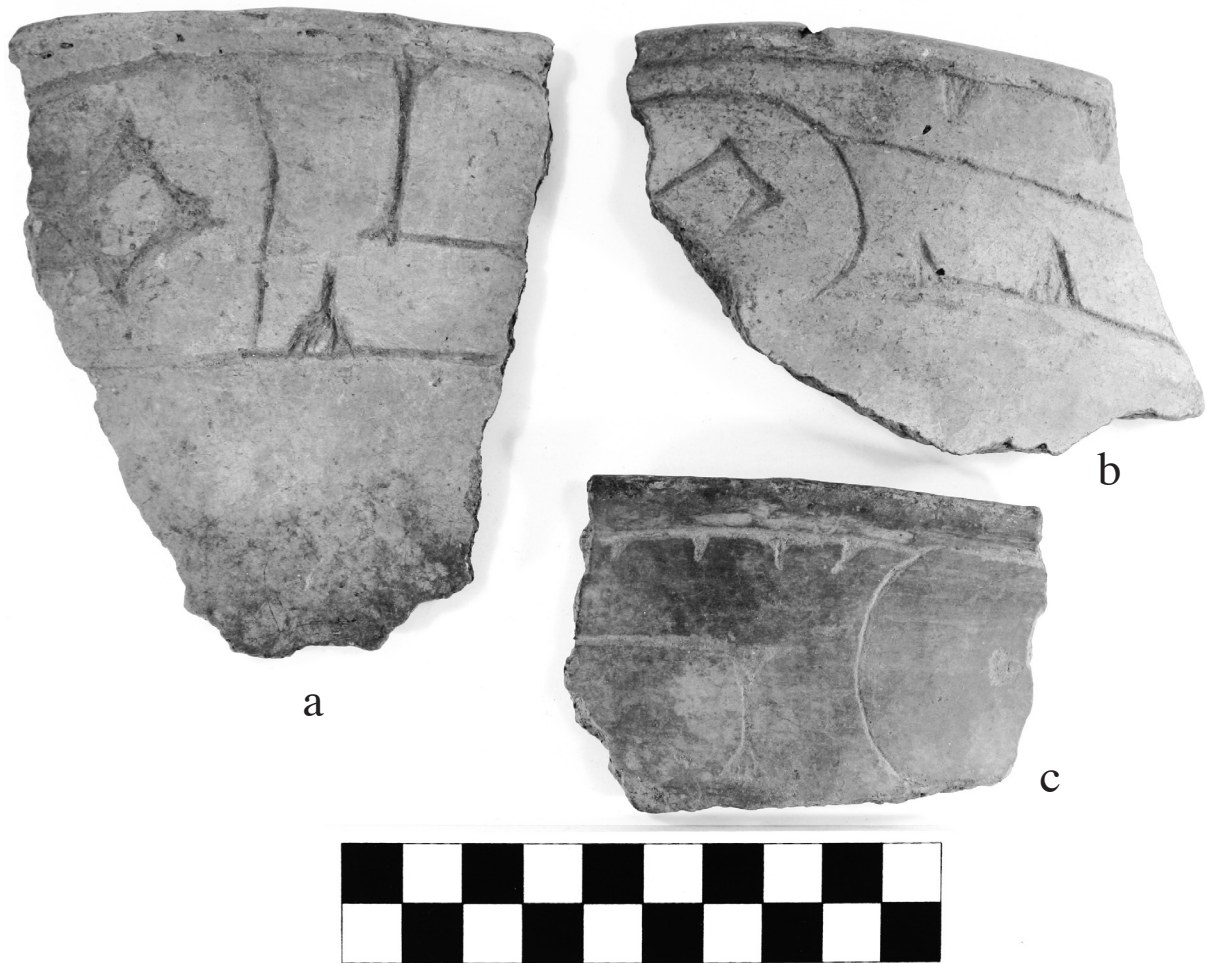


Figure 7. Ripley Engraved, *var. McKinney* rim sherds with central circle elements.

on the sherds to determine what the central elements may be, or whether there were no central elements. Examples of these sherds are illustrated in Figure 10f and Figure 11. These are various upper and lower scroll fill zone elements, including vertical lines, cross-hatching and negative ovals, and small hooked arms.

Scroll and circle motifs (Ripley Engraved, *var. Galt*) are present on 7.3% of the Ripley Engraved sherds from Ware Acres (Figures 12-13; see also Figure 10a, c, g-h). The central circles have inner open circles (Figure 12a), inner circle and cross elements (Figure 12d, see also Figure 10g), inner circles with excised rays and dots (Figure 13, see also Figure 10a), and excised diamonds (Figure 12c, see also Figure 10h). Two of the sherds also have tick marks or small excised pendant triangles on the rim panel (Figure 12a).

A few sherds (1.5%) from Ripley Engraved, *var. Gandy* vessels have scroll motifs with hatched and cross-hatched bracket dividers (Figures 14 and 15a, see also Figure 10b). Another 5.9% have only bracket dividers that may be from *var. Gandy* vessels, and there are other sherds that have brackets with pendant triangles (Figure 15b), or slanting scrolls with pendant triangles. These combine the scroll motif of *var. Gandy* with the pendant triangle elements of *var. McKinney*, but are referred to here as Ripley Engraved, *cf. var. Gandy* to be consistent with similar Ripley Engraved vessels in assemblages from Little Cypress Creek in Upshur County, Texas (Perttula et al. 2012).

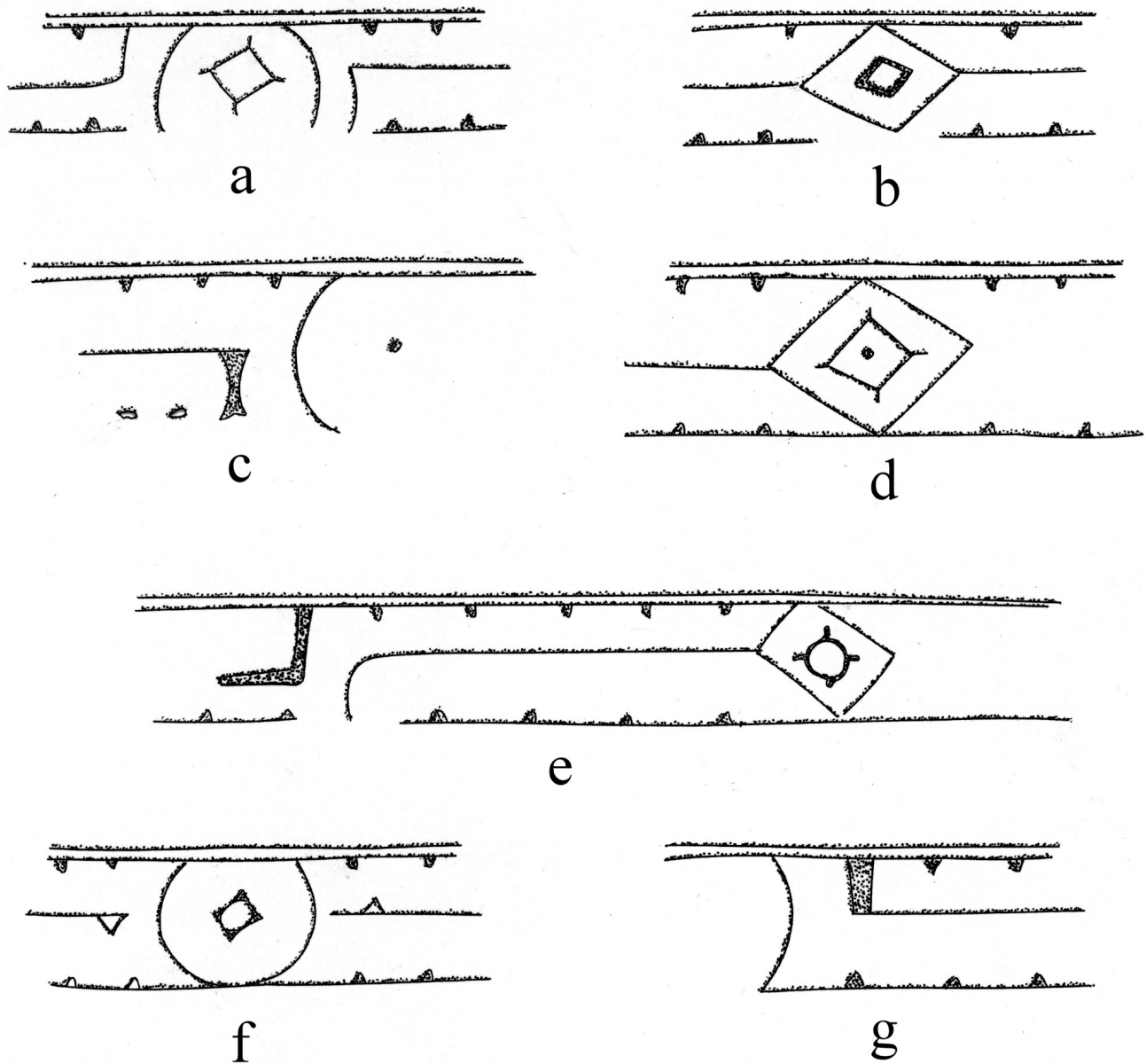


Figure 8. Drawings of engraved pendant triangle motif on Ripley Engraved, *var. McKinney* rim sherds from the Ware Acres site: a, c, f-g, central circle elements; b, d-e, central diamond elements.

Rim sherds with a horizontal interlocking scroll motif (see Figure 10e) comprise 2.9% of the Ripley Engraved sherds from the site. These sherds, from Ripley Engraved, *var. Pilgrims* vessels (see Figure 6g), have panels with short horizontal scrolls that are interlocked by excised brackets.

Rim sherds with an engraved continuous scroll motif (see Figure 6f) comprise 2.1% of the Ripley Engraved sherds from Ware Acres. Two of these Ripley Engraved, *var. Carpenter* rims have small tick marks on the slanting scroll and the central vertical lines or bar elements (see Figure 10d).

Lastly, 1.2% of the rim sherds from the site have a nested triangle motif (see Figure 6h). One of these Ripley Engraved, *var. Williams* rims is from a compound bowl, the lower panel has the nested triangle design (Figure 16c), and the upper panel is plain.



Figure 9. Other Ripley Engraved, *var. McKinney* rim sherds: a-c, central diamond element; d, centre circle element with inner diamond.

Taylor Engraved

The 38 Taylor Engraved rim sherds have graceful scroll motifs that end in hooked arms that are separated from each other by small gaps (Figures 17 and 18a-j, see Suhm and Jelks 1962:149 and Plate 75). One rim has small excised tick marks on one of the hooked arms (Figure 18c), which Suhm and Jelks (1962:149 and Plate 75e-f, h-i) note is occasionally the case on Taylor Engraved bowls and carinated bowls. Another sherd has a scroll-hooked arm motif on the rim and horizontal brushing marks on the body of a carinated bowl (Figure 18g).

One Taylor Engraved compound bowl rim sherd has the scroll and hooked arm motif on the lower panel, with upper and lower triangular-shaped scroll fill zones that are filled with excised circular punctations (see Figure 16a-b). Suhm and Jelks (1962:149 and Plate 76d-e, i) illustrate several Taylor Engraved bottles that have filled zones of punctations, but this decorative element is not mentioned to occur on carinated bowls, bowls, and jars.

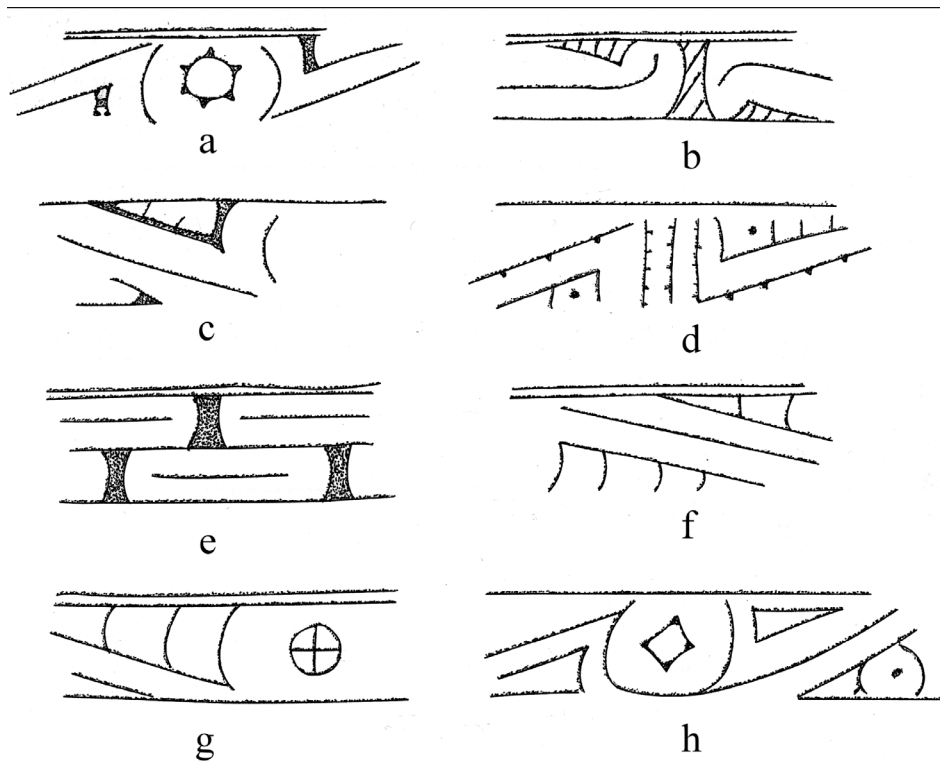


Figure 10. Drawing of various Ripley Engraved motifs on rim sherds from the Ware Acres site: a, c, g-h, scroll and circle; b, scroll with hatched brackets; d, continuous scroll; e, interlocking horizontal scroll; f, slanting scroll.



Figure 11. Ripley Engraved rim sherds with slanted scroll motifs.

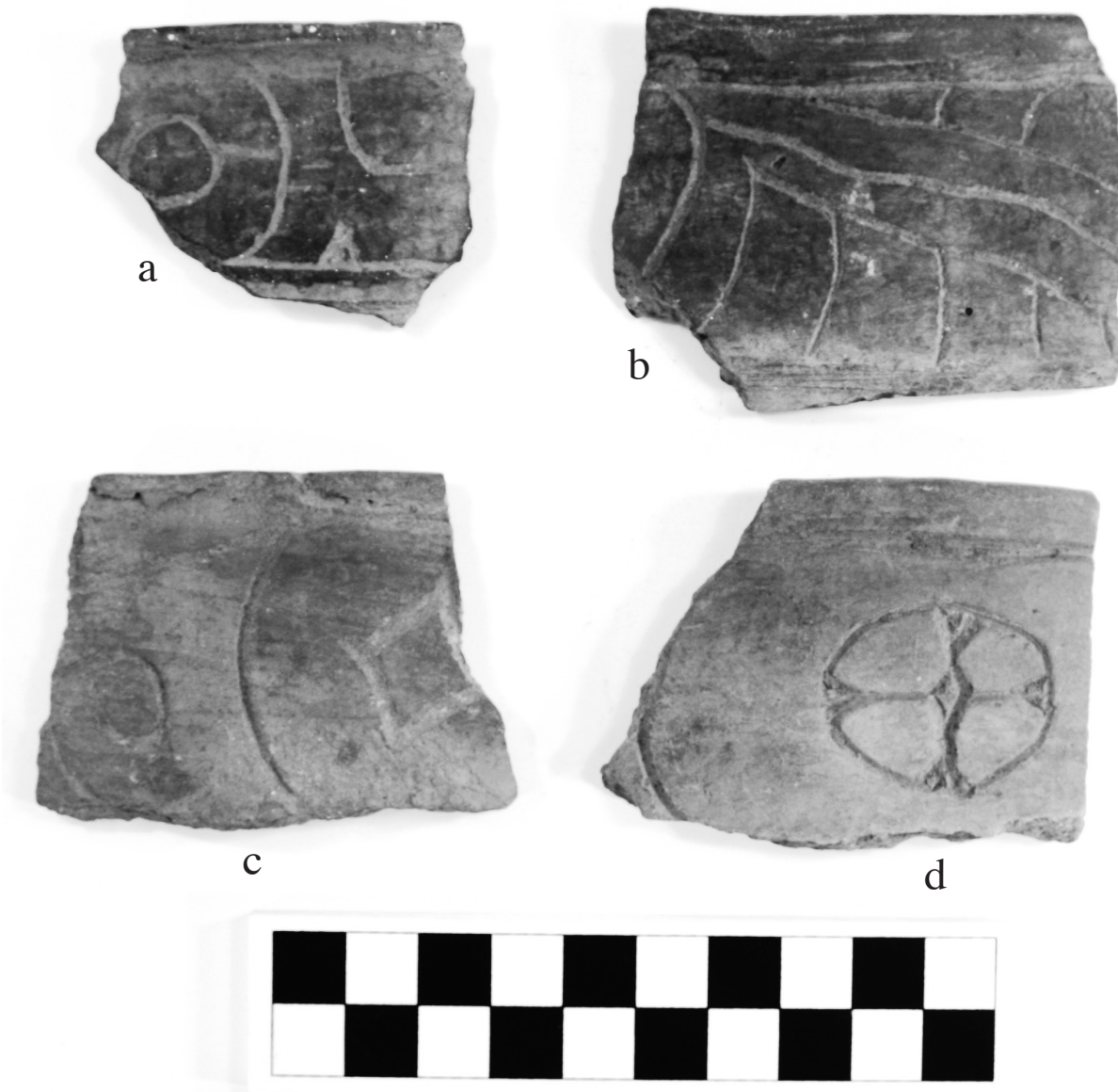


Figure 12. Ripley Engraved rim sherds with scroll and circle motif.

Simms Engraved

There are 15 Simms Engraved rim sherds in the Ware Acres sherd assemblage. These are engraved on the vessel's distinctive short rim (e.g., Suhm and Jelks 1962:141). The engraved motifs recognized in the Simms Engraved sherds at the site are illustrated in Figure 19. They include horizontal panels divided by either cross-hatched or excised brackets (Figure 19a, d), sets of vertical engraved lines (Figure 19c), sets of closely-spaced horizontal engraved lines with tick marks (Figure 19b, e), and one rim with portions of a slanting scroll with tick marks (Figure 19f).

Patton Engraved

One Patton Engraved rim sherd is in the midden sherd assemblage from the Ware Acres site. It has several rows of horizontal engraved lines around the rim that have tick marks on them. This is Patton Engraved, *var. Allen*, possibly the latest (after ca. A.D. 1700) of the Patton Engraved varieties in the upper Neches River



Figure 13. Ripley Engraved rim sherd from Ware Acres with a scroll and circle motif.

basin (Perttula 2011:Figure 6-66a). The one vessel represented by a single rim sherd is likely from a vessel that was made by an Allen phase potter living in the upper Neches River basin in the 18th century, and is associated with the Historic Caddo burial and deposits in Area B at the Ware Acres site.

Utility Wares

A wide variety of utility ware sherds are in the Ware Acres collection, including 90 rims and 147 body sherds (Table 2). The most common utility wares in the assemblage are brushed (50% of all the utility ware sherds and 16% of the rims), incised (16% of the utility ware sherds and 28% of the rims), and tool punctated (13% of the utility ware sherds and 25% of the rims).



Figure 14. Ripley Engraved rim sherd with scroll motif.



Figure 15. Ripley Engraved rim sherds with cross-hatched bracket dividers from the Ware Acres site.

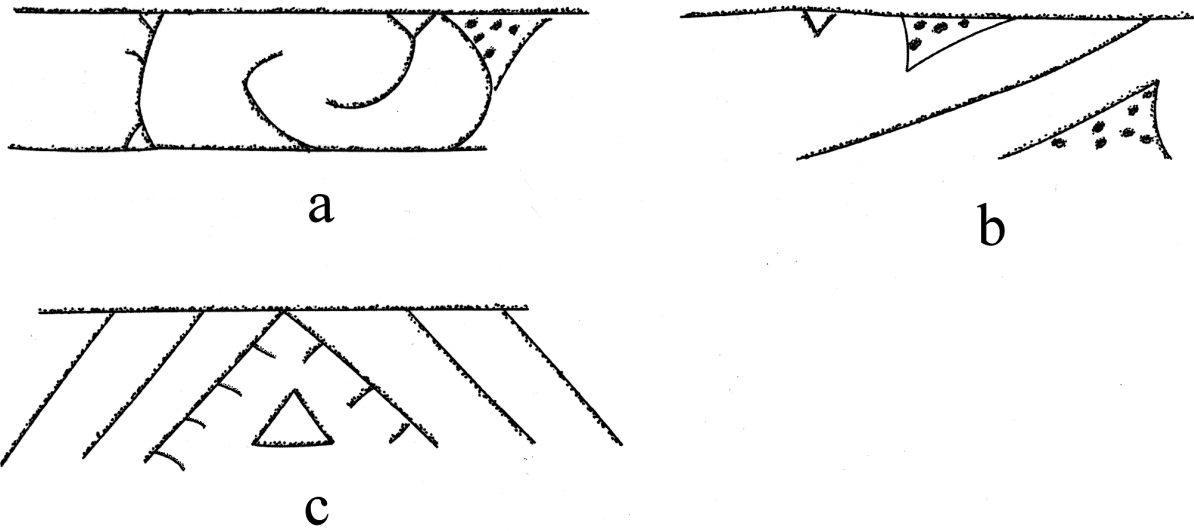


Figure 16. Drawings of engraved motifs on Ripley Engraved and Taylor Engraved carinated bowl and compound bowl vessels: a-b, Taylor Engraved; c, Ripley Engraved, *var. Williams*.



Figure 17. Taylor Engraved rim sherd.

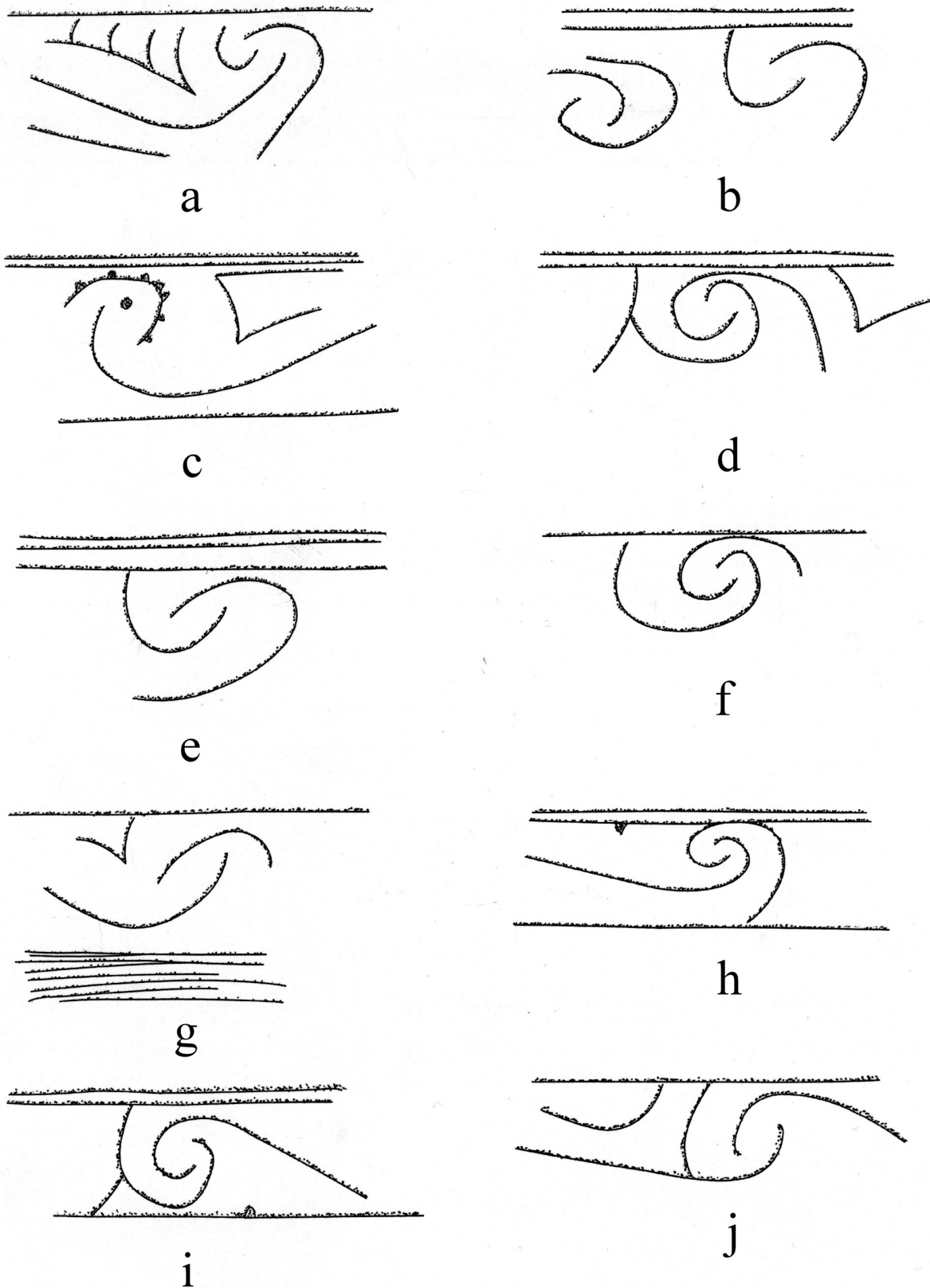


Figure 18. Drawings of the engraved motifs on Taylor Engraved carinated bowl rim sherds at the Ware Acres site.

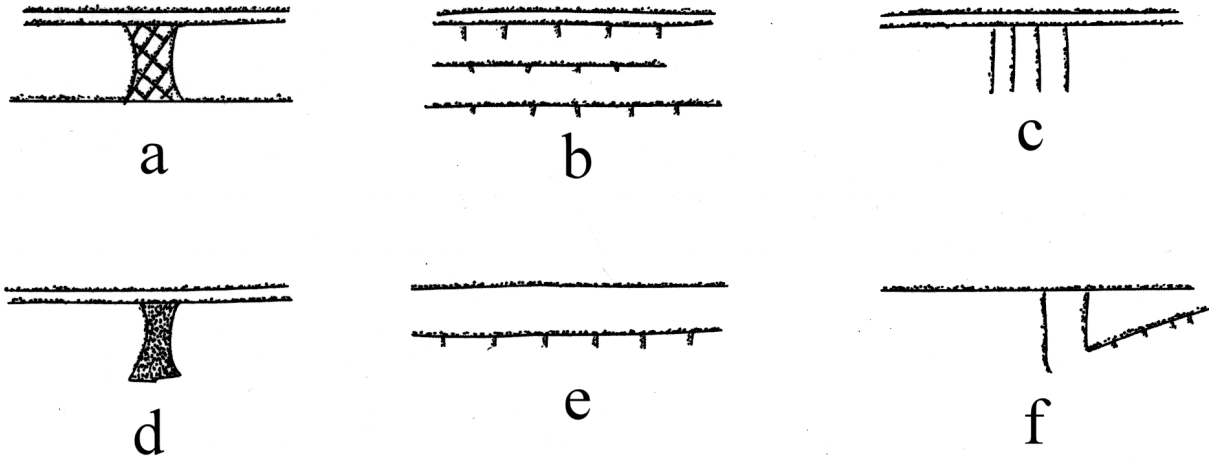


Figure 19. Drawings of the engraved motifs on Simms Engraved carinated bowl rim sherds at the Ware Acres site.

Table 2. Utility ware sherds from the Ware Acres site.

| Decorative Method | Rim | Body | N |
|----------------------------|-----|------|-----|
| Applied | 3 | 8 | 11 |
| Brushed | 14 | 106 | 120 |
| Brushed-Applied | 1 | 1 | 6 |
| Brushed-Punctated | 1 | 3 | 4 |
| Incised | 25 | 14 | 39 |
| Incised-Applied | 1 | 1 | 2 |
| Incised-Punctated | 16 | 1 | 15 |
| Lip Notched | 2 | - | 2 |
| Neck Banded | 2 | - | 2 |
| Neck Banded-Tool Punctated | 1 | - | 1 |
| Pinched | 2 | - | 2 |
| Punctated-Fingernail | - | 4 | 4 |
| Punctated-Tool | 22 | 9 | 31 |
| Totals | 90 | 147 | 237 |

Applied

The three applied rim sherds have applied nodes below the lip (n=2) and a vertical applied ridge. Body sherds have parallel applied fillets (n=6) and curvilinear applied fillets (n=1), probably from the body of Harleton Applied vessels, and one body sherd has a straight applied ridge.

Brushed

The brushed rims have horizontal brushing marks (n=13) (Figure 20b), including one rim with a lug handle, and diagonal brushing marks (n=1). These are likely from Bullard Brushed jars, but there are other utility ware types that have brushed rims and bodies decorated with other decorative elements. One lower rim-body carinated bowl sherd has a plain rim and a horizontal brushed body. Other body sherds have parallel (n=96), vertical (n=1), and overlapping (n=8) brushing marks.

Brushed-Appliqued

One brushed-appliqued rim sherd has vertical brushing marks on either side of a vertical appliqued ridge. The one body sherd, perhaps from a Pease Brushed-Incised vessel, in this group has parallel brushing marks adjacent to a straight appliqued fillet.

Brushed-Punctated

Brushed-punctated rim and body sherds comprise only 1.7% of the utility wares (see Table 2). One rim has a tool punctated row under the vessel lip, and the remainder of the rim has diagonal brushing marks. Two body sherds have a row of tool punctations adjacent to parallel brushing marks, while another body sherd has a row of fingernail punctations adjacent to parallel brushing marks.

Incised

The majority of the incised rim sherds have sets of diagonal lines (n=13) or vertical incised lines (n=5, see Figure 20d). Other rims have diagonal opposed lines (n=3) (Figure 21a), horizontal and vertical lines (n=2, Figure 21e), cross-hatched lines (n=1), diagonal and horizontal incised lines (n=1, Figure 21b), and horizontal lines (n=1).

Body sherds have many parallel incised lines (n=8). Three others, probably from Maydelle Incised jars, have incised chevrons.

Incised-Appliqued

Two sherds in the utility wares have incised-appliqued decorative elements. The rim has an incised circle and an adjacent appliqued node. A body sherd has a single incised line and an adjacent appliqued fillet.

Incised-Punctated

Many of the incised-punctated rims from the Ware Acres site have diagonal incised lines with a row of tool punctations under the lip (n=7). Others have vertical incised lines with a tool punctated row under the vessel lip (n=5, Figure 22b), and cross-hatched incised lines below a tool punctated row (n=1, Figure 22c; see also Figure 21c) or above a row of tool punctates at the rim-body juncture. One rim from a Maydelle Incised jar has incised chevrons below a rim of tool punctations under the lip (Figure 22a; see also Figure 21d). One other Maydelle Incised rim has diagonal incised lines creating triangles that are filled with tool punctates.

Lip Notched

Two plain rims have diagonal lip notching on their flat lips.

Neck Banded

Two La Rue Neck Banded jar rims are in the collection. They have multiple horizontal rows of neck banding.

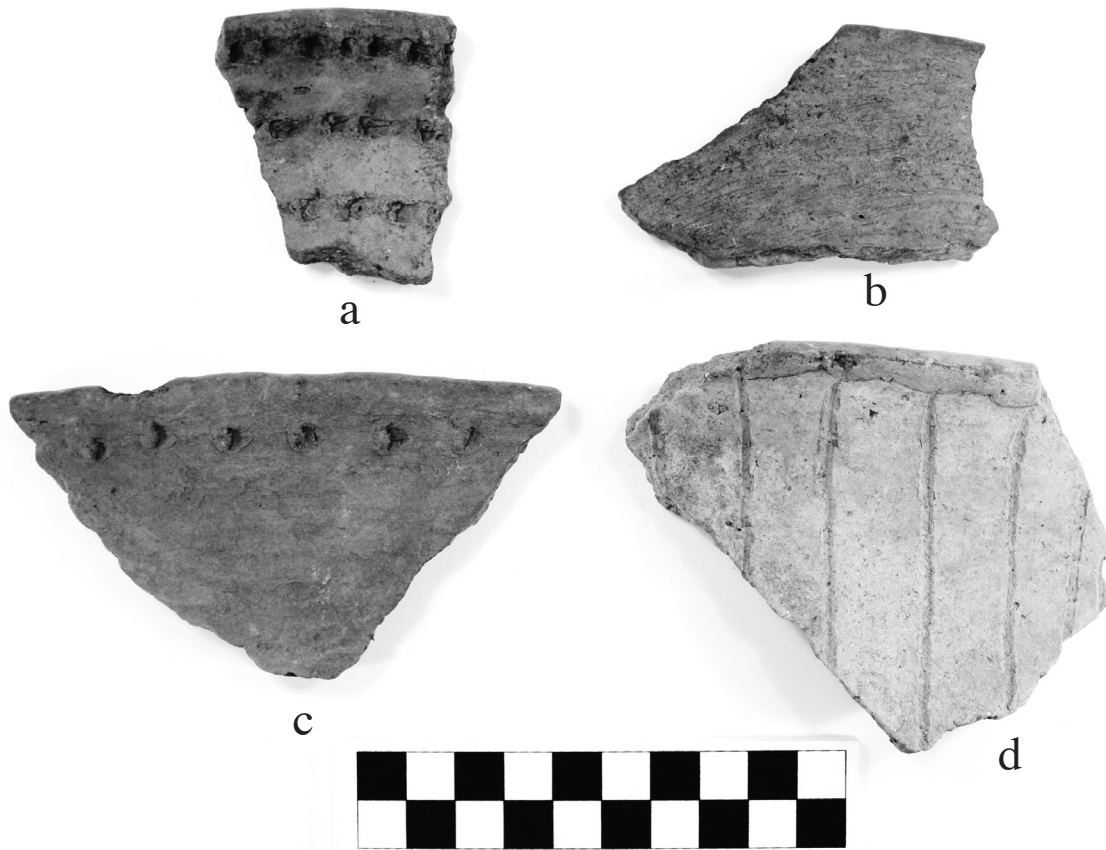


Figure 20. Utility ware rim sherds: a, tool punctated rows; b, horizontal brushed; c, tool punctated row under the vessel lip; d, vertical incised.

Neck Banded-Tool Punctated

Another La Rue Neck Banded rim has several rows of neck banding and a single tool punctated row at the rim-body juncture of a cooking jar.

Pinched

The two pinched rims are from Killough Pinched jars. They have vertical pinched rows.

Punctated-Fingernail

The use of fingernail punctates as a decorative method is infrequent in the Ware Acres utility wares. There are only four body sherds decorated with at least one row of fingernail punctations.

Punctated-Tool

Tool punctated sherds have multiple rows of punctations on the rim (see Figure 20a), as well as a single row of tool punctates under the vessel lip (see Figure 20c). Nine body sherds have from one to multiple rows of punctations, indicating that some utility ware jars were decorated on the vessel body with punctates.

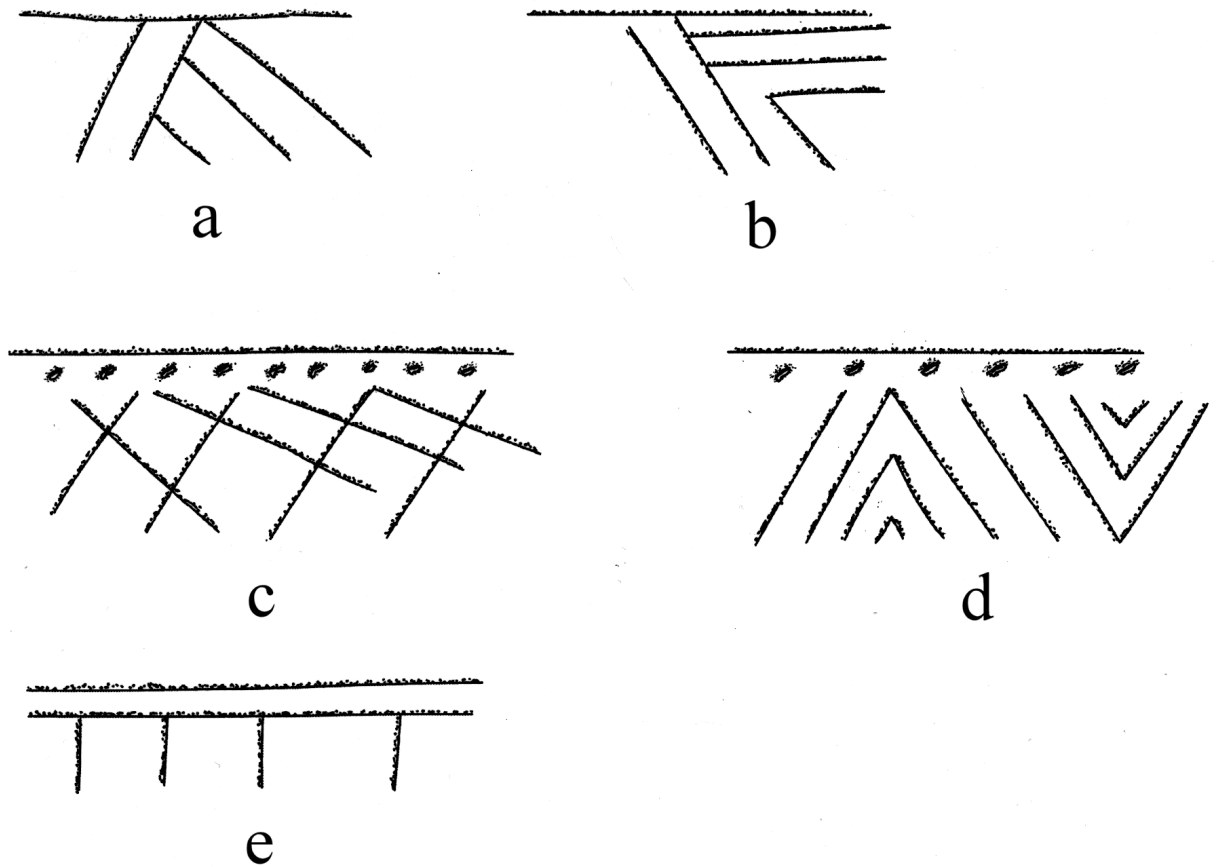


Figure 21. Drawings of incised and incised-punctated rim motifs: a-b, e, incised; c-d, incised-punctated.



Figure 22. Incised-punctated rim sherds from the Ware Acres site.

SUMMARY AND CONCLUSIONS

In 1959 or 1960, Buddy Calvin Jones excavated about a 28 m² area in an apparent trash midden deposit in Area C at the Ware Acres site (41GG31) on Grace Creek in the Sabine River basin. He also discovered and excavated a late 17th-early 18th century Historic Caddo (Kinsloe phase) burial in Area B at the site.

In the Area C excavations, Jones (1968:17) reported that he recovered more than 15,000 ceramic sherds from a variety of Late Caddo, Titus phase types, and that a separate report discussing these sherds and excavations was in preparation. That report was never written, but eventually collections from the Ware Acres site were donated to the Gregg County Historical Museum in 2003, and we were able to document the Area C sherds—or at least a portion of them (n=1942 sherds)—that could be securely identified as to their specific intra-site provenience.

Our analysis of the sherds indicates that they are part of a Late Caddo Titus phase ceramic tradition based on the manufacture of primarily grog-tempered plain wares, utility wares, and fine wares. Plain wares include jars, bowls, and carinated bowls, while much of the utility wares, almost exclusively from jars, have brushed, incised, punctated, and incised-punctated rim and/or body decorations. Important types include Maydelle Incised and Bullard Brushed, but Killough Pinched, Harleton Appliqued, and La Rue Neck Banded jar sherds were present in smaller proportions in the assemblage. Fine wares—carinated bowls and compound bowls—are from carinated bowls and compound bowls, as well as a few bottle sherds.

Several varieties of Ripley Engraved are particularly abundant at the site, along with Taylor Engraved, Simms Engraved, and Patton Engraved carinated bowl sherds; the Patton Engraved sherd is likely indicative of some use of Area C by Caddo peoples at the same time in the late 17th-early 18th century they had occupied Area B, and had buried at least one individual. The principal varieties of Ripley Engraved at the Ware Acres site are *var. McKinney* (pendant triangle motif), with 61% of the identified Ripley Engraved sherds, followed by (and in decreasing proportions) sherds with *var. Galt* (scroll and circle motif), *var. Gandy* (scroll motif), *var. Pilgrims* (horizontal interlocking scroll motif), *var. Carpenter* (continuous scroll motif), and *var. Williams* (nested triangle motif) decorative elements.

In the absence of radiocarbon dates from Area C at the Ware Acres site, our estimation of when the Area C trash midden deposits date to is through the consideration of the seriation of Ripley Engraved rim motifs from burial vessel and arrow point assemblages, as discussed in Perttula (1992:243-249). This frequency seriation was developed through a co-association of arrow point caches of different types (Perdiz, Bassett, Maud, and Talco) with distinctive Ripley Engraved rim motifs at a number of cemeteries (see Thurmond 1990; Turner 1978), namely the continuous scroll (*var. Carpenter*), the scroll (*var. Gandy*), scroll and circle (*var. Galt*), and the pendant triangle (*var. McKinney*). Presuming that the Perdiz arrow point was the earliest type used by Titus phase peoples, followed by the Bassett, Maud, and Talco points in later burials, the seriation suggests that the earliest style of Ripley Engraved was the *var. Carpenter* motif, then next came *var. Gandy* vessels, followed by *var. Galt*, and *var. McKinney* vessels (see Perttula 1992:Table A-2).

Relying on these frequency seriation results from a number of Titus phase cemeteries, as well as the proportions of the different Ripley Engraved carinated bowl motifs at the Ware Acres site, it is possible to suggest on the basis of the available evidence when the midden may have been in use. The high proportions of *var. McKinney* vessels, along with the relative abundance of both Simms Engraved and Taylor Engraved carinated vessels suggests it dates primarily to the late Titus phase, sometime between ca. A. D. 1550-1680. The absence of inverted rim carinated bowls, probably a post-A.D. 1600 ceramic innovation among Titus phase potters and other Caddo groups (Perttula et al. 2012:313), in the Ware Acre site fine wares further suggests that the occupation may have principally occurred between ca. A.D. 1550-1600, although earlier use during the Titus phase is also likely. Further supporting the post-A.D. 1550 age of the Ware Acres Area C ceramics is that two calibrated radiocarbon dates from the Henry Spencer site (41UR315) cemetery indicate that it was used primarily between A.D. 1450-1530, and no Ripley Engraved, *var. McKinney* vessels were in the large mortuary vessel assemblage there (Perttula et al. 2012:314).

It does not appear to be the case that the Ware Acres, Area C, Titus phase ceramic assemblage is associated with the Pine Tree Mound community 25-40 km downstream along the Sabine River and its tributaries (see Fields and Gadus 2012:Figure 9.10), even though they were generally contemporaneous; the radiocarbon dates from Pine Tree Mound indicate that the community was there from sometime in the 15th century A.D. until ca. A.D. 1650 (Fields and Gadus 2012:Figure 9.2). There are significant differences between the Ware Acres and Pine Tree ceramic assemblages from domestic contexts, given the absence of sherds and vessels with the pendant triangle motif on bowls and carinated bowls at Pine Tree Mound (Fields and Gadus 2012:674) and the great abundance at Ware Acres of rims with the pendant triangle motif (Ripley Engraved, *var. McKinney*). Slanted scroll, half scrolls, and scroll with circle motifs, conversely, are predominant at Pine Tree Mound (Fields and Gadus 2012:434, 477 and Table 6.1) in both domestic and mortuary contexts, but these Ripley Engraved motifs are decidedly secondary motifs in the fine wares at Ware Acres.

Presuming that how fine wares were decorated by potters, and the principal motifs that were preferred or not preferred by communities of Caddo potters, would be a measure of social identity and the existence of shared ceramic and cultural traditions and beliefs, it seems reasonable to conclude that the Pine Tree Mound community maintained a different social identity than the community to which Ware Acres was more closely associated. Given that the same range of Ripley Engraved motifs can be found in both communities, there clearly must have been some social interaction and the sharing of beliefs between these two Sabine River Titus phase communities beginning by the late 16th century and probably both before and after.

It is more likely that the main late 16th century occupation of the Ware Acres site is part of a not fully defined Caddo community on Grace Creek and nearby Hawkins Creek on the north side of the Sabine River, given the existence of Titus phase cemeteries on the latter creek (41GG51, 53-56) where Ripley Engraved, *var. McKinney* vessels were predominant among the mortuary vessels. There must also have been strong interaction with contemporaneous Titus phase political communities on the lower part of Big Cypress Creek (in the Lake O' the Pines area) (see Perttula 2012:Figure 13-2; Thurmond 1990) and on Little Cypress Creek and its tributaries (see Perttula et al. 2012) because Ripley Engraved, *var. McKinney* vessels are quite common in post-A.D. 1550 mortuary vessel assemblages from cemeteries in these areas.

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Temporal Dynamics of East Texas Caddo Sites with 10 or More Radiocarbon Dates

Robert Z. Selden, Jr. and Timothy K. Perttula

INTRODUCTION

This article represents supplementary data (see Selden and Perttula 2013) highlighting the specifics of date combination and the subsequent production of summed probability distribution samples for Caddo sites in East Texas. All radiocarbon (^{14}C) dates employed in this effort were collected from research and cultural resource management (CRM) reports and publications, synthesized, then recalibrated in version 4.1.7 of OxCal (Bronk Ramsey 2012) using IntCal09 (Reimer et al. 2009) (Perttula and Selden 2011).

The raw sample of Caddo ^{14}C dates ($n=889$, with a standard deviation of 58) exceeds the minimum number of dates—750 suggested by Michczyńska and Pazdur (2004) and 500 by Williams (2012)—but the combined sample ($n=407$, with a standard deviation of 53) does not meet the required minimum number of dates necessary to achieve significance. However, the distilled sample of 407 dates reduces probability bias introduced by sites with large numbers of ^{14}C dates, and provides a more accurate representation of the temporal character for sites with ≥ 10 ^{14}C dates (see also Selden and Perttula 2013).

METHODS

The date combination (R_Combine) process assumes that if all assays collected at a particular site draw carbon from the same reservoir, then they should have the same underlying $F^{14}\text{C}$ value and can be combined prior to calibration (Bronk Ramsey 2008). The measurements have Gaussian uncertainty distributions, and χ^2 was used to test the assumption that all ratios are the same to reveal whether compelling evidence exists—at the 95% confidence level—that dates cannot be related to the same event (Bronk Ramsey 2008). Each site-specific figure provides the summed probability distributions (SPDs), calibrated age range for combined assays, and all dates utilized to inform these results.

Although ^{14}C determinations are most often represented in the form $A \pm E$ where A is the radiocarbon estimate (B.P.) and E represents the standard deviation, the method of date combination can be used to create a new ^{14}C determination from multiple assays, often with the ancillary benefit of a decrease in the standard deviation (Ward and Wilson 1978). To test whether a series of ^{14}C determinations are consistent, the pooled mean is calculated by way of A_p , where:

$$A_p = \left(\sum_1^n A_i / E_i^2 \right) / \left(\sum_1^n 1 / E_i^2 \right)$$

followed by the test statistic, T , where

$$T = \sum_1^n (A_i - A_p)^2 / E_i^2$$

the latter of which illustrates a chi-square distribution on $n - 1$ degrees of freedom under the null hypothesis (see Clark 1975:252; Ward and Wilson 1978:21).

Provided that the ^{14}C determinations are found not to be significantly different, they can then be combined with the pooled age as A_p given by (I), and the variance given by:

$$V(A_p) = \left(\sum_1^n 1/E_i^2 \right)^{-1}$$

(Ward and Wilson 1978:21), which is a process accessible in OxCal by way of the R_Combine function. Once combined with R_Combine, a new date range, standard deviation, and median age is provided for the combined samples (Figure 1). In this study, the new date range replaces the combined dates and was employed within the revised summed probability distribution, while the new median date was used for statistical analyses (see also Selden 2012, 2013; Selden and Perttula 2013).

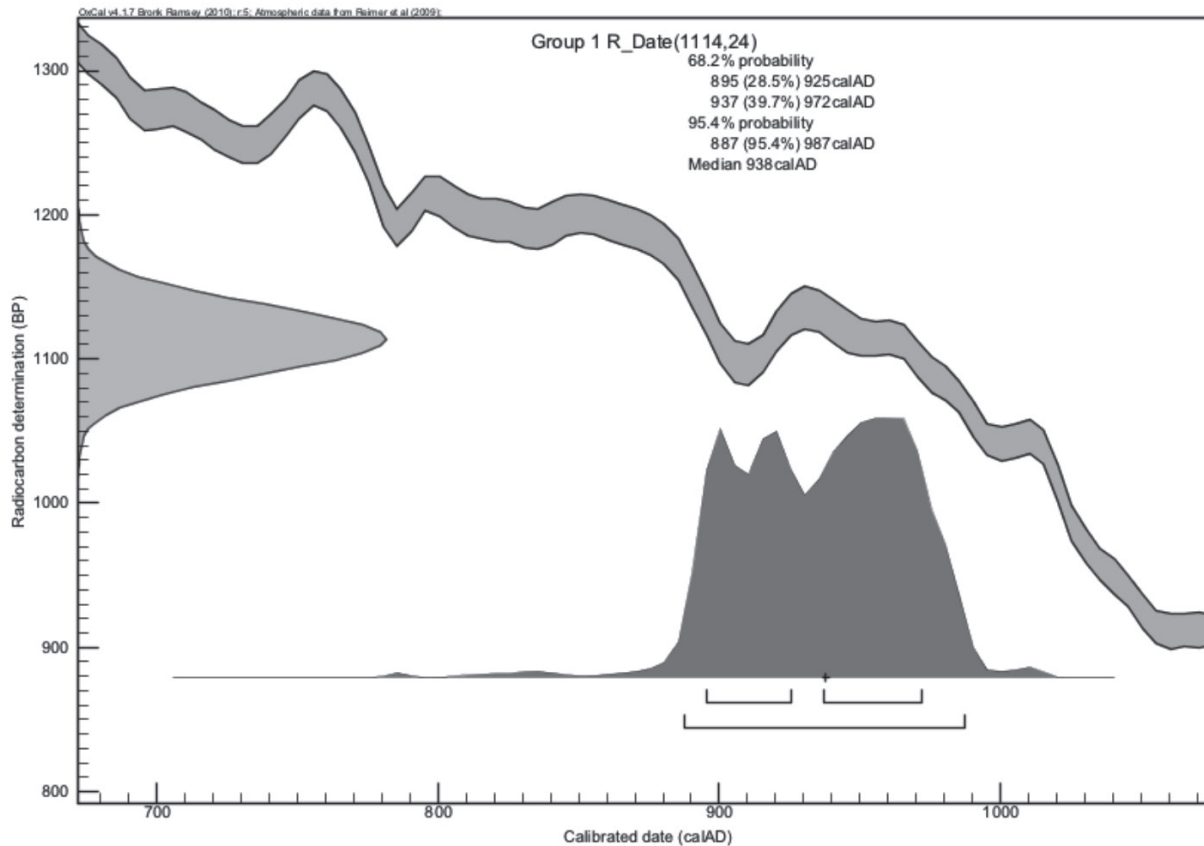


Figure 1. Calibrated results from the R_Combine function for the Lang Pasture site (41AN38), Group 1.

RADIOCARBON CURVE FOR THE ANCESTRAL CADDO TRADITION

Conventional ^{14}C dates employed in this study were recalibrated using IntCal09 (Figure 2). The radiocarbon curve serves as the basis for date calibration and can aid the process of archaeological interpretation by highlighting temporal zones with reversals and plateaus. Within the span of time of the East Texas Caddo (ca. A.D. 800-1680), the curve has six reversals of varying degrees: ca. A.D. 890-940, A.D. 990-1010, A.D. 1040-1160, A.D. 1180-1210, A.D. 1290-1380, and A.D. 1480-1610. There are also two plateaus within the curve at ca. A.D. 800-870 and A.D. 1220-1260. While this does not produce clues regarding the specific timing of human behaviors, it helps to clarify why some radiocarbon dates have longer spans of probability than others.

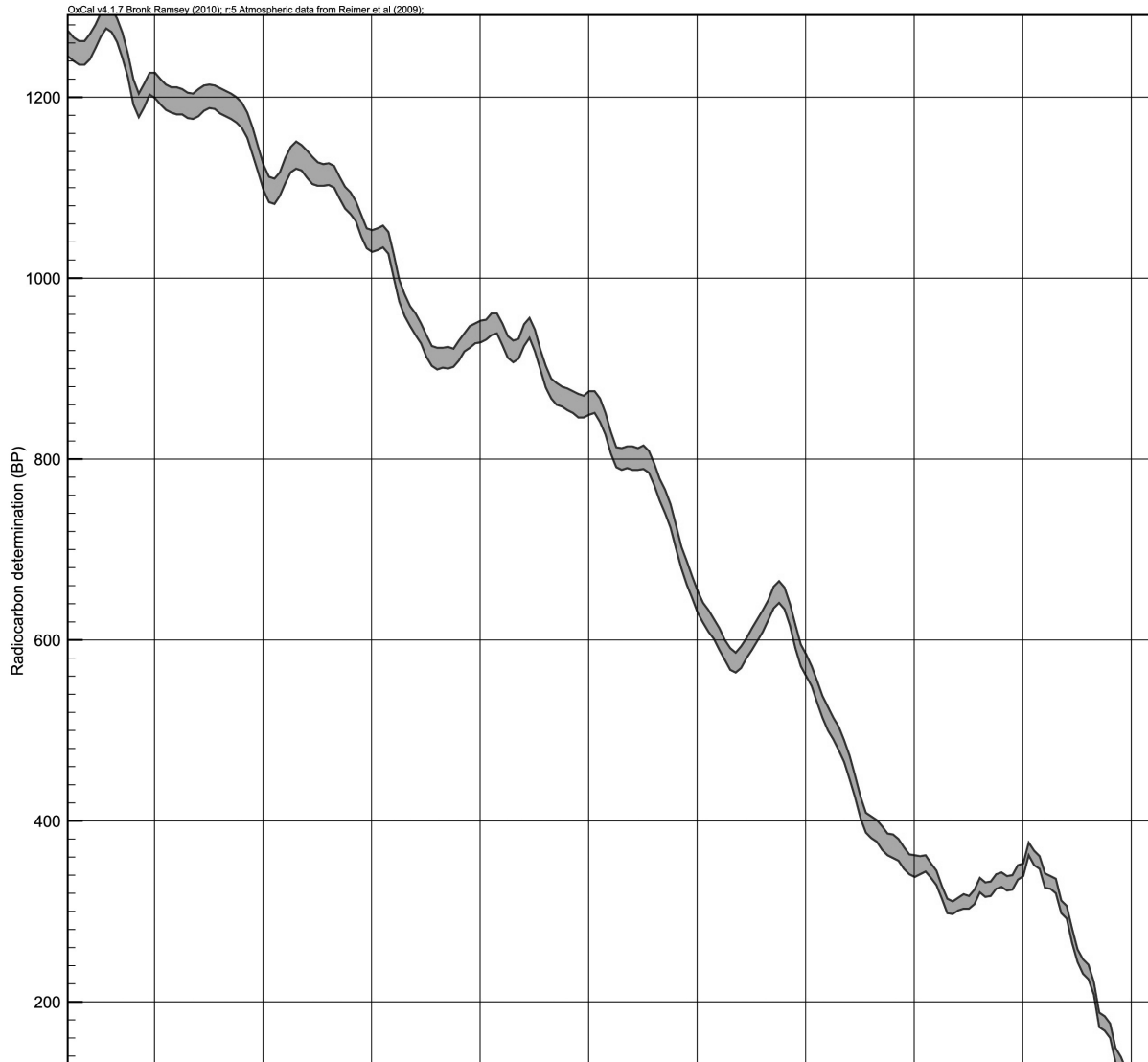


Figure 2. IntCal09 Radiocarbon calibration curve for the ancestral Caddo tradition.

The 1248 corrected dates in the East Texas Radiocarbon Database (ETRD) were calibrated utilizing OxCal 4.1.7 (Bronk Ramsey 2013) and IntCal09 (Reimer et al. 2009). With few exceptions where conventional radiocarbon ages were reported to include older assays found to lack $\delta^{13}\text{C}$ data, value estimates were made for fractionation correction as suggested by Stuiver and Reimer (1993:Table 1): -25% for nutshells and charcoal (C_3 plants), and -10% for charred maize (C_4 plants) (Pertulla and Selden 2011).

The Caddo sample was selected from the ETRD on the basis of median age. If the median age fell within the currently accepted temporal construct (ca. A.D. 800-1680) for the Caddo tradition (see Story 1990; Selden and Pertulla 2013:Table 1), it was included. Dates not included within this study were those (1) from sites found to lack geographic coordinates, (2) with a standard deviation greater than 200 years, or (3) from non-archaeological contexts (i.e., geoarchaeological profile, backhoe trench, or cutbank not on a site). All remaining dates comprise the foundation of the Caddo sample from East Texas. Data fields imported from the ETRD include site name, trinomial (site number), assay number, raw age, $\delta^{13}\text{C}$, corrected ^{14}C age, 2 sigma calibrated age range, and median age.

Within the distribution of Caddo ¹⁴C assays (n=889) from the ETRD, there are 117 sites that have from one to five ¹⁴C samples, 17 sites with 6-10 samples, seven sites with 11-20 sites, four sites with 21-30 samples, two sites with 31-40 samples, one site with 41-50 samples, and two sites with 91-110 samples. The assays from the 19 sites with ≥ 10 ¹⁴C dates were combined via OxCal for two reasons: (1) to reduce the standard deviation and increase the accuracy of each site's temporal assignments and (2) to reduce sampling bias created by the number of samples during statistical analyses.

Once combined, a summed probability distribution (SPD) was produced for each of the 19 sites to illustrate the position of each within the Caddo ancestral tradition. The dates were plotted in a manner where the SPDs, the combined groups, and the individual assays that inform them can be viewed together. These efforts permit the uncombined SPD for each site to be contrasted with the combined SPD and the combined groups that comprise it. This comparison demonstrates the impact that each site has upon the whole of the Caddo sample, and allows for a discussion of regional trends within the temporal sample.

COMBINING THE SAMPLE

Caddo sites with ≥ 10 ¹⁴C dates include Lang Pasture (41AN38), George C. Davis (41CE19), Kitchen Branch (41CP220), Pilgrim's Pride (41CP304), Hickory Hill (41CP408), Spider Knoll (41DT11), Arnold (41HP102), Hurricane Hill (41HP106), Peerless Bottoms (41HP175), Pine Tree Mound (41HS15), Tallow Grove (41NA231), Beech Ridge (41NA242), Nawi haia ina (41RK170), Oak Hill Village (41RK214), Ear Spool (41TT653), George E. Richey (41TT851), William A. Ford (41TT852), James E. Richey (41TT853), and Rookery Ridge (41UR133). Below, the ¹⁴C assays from these 19 sites are refined through date combination, and the subsequent results (combined dates) replace the original assays within the analysis of all Caddo dates. Radiocarbon samples from these sites were refined through date combination in an effort to (1) decrease the bias and standard deviation of the Caddo sample prior to statistical analysis, and (2) to create accurate site and period-specific summed probability distributions.

Lang Pasture (41AN38)

The Caddo period ¹⁴C dates from the Lang Pasture site (n=23) were combined into four groups (Figure 3). Group 1 consists of Beta-236845, Beta-236774, and Beta-236779. Group 2 consists of Beta-236784 and Beta-236789. Group 3 consists of Beta-236772, Beta-236775, Beta-236777, Beta-236783, Beta-236793, Beta-239846, Beta-236785, Beta-236786, Beta-236781, Beta-239850, Beta-236782, and Beta-236780. Group 4 consists of Beta-236773, Beta-236792, and Beta-236776. Those dates from the site that are unable to be combined are Beta-236788 and Beta-239847 (Perttula and Selden 2011).

George C. Davis (41CE19)

The Caddo period ¹⁴C dates from the George C. Davis site (n=115) were combined into three groups (Figure 4). Group 1 consists of Tx-919, Tx-1223, Tx-4624, Tx-4195, Tx-1294, Tx-1295, Tx-908, Tx-4189, Tx-4188, Tx-8309, Tx-1212, Tx-913, Tx-920, Tx-925, Tx-3307, Tx-1399, Tx-676, Tx-1204, Tx-1222, Tx-1227, Tx-3694, Tx-1202, Tx-922, Tx-1208, Tx-677, Tx-1308, Tx-914b, Tx-914a, Tx-1398, Tx-3270, Tx-1307, Tx-4194, Tx-4198, Tx-4201, Tx-923, Tx-4196, Tx-3400, Tx-4623, Tx-1217, Tx-675, Tx-1206, Tx-1221, Tx-926, Tx-3399, and Tx-4187. Group 2 consists of Tx-917, Tx-1224, Tx-4186, Tx-906a, Tx-907, Tx-3692, Tx-3273, Tx-1213, Tx-921, Tx-924, Tx-1310, Tx-4193, Tx-4622, Tx-1201, Tx-1168, Tx-3275, Tx-1203, Tx-1315, Tx-916, Tx-1210, Tx-1397, Tx-1311, Tx-3310, Tx-4618, Tx-912, Tx-4192, Tx-1209, Tx-1211, Tx-905, Tx-1215, Tx-1313, Tx-1228, Tx-4199, Tx-1405, Tx-1395, Tx-910, Tx-915, Tx-3267, Tx-3697, Tx-3272, Tx-3276, Tx-918, Tx-1316, Tx-1214, Tx-4190, Tx-4340, Tx-3401, Tx-3271, Tx-1216, Tx-4616, Tx-1231, Tx-1317, Tx-4197, Tx-1312, Tx-4185, Tx-1318, Tx-3269, Tx-1320, Tx-1396, Tx-3274, Tx-1226, Tx-1314, and Tx-1319. Group 3 consists of Tx-3308 and Tx-1207.

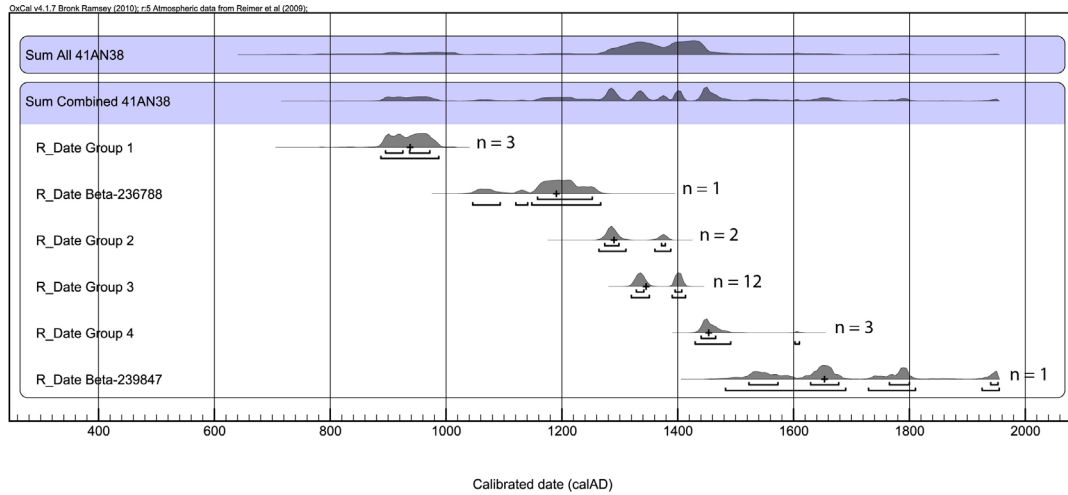


Figure 3. All and combined summed probability distributions for Caddo period dates from the Lang Pasture site (41AN38) with 1σ and 2σ ranges, median ages, and number of samples.

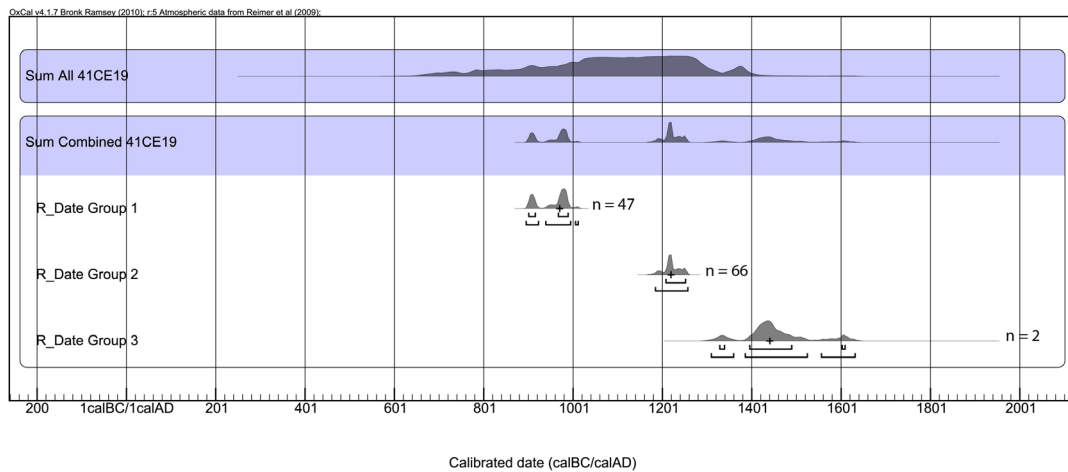


Figure 4. All and combined summed probability distributions for Caddo period dates from the George C. Davis site (41CE19) with 1σ and 2σ ranges, median ages, and number of samples.

Kitchen Branch (41CP220)

The Caddo period ¹⁴C dates from the Kitchen Branch site (n=18) were combined into four groups (Figure 5). Group 1 consists of Beta-322672, Beta-319968, and Beta-319972. Group 2 consists of Beta-319974 and Beta-322666. Group 3 consists of Beta-322668, Beta-322669, Beta-322671, and Beta-322673. Group 4 consists of Beta-204251, Beta-319967, Beta-322665, Beta-204250, Beta-319973, and Beta-319969. Those dates unable to be combined include Beta-322667, and Beta-319977.

Pilgrim's Pride (41CP304)

The Caddo period ¹⁴C dates from the Pilgrim's Pride site (n=29) could be combined into two groups (Figure 6). Group 1 consists of Beta-138865, Beta-138860, Beta-138854, Beta-138864, Beta-138866, Beta-138858, Beta-133239, Beta-138853, Beta-138852, Beta-138850, and Beta-138856. Group 2 consists of Beta-132239, Beta-138857, Beta-125987, Beta-132240, Beta-133240, Beta-132243, Beta-138863, Beta-138862, Beta-125985, Beta-138867, Beta-138859, Beta-138851, Beta-125986, Beta-132242, Beta-138855, Beta-132244, Beta-132241, and Beta-132245.

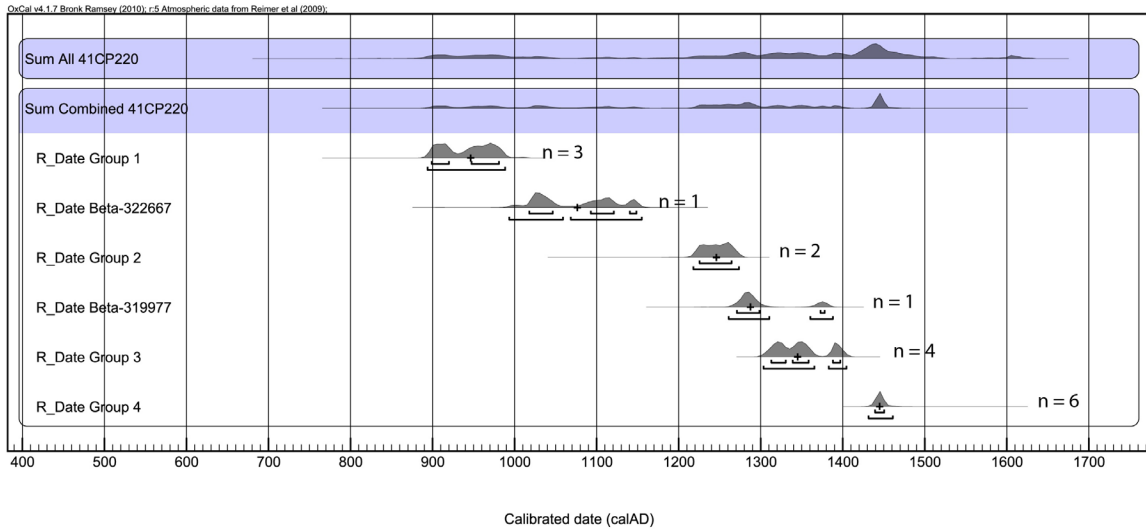


Figure 5. All and combined summed probability distributions for Caddo period dates from the Kitchen Branch site (41CP220) with 1 σ and 2 σ ranges, median ages, and number of samples.

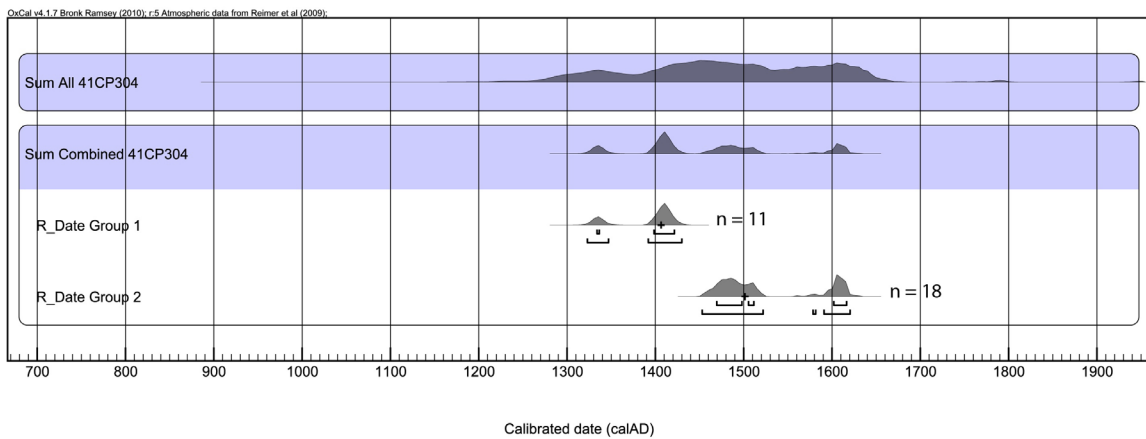


Figure 6. All and combined summed probability distributions for Caddo period dates from the Pilgrim's Pride site (41CP304) with 1 σ and 2 σ ranges, median ages, and number of samples.

Hickory Hill (41CP408)

The Caddo period ¹⁴C dates from the Hickory Hill site (n=27) were combined into three groups (Figure 7). Group 1 consists of Beta-184990, Beta-184993, Beta-184991, Beta-314351, Beta-313934, Beta-313936, Beta-313931, and Beta-184992. Group 2 consists of Beta-313950, Beta-184994, Beta-313933, Beta-313949, Beta-313939, Beta-313937, Beta-313947, Beta-313349, Beta-313951, Beta-313942, Beta-313953, Beta-313940, Beta-313948, and Beta-313941. Group 3 includes Beta-313945, Beta-313952, Beta-313944, and Beta-313946. Only one date (Beta-313943) was unable to be combined.

Spider Knoll (41DT11)

The Caddo period ¹⁴C dates from the Spider Knoll site (n=22) could be combined into two groups (Figure 8). Group 1 consists of Beta-48769, Beta-65799, Beta-65796, Beta-65803, Beta-65798, Beta-48768, Beta-46858, Beta-63301, Beta-63305, Beta-46860, Beta-63297, Beta-63303, Beta-63300, Beta-63302, Beta-65802, and Beta-65801. Group 2 includes Beta-65804, Beta-63304, Beta-46859, Beta-65797, Beta-63299, and Beta-63298.

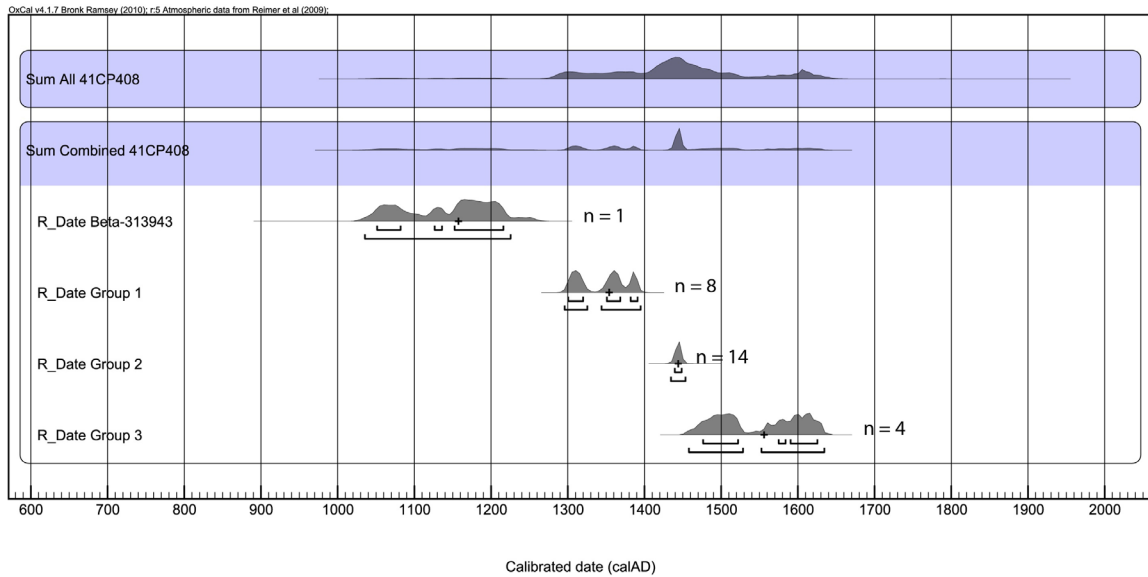


Figure 7. All and combined summed probability distributions for Caddo period dates from the Hickory Hill site (41CP408) with 1σ and 2σ ranges, median ages, and number of samples.

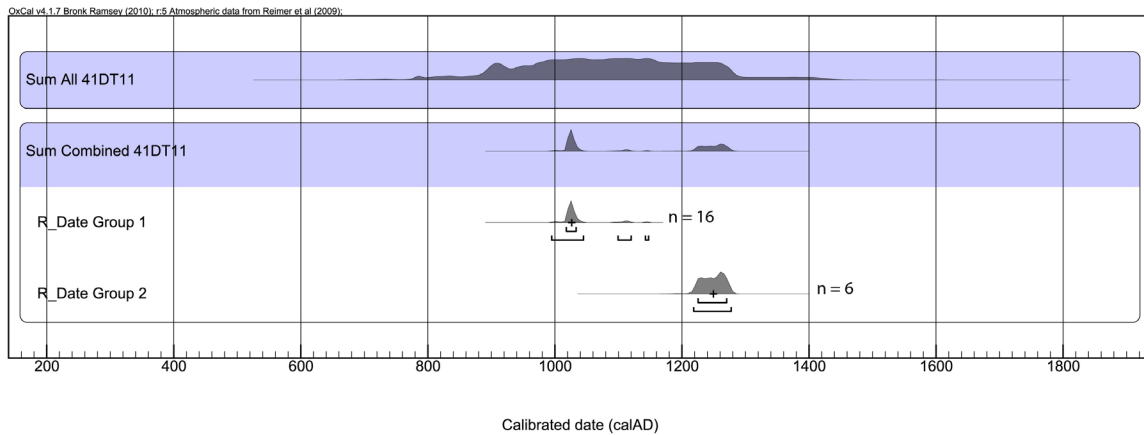


Figure 8. All and combined summed probability distributions for Caddo period dates from the Spider Knoll site (41DT11) with 1σ and 2σ ranges, median ages, and number of samples.

Arnold (41HP102)

The Caddo period ¹⁴C dates from the Arnold site (n=11) were combined into one group (Figure 9). Group 1 consists of SMU-346, Tx-2043, Tx-2041, SMU-316, SMU-325, SMU-310, SMU-341, SMU-328, Tx-2048, and Tx-2044. A single, and much later, radiocarbon date (Tx-2049) was unable to be combined.

Hurricane Hill (41HP106)

The Caddo period ¹⁴C dates from the Hurricane Hill site (n=11) could be combined into three groups (Figure 10). Group 1 consists of Beta-82918, Beta-82911, Beta-82922, and Beta-82916. Group 2 consists of Beta-82921, Beta-108169, Beta-82912, and Beta-82920. Group 3 includes Beta-82909, Beta-82919, and Beta-82910.

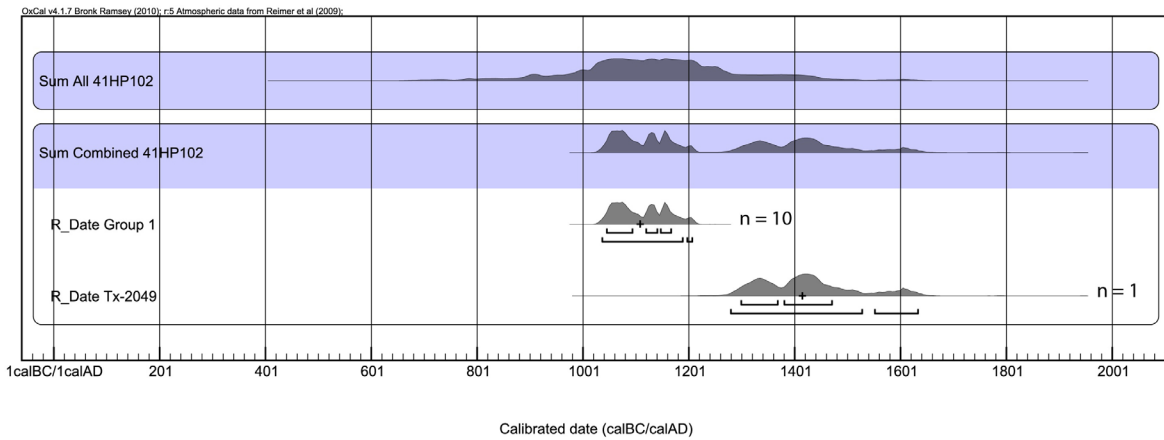


Figure 9. All and combined summed probability distributions for Caddo period dates from the Arnold site (41HP102) with 1σ and 2σ ranges, median ages, and number of samples.

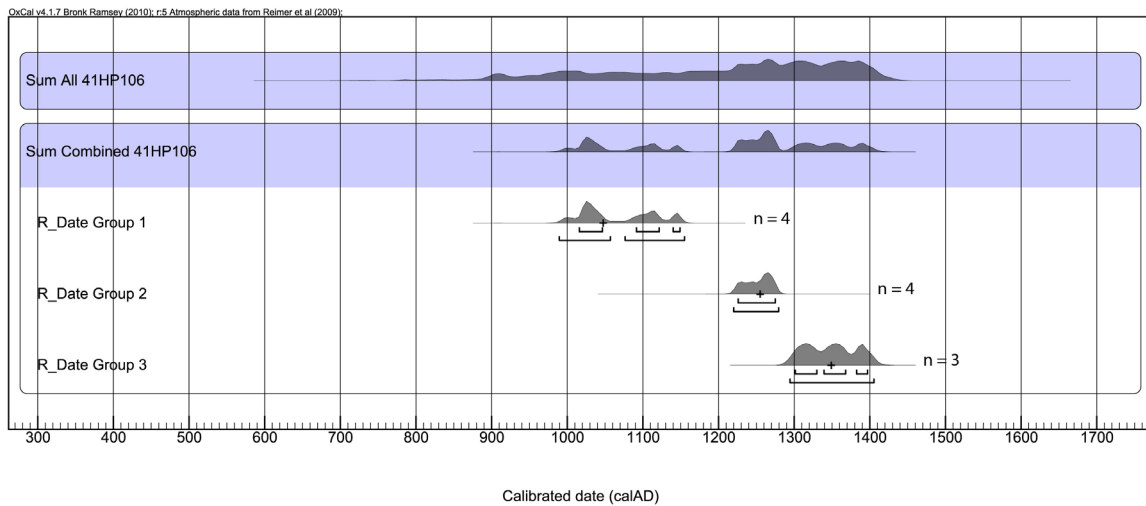


Figure 10. All and combined summed probability distributions for Caddo period dates from the Hurricane Hill site (41HP106) with 1σ and 2σ ranges, median ages, and number of samples.

Peerless Bottoms (41HP175)

The Caddo period ¹⁴C dates from the Peerless Bottoms site (n=11) were able to be combined into two groups (Figure 11). Group 1 consists of Beta-81385, Beta-51382, and Beta-52246. Group 2 consists of Beta-51387, Beta-51388, Beta-51390, Beta-51386, Beta-51392, Beta-51383, Beta-51391, and Beta-51389.

Pine Tree Mound (41HS15)

The Caddo period ¹⁴C dates from the Pine Tree Mound site (n=93) were combined into four groups (Figure 12). Group 1 consists of only two radiocarbon samples, Beta-242055 and Beta-217072. Group 2 consists of Beta-242053, Beta-260409, Beta-260404, Beta-260407, Beta-217066, Beta-217071, Beta-260414, Beta-217081, Beta-217073, Beta-260354, Beta-260380, Beta-260396, Beta-260411, Beta-217062, Beta-243451, Beta-243453, Beta-242057, and Beta-260381. Group 3 consists of Beta-260399, Beta-217056, Beta-217063, Beta-217080, Beta-217067, Beta-217074, Beta-260386, Beta-260366, Beta-260415, Beta-217057, Beta-217058, Beta-242051, Beta-242056, Beta-260385, Beta-217076, Beta-260355, Beta-260360,

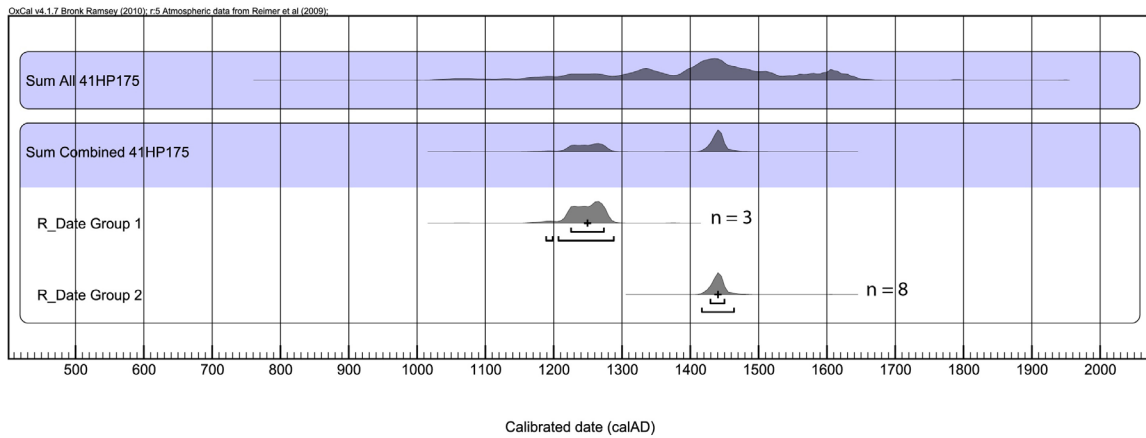


Figure 11. All and combined summed probability distributions for Caddo period dates from the Peerless Bottoms site (41HP175) with 1σ and 2σ ranges, median ages, and number of samples.

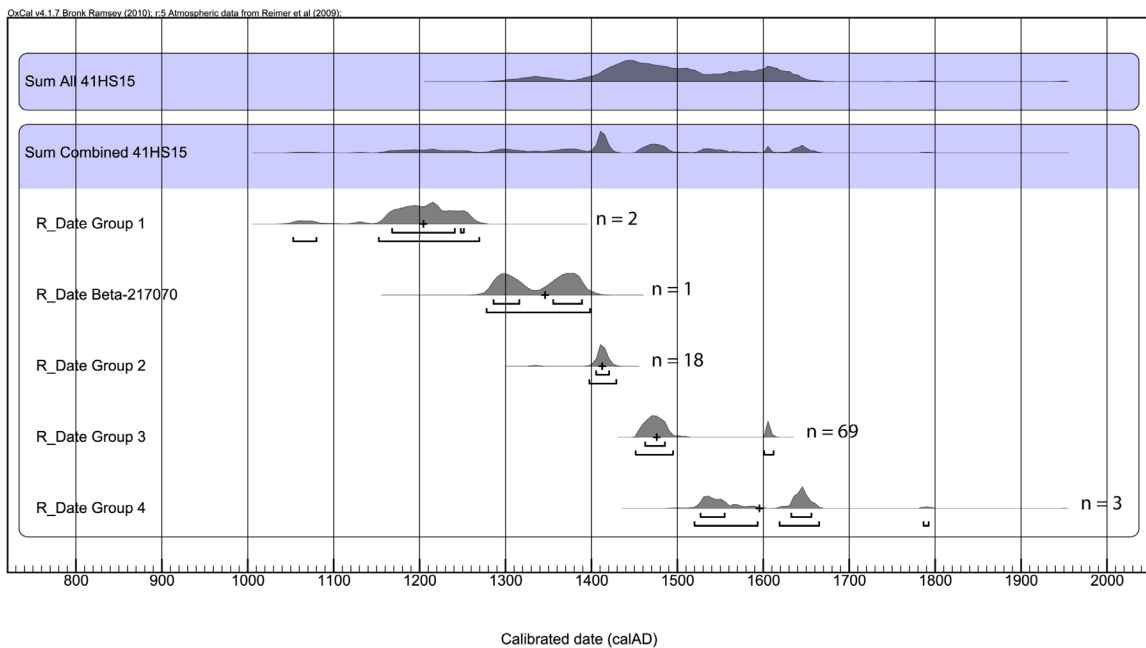


Figure 12. All and combined summed probability distributions for Caddo period dates from the Pine Tree Mound site (41HS15) with 1σ and 2σ ranges, median ages, and number of samples.

Beta-260367, Beta-160370, Beta-260410, Beta-217079, Beta-260368, Beta-260378, Beta-260402, Beta-260403, Beta-260363, Beta-260364, Beta-260412, Beta-264967, Beta-217064, Beta-243452, Beta-260405, Beta-217069, Beta-217060, Beta-217061, Beta-242052, Beta-260356, Beta-260362, Beta-217075, Beta-260395, Beta-217065, Beta-217068, Beta-242050, Beta-260376, Beta-260390, Beta-260400, Beta-264966, Beta-260388, Beta-260406, Beta-242054, Beta-260365, Beta-260377, Beta-260389, Beta-260398, Beta-217077, Beta-242047, Beta-260391, Beta-243450, Beta-260373, Beta-260375, Beta-260361, Beta-260397, Beta-260401, Beta-217059, Beta-217078, Beta-260384, Beta-260408, Beta-260413, and Beta-260353. Group 4 includes Beta-260369, Beta-260393, and Beta-260383. There is a single date (Beta-217070) that could not be combined.

Tallow Grove (41NA231)

The Caddo period ¹⁴C dates from the Tallow Grove site (n=15) could be combined into three groups (Figure 13). Group 1 consists of Beta-203659 and Beta-203662. Group 2 consists of Beta-193127, Beta-203657, Beta-187338, Beta-201985, Beta-193125, Beta-193128, and Beta-203661, while Group 3 includes Beta-203658, Beta-193129, Beta-193126, Beta-203660, Beta-204777, and Beta-204776.

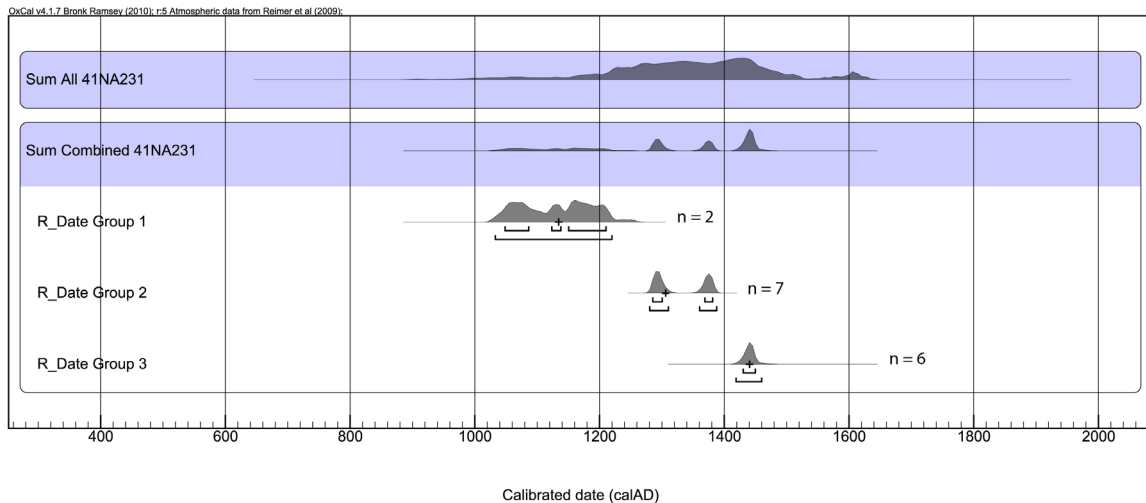


Figure 13. All and combined summed probability distributions for Caddo period dates from the Tallow Grove site (41NA231) with 1σ and 2σ ranges, median ages, and number of samples.

Beech Ridge (41NA242)

The Caddo period ¹⁴C dates from the Beech Ridge site (n=10) were combined into one group (Figure 14). Group 1 consists of Beta-187339, Beta-201988, Beta-193133, Beta-193132, Beta-201987, Beta-203671, Beta-198018, Beta-203670, and Beta-193130. A single, and later, radiocarbon date (Beta-193131) was unable to be combined.

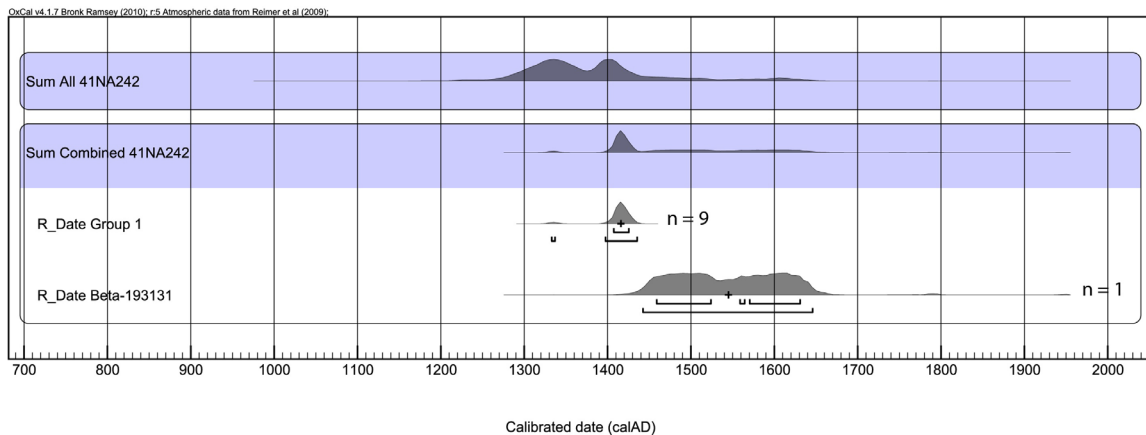


Figure 14. All and combined summed probability distributions for Caddo period dates from the Beech Ridge site (41NA242) with 1σ and 2σ ranges, median ages, and number of samples.

Nawi haia ina (41RK170)

The Caddo period ¹⁴C dates from the Nawi haia ina site (n=11) were able to be combined into two groups (Figure 15). Group 1 consists of Beta-166770, Beta-166764, Beta-166765, Beta-166762, Beta-166769, and

Beta-166768. Group 2 consists of Beta-166763, Beta-166766, and Beta-164353. Beta-166767 and Beta-164352 radiocarbon dates were unable to be combined with the other two groups.

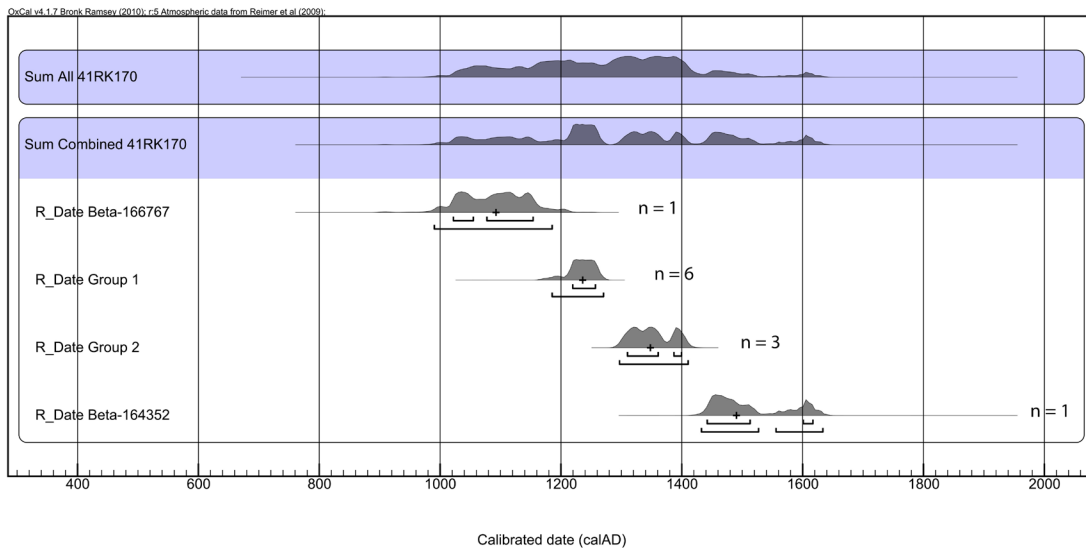


Figure 15. All and combined summed probability distributions for Caddo period dates from the Nawi haia site (41RK170) with 1σ and 2σ ranges, median ages, and number of samples.

Oak Hill Village (41RK214)

The Caddo period ¹⁴C dates from the Oak Hill Village site (n=32) were combined into two groups (Figure 16). Group 1 consists of Beta-110063, Beta-81681, Beta-96913, Beta-73939, Beta-81486, Beta-71486, Beta-96918, Beta-96920, Beta-96914, Beta-96919, Beta-96911, and Beta-96910. Group 2 includes Beta-96909, Beta-96912, Beta-96908, Beta-96916, Beta-60088, Beta-11062, Beta-110061, Beta-96915, Beta-110065, Beta-96921, Beta-73940, Beta-110064, Beta-110066, Beta-110067, Beta-110068, Beta-73936, Beta-73941, and Beta-107399. There are two dates (Beta-107401 and Beta-107400) that were unable to be combined.

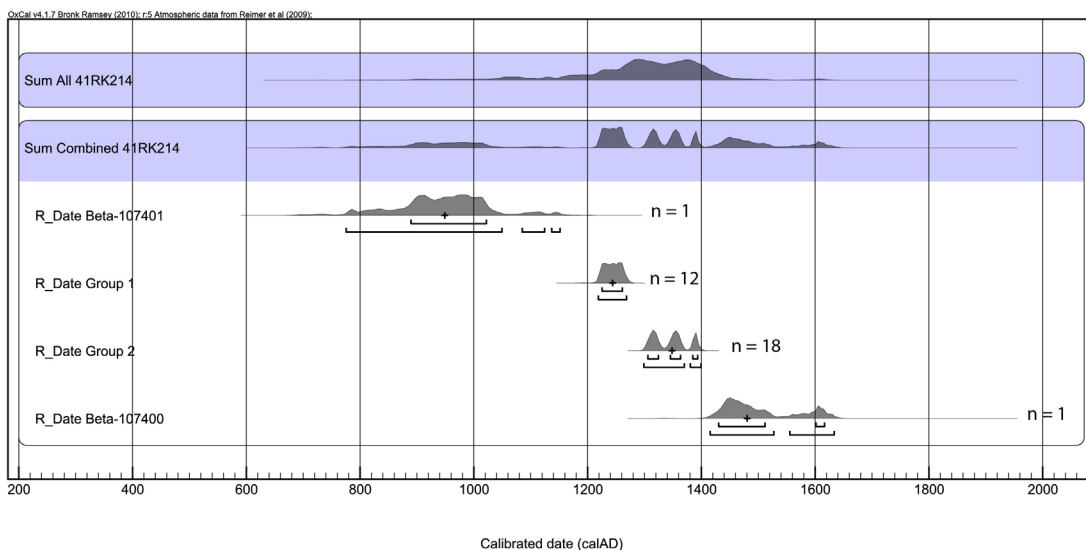


Figure 16. All and combined summed probability distributions for Caddo period dates from the Oak Hill Village site (41RK214) with 1σ and 2σ ranges, median ages, and number of samples.

Ear Spool (41TT653)

The Caddo period ^{14}C dates from the Ear Spool site ($n=17$) were combined into two groups (Figure 17). Group 1 consists of Beta-117274, Beta-117270, and Beta-119005. Group 2 consists of Beta-117271, Beta-119001, Beta-119006, Beta-229319, Beta-117275, Beta-105531, Beta-105530, Beta-119652, Beta-119623, Beta-119002, Beta-119003, Beta-117273, Beta-229322, and Beta-119264.

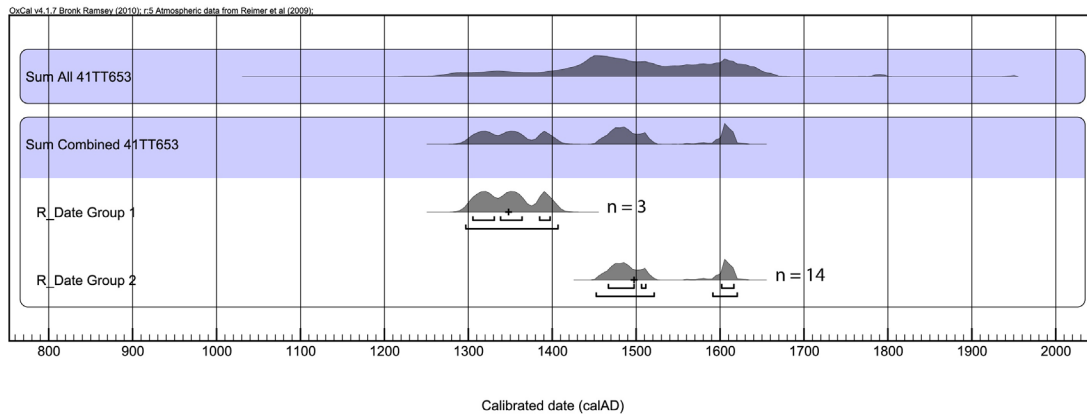


Figure 17. All and combined summed probability distributions for Caddo period dates from the Ear Spool site (41TT653) with 1σ and 2σ ranges, median ages, and number of samples.

George E. Richey (41TT851)

The Caddo period ^{14}C dates from the George E. Richey site ($n=44$) could be combined into six groups (Figure 18). Group 1 consists of Beta-300054 and Beta-305077. Group 2 consists of Beta-300036, Beta-300034, Beta-300039, and Beta-300027. Group 3 consists of Beta-300023, Beta-300050, Beta-300038, Beta-305059, Beta-300045, Beta-300029, Beta-300049, Beta-242374, Beta-300026, Beta-300033, Beta-300046, Beta-300040, Beta-305063, Beta-300052, Beta-242375, and Beta-300031. Group 4 consists of Beta-300024, Beta-300041, Beta-242377, Beta-300043, Beta-300067, Beta-305064, Beta-305081, Beta-242376, Beta-300028, Beta-305078, Beta-305062, and Beta-300032. Group 5 consists of Beta-300053, Beta-300047, Beta-305082, Beta-305070, Beta-305079, and Beta-300030. Group 6 includes Beta-300044, Beta-300048, and Beta-300035. One date (Beta-305076) was unable to be combined with the defined six groups of radiocarbon dates.

William A. Ford (41TT852)

The Caddo period ^{14}C dates from the William A. Ford site ($n=38$) were combined into three groups (Figure 19). Group 1 consists of Beta-300074, Beta-300094, Beta-300092, Beta-300090, Beta-305098, Beta-300103, Beta-300075, Beta-300059, Beta-300082, Beta-300069, Beta-300096, Beta-300089, Beta-300078, and Beta-305095. Group 2 consists of Beta-300067, Beta-300084, Beta-300068, Beta-300072, Beta-300079, Beta-300087, Beta-300081, Beta-300083, Beta-242381, and Beta-242378. Group 3 includes Beta-300073, Beta-300105, Beta-242380, Beta-300098, Beta-300095, Beta-300080, Beta-305103, Beta-300099, Beta-300056, Beta-300106, Beta-300100, and Beta-300088. Two dates (Beta-300101 and Beta-242379) were unable to be combined.

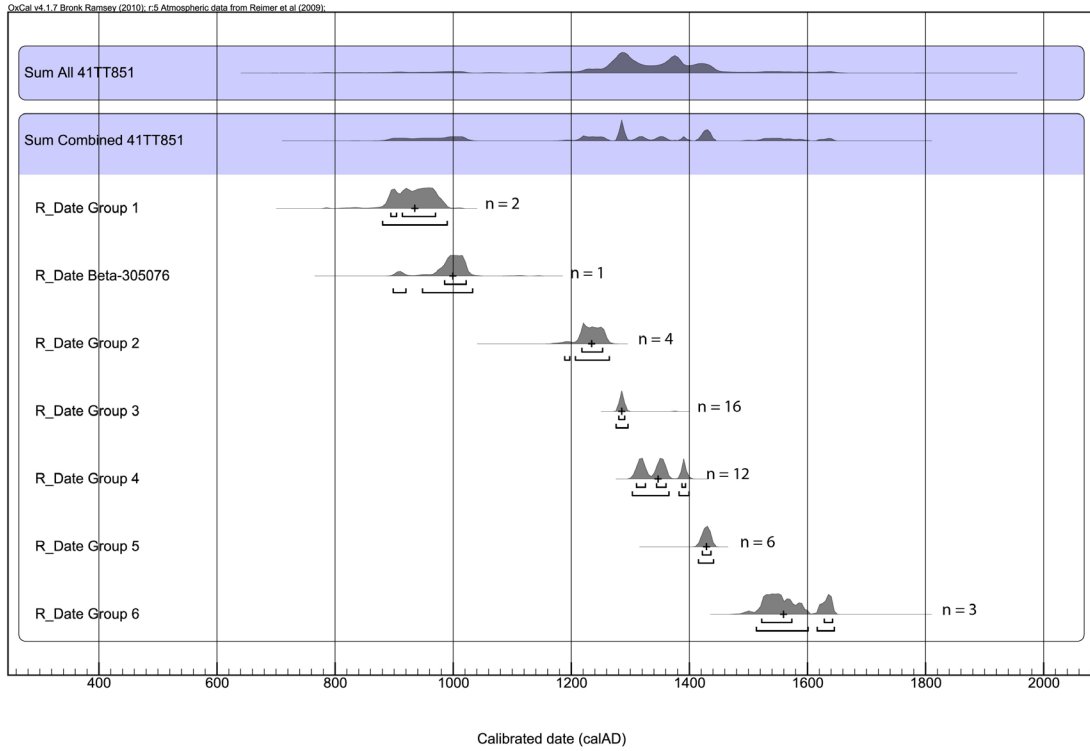


Figure 18. All and combined summed probability distributions for Caddo period dates from the George E. Richey site (41TT851) with 1σ and 2σ ranges, median ages, and number of samples.

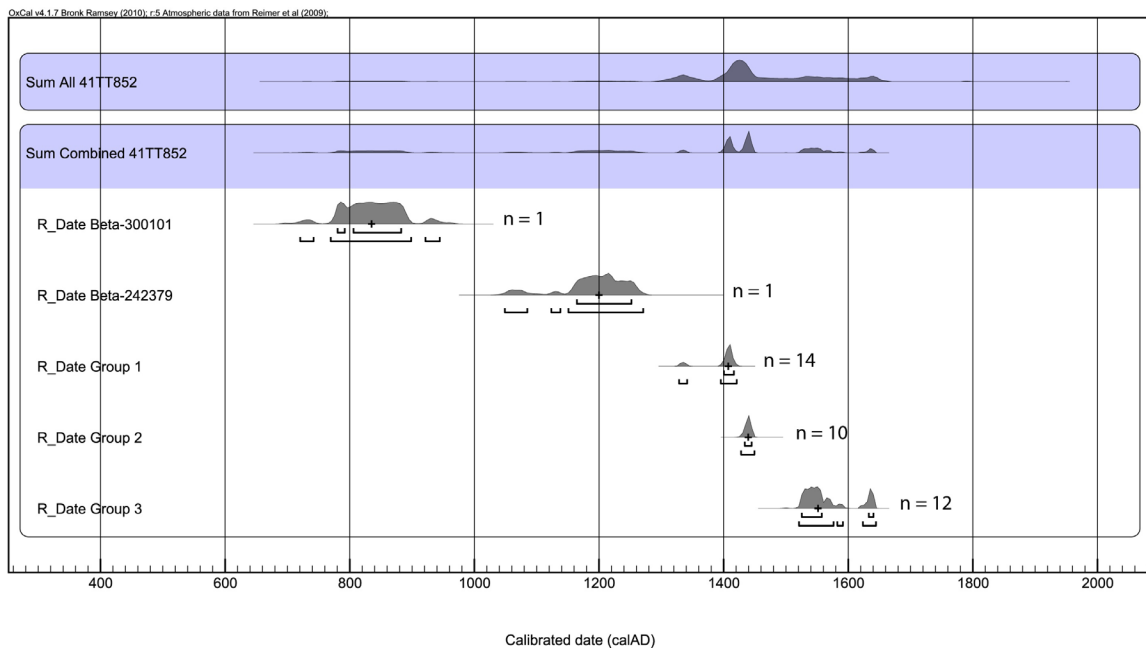


Figure 19. All and combined summed probability distributions for Caddo period dates from the William A. Ford site (41TT852) with 1σ and 2σ ranges, median ages, and number of samples.

James E. Richey (41TT853)

The Caddo period ¹⁴C dates from the James E. Richey site (n=20) were combined into two groups (Figure 20). Group 1 consists of Beta-300114, Beta-242383, Beta-300111, and Beta-305106. Group 2 consists of Beta-305107, Beta-242384, Beta-242382, Beta-300116, Beta-242390, Beta-300110, Beta-300107, Beta-242385, Beta-305111, Beta-300109, Beta-300117, Beta-242388, Beta-300112, Beta-300113, and Beta-300115. A single, and much earlier, date (Beta-305110) was unable to be combined with the two groups.

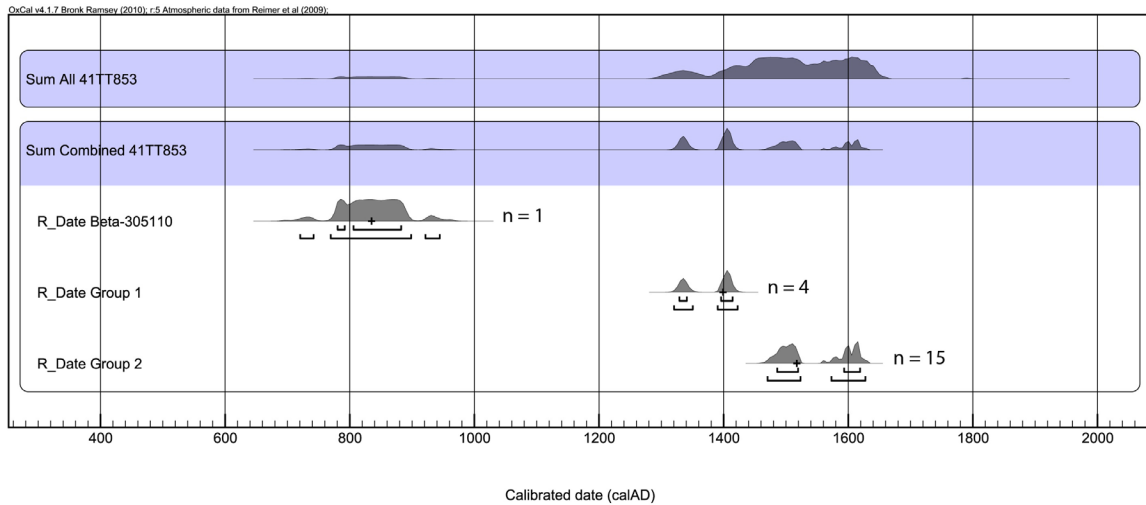


Figure 20. All and combined summed probability distributions for Caddo period dates from the James E. Richey site (41TT853) with 1σ and 2σ ranges, median ages, and number of samples.

Rookery Ridge (41UR133)

The Caddo period ¹⁴C dates from the Rookery Ridge site (n=11) were able to be combined into two groups (Figure 21). Group 1 consists of Beta-132013, Beta-117744, Tx-7989, and Beta-117741. Group 2 consists of Beta-132011, Beta-117740, Beta-132014, Beta-90534, Beta-117742, and Beta-132012.

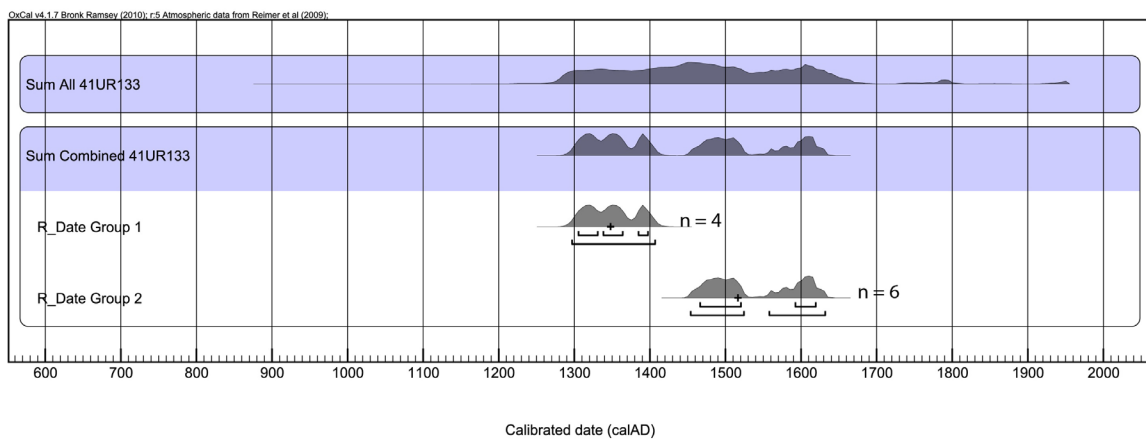


Figure 21. All and combined summed probability distributions for Caddo period dates from the Rookery Ridge site (41UR133) with 1σ and 2σ ranges, median ages, and number of samples.

RESULTS

Through the use of OxCal's R_Combine process, the number of ¹⁴C dates from Caddo sites in East Texas was reduced from 889 with a standard deviation of 58 to 407 with a standard deviation of 53, reducing probability bias from sites with large numbers of ¹⁴C dates, and providing a more accurate representation for the temporal character of sites with ≥ 10 ¹⁴C dates. Subsequent to date combination, the combined ¹⁴C assays replaced those assays used to create them, and were then joined with the remaining assays from sites with < 10 ¹⁴C dates, and the summed probability distributions for the Caddo period were updated (Figure 22).

Efforts to analyze the temporal nature of Caddo occupations across the East Texas landscape include assumptions that (1) ¹⁴C dates that can be combined via OxCal X-test represent a single occupational episode, (2) the summed probability distribution for archaeological sites with ≥ 10 ¹⁴C assays illustrates the discrete or diffuse nature of occupational episodes, and (3) median dates represent the age of highest probability within each date range. Subsequent to data combination, the Caddo sample consists of 49 dates from the Red River basin (RRB), 71 dates from the Sulphur River basin (SRB), 89 dates from the Cypress Creek basin (CCB), 92 dates from the Sabine River basin (SaRB), and 106 dates from the Neches River basin (NRB). The shift in sample size (Figure 23) illustrates the reduction in the number of ¹⁴C dates from each of the four river basins where sites were found to have ≥ 10 assays. When rounded to the nearest year, Caddo period sites have the oldest median age in the Sulphur River basin (A.D. 1199), followed by the Red River basin (A.D. 1200), Neches River basin (A.D. 1286), Sabine River basin (A.D. 1304), and the Cypress Creek River basin (A.D. 1352).

Summed probability distributions from these 19 sites are subdivided by river basin, making it possible to view their impact upon the Caddo sample from each of the major drainages, and clarifying the source of the numerous increases and decreases in probability within the periods (Figure 24). Through a reduction in probability bias within the sample via date combination, the temporal character of these sites can be contrasted to one another in a more accurate manner, and the average number of ¹⁴C dates in the Caddo sample decreases from 5.887 to 2.695. This helps to identify archaeologically contemporary sites within the sample, while also clarifying the discrete or diffuse nature of occupational episodes at each.

DISCUSSION

Although survey bias does exist, it is evident that the most extensive Caddo occupation of the East Texas landscape occurred during the Middle Caddo period. This period is marked by increased variability in ceramic style and motifs that coincide with economic changes and shifts in settlements patterns (Perttula and Black 2003), and can be seen throughout all major river basins in the region.

From A.D. 800-1680, the East Texas Caddo resided in the Pineywoods and Post Oak Savanna regions. Evidence from pollen cores in Big Sandy Creek appear to correlate with a higher drought frequency and increased fire magnitude during the Formative Caddo period, and other periods may have had a lower drought frequency and increasingly infrequent fire magnitude (see Albert 2007:Table 7). While paleoenvironmental reconstruction is difficult due to the absence of fossil pollen in the majority of East Texas soils during the late Quaternary (Bryant and Holloway 1985; Weinstein and Bryant 1993), synthesizing the numerous ¹⁴C dates from corn with the results from stable isotope analyses could help to clarify much with regard to the temporal dynamics and the regional exploitation of this important food resource.

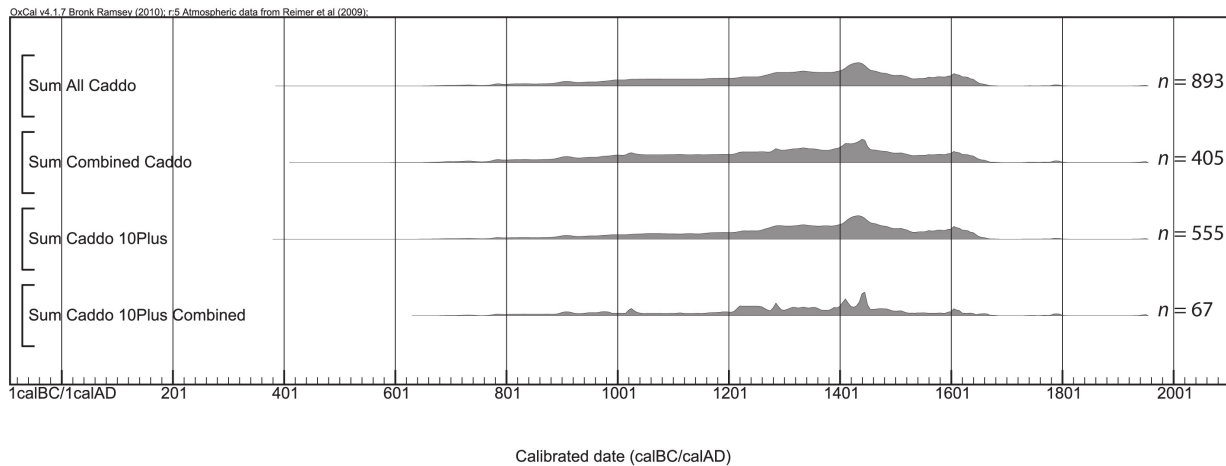


Figure 22. Summed probability distributions illustrating the effect of the date combination process upon the entirety of the Caddo period, and upon those sites with ≥ 10 ^{14}C samples.

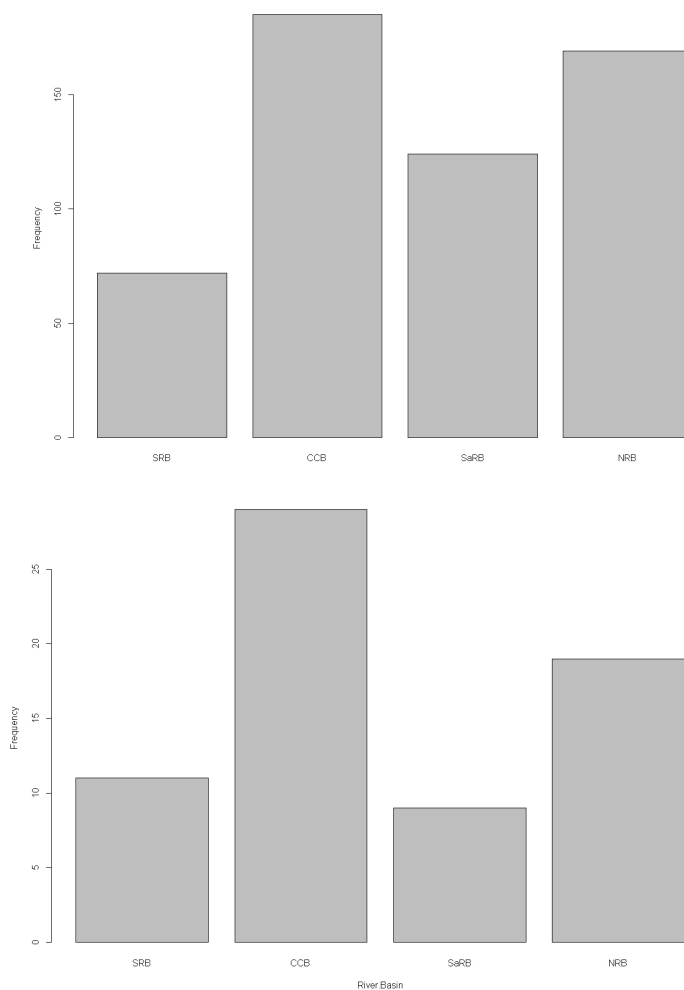


Figure 23. Frequency of samples by river basin for sites with ≥ 10 ^{14}C assays before (top) and after (bottom) date combination.

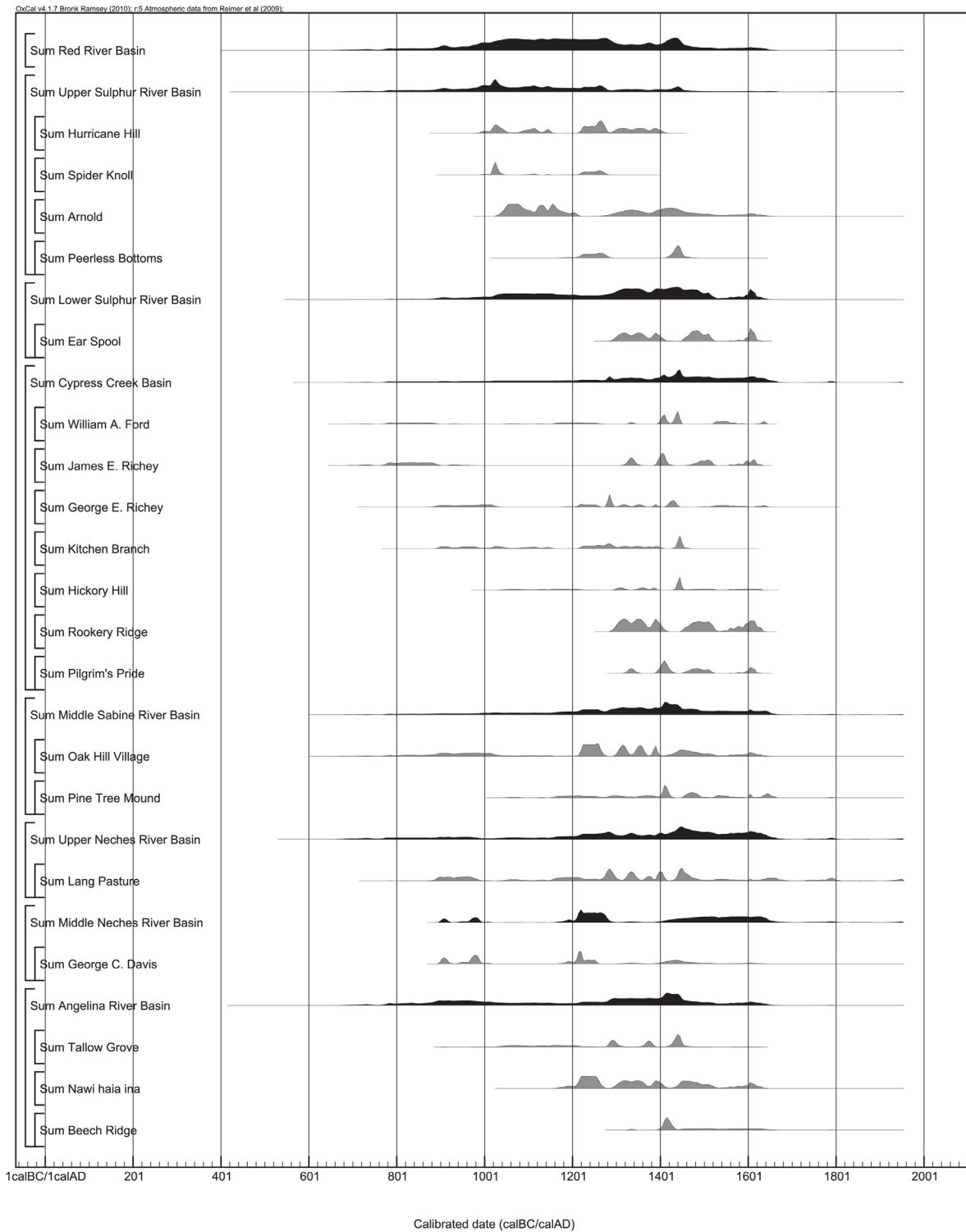


Figure 24. Summed probability distributions from the 19 sites contrasted with the entirety of the sample from each river basin.

CONCLUSIONS

The date combination process, when paired with summed probability distributions, allows for the establishment of more accurate and precise temporal ranges for Caddo archaeological sites in East Texas; in this case, 19 important sites with ≥ 10 ^{14}C samples. Within the context of synthetic research concerning all available Caddo radiocarbon dates, this method can be used to explore the temporal range of sites, and then their combination can be a means of highlighting the temporal trends within the Caddo archaeological tradition (ca. A.D. 800-1680). Taken together, the analysis of Caddo radiocarbon dates can help to identify and/or clarify features or events at multiple sites that appear to be archaeologically contemporary.

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