Indigenous Ceramic Vessel Sherds from the Glass (41MU24/X41MU24) and Coyote (41MU28/X41MU28) Sites on the Red River in Montague County, Texas

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Indigenous Ceramic Vessel Sherds from the Glass (41MU24/X41MU24) and Coyote (41MU28/X41MU28) Sites on the Red River in Montague County, Texas

Timothy K. Perttula

Introduction

During the 1966 Wichita Archeology and Ethnohistory project (Bell et al. 1967), three archaeological sites on the Red River were excavated in Montague County in North Central Texas (Figures 1 and 2). The sites are in the Western Cross Timbers in the Spanish Fort Bend of the Red River. The sites are: Upper Tucker (41MU17 [SMU: X41MU17][1]), Glass (41MU24 [X41MU24]), and the Coyote (41MU28 [X41MU28]) site. In this report, I re-examine the ceramic vessel sherds and clay artifacts from the Glass and Coyote sites. Perttula (2024) discusses the ceramic and clay artifacts from Upper Tucker, a late 18th century Wichita Indian site.

Setting of the Two Sites

The Glass and Coyote sites are not far apart on a large alluvial terrace on the south side of the Red River (see Figure 2). Both are pre-contact Indigenous settlements with houses, midden deposits, and pit features (Lorrain 1967; Woodall 1967). At the Glass site, hand-dug trenches were used to search for well-preserved archaeological deposits, exposing a 130-m diameter midden, a house pit (Feature 2) and five pits in the eastern part of the site (Figures 3 and 4), and a series of pits (Fea. 1A, 1B, and 1C) on the western part of the site; these were exposed in Trench 2. Excavations at the Coyote site used trenches and 1 x 1 m test pits to explore the site's archaeological deposits (Figure 5), including a house feature (Fea. 2), midden deposits, and a series of pit features (Fea. 1A, 1B, 1C, 2, 3, 5, and 8 (Figure 6).

Ceramic Vessel Sherd Assemblages

Glass Site (41MU24)

A total of 366 ceramic vessel sherds and 125 sherdlets (less than 1.5 cm in length and width) were in the collections recovered during the investigations at the Glass site (Table 1). There are also a few paint cup sherds, pieces of daub, burned clay, and fired clay balls

[1] Prior to the establishment of a singular repository for archaeological site information in Texas, SMU's *Texas Archeological Salvage Program,* part of the River Basin Surveys, maintained its own site catalog and numbering system using the Smithsonian trinomial format preceded by an "X" to distinguish sites in the SMU catalog from those sites assigned trinomials by other entities. In the case of the Wichita project, the official trinomial and the SMU pseudo-trinomial are identical; however, this is not the case with other sites in the SMU catalog.

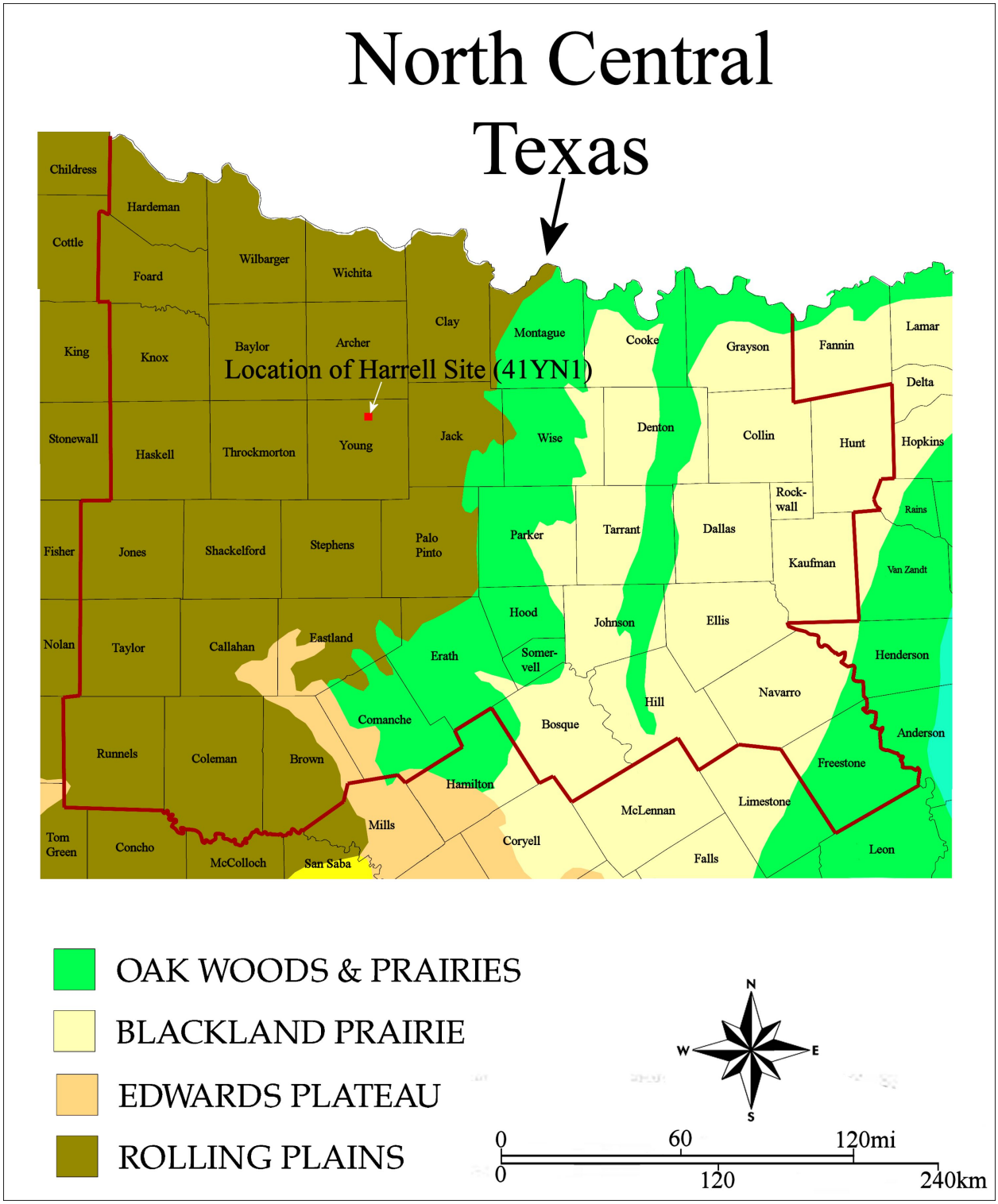

Figure 1. North Central Texas and the location of Montague County, Texas.

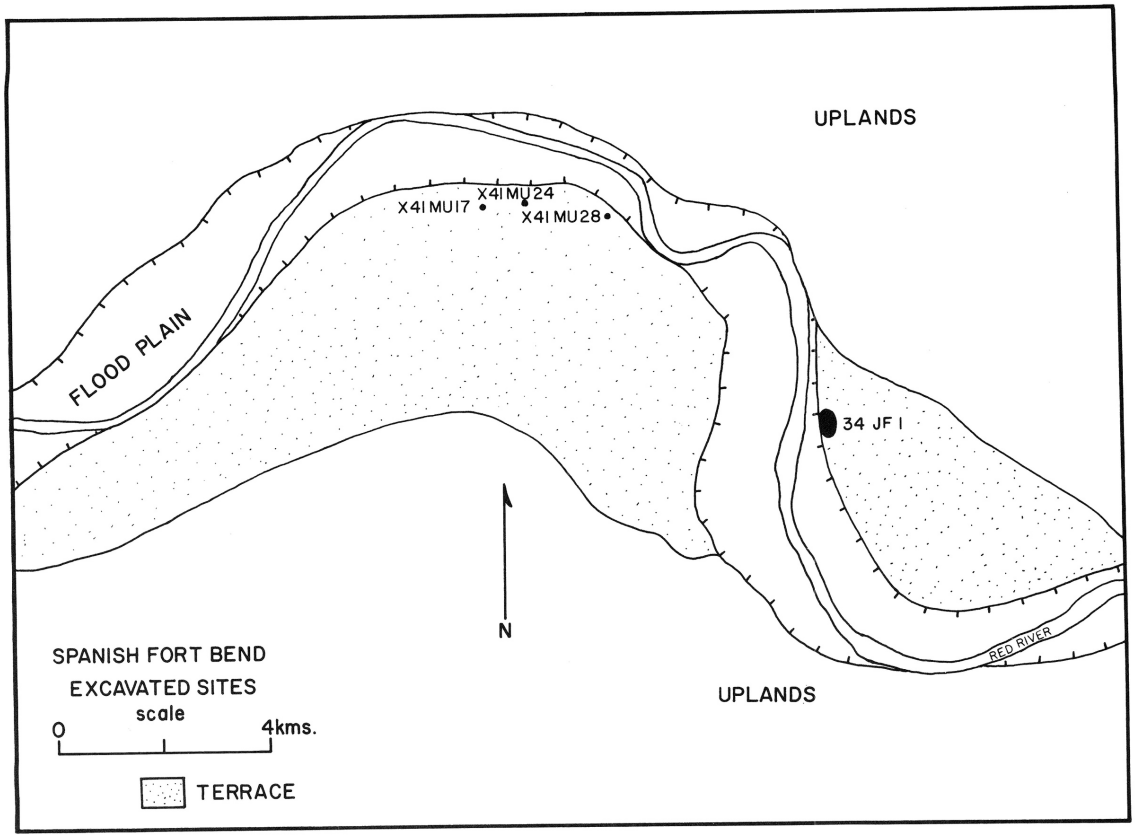

Figure 2. The location of the Glass (41MU24/X41MU24) and Coyote (41MU28/X41MU28) sites in the Spanish Fort Bend of the Red River (from Bell et al. 1967:Figure 2).

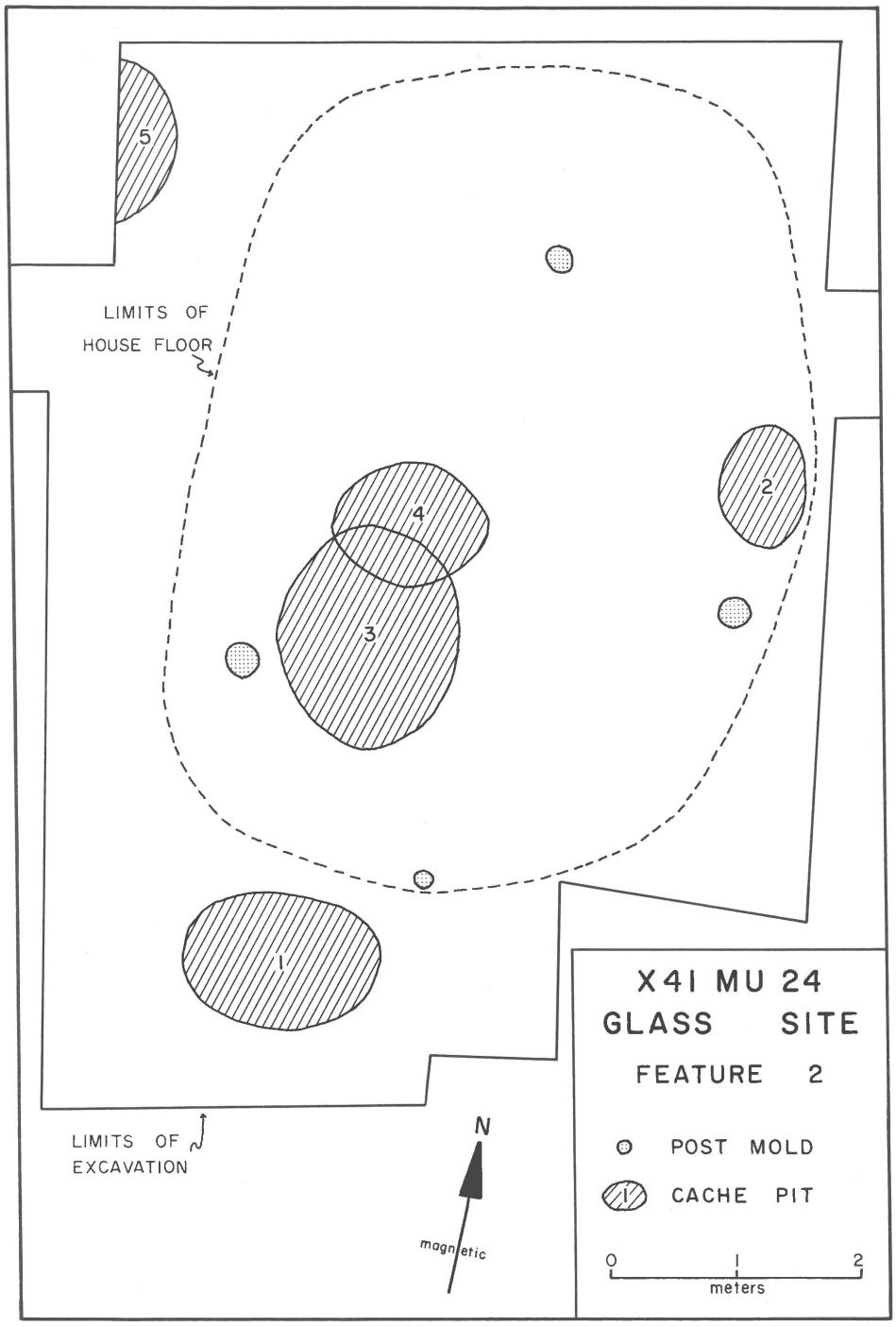

Figure 3. Feature 2 house pit and intra-house features at the Glass site (from Lorrain 1967:Figure 22).

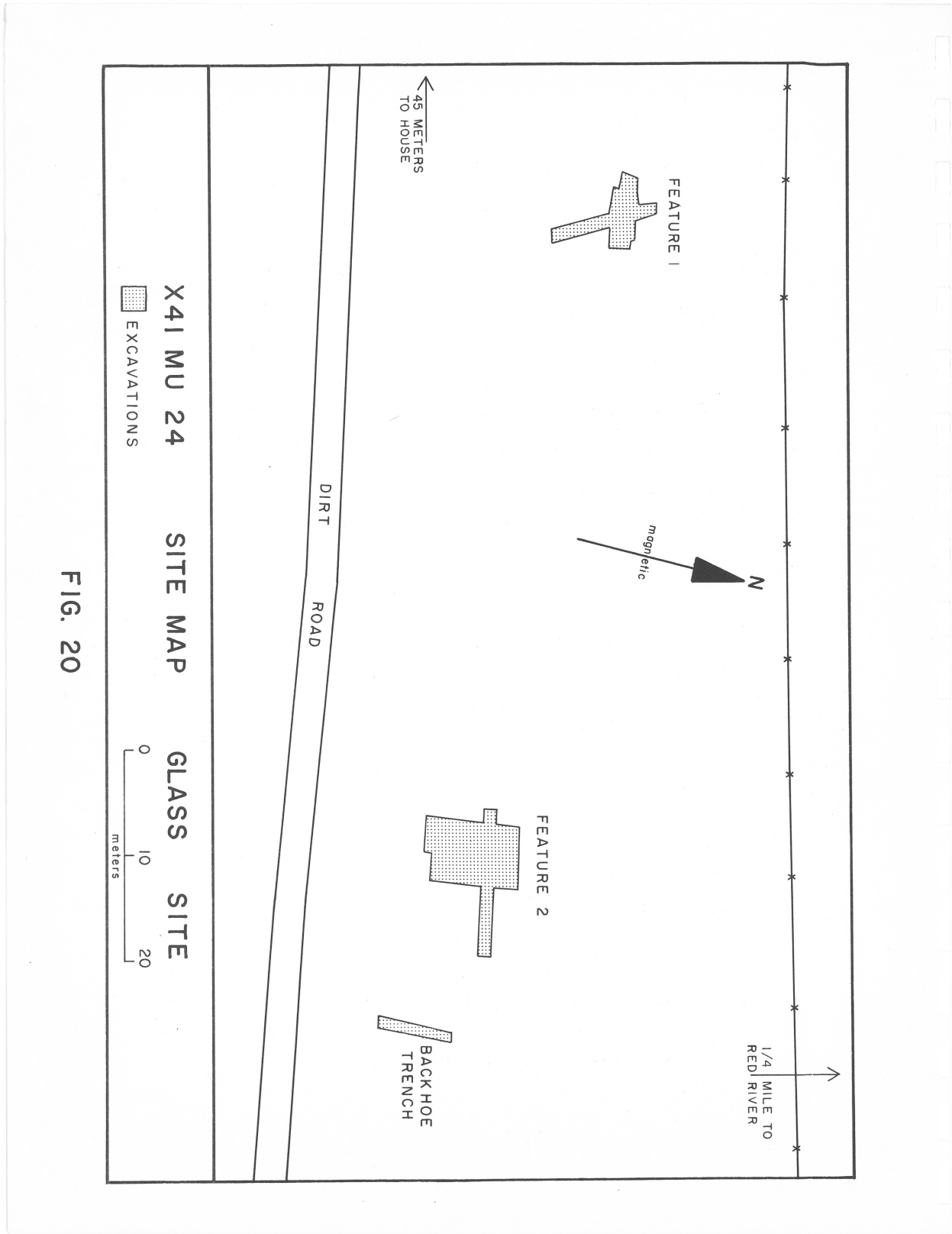

Figure 4. Plan of excavations at the Glass site (from Lorrain 1967:Figure 20).

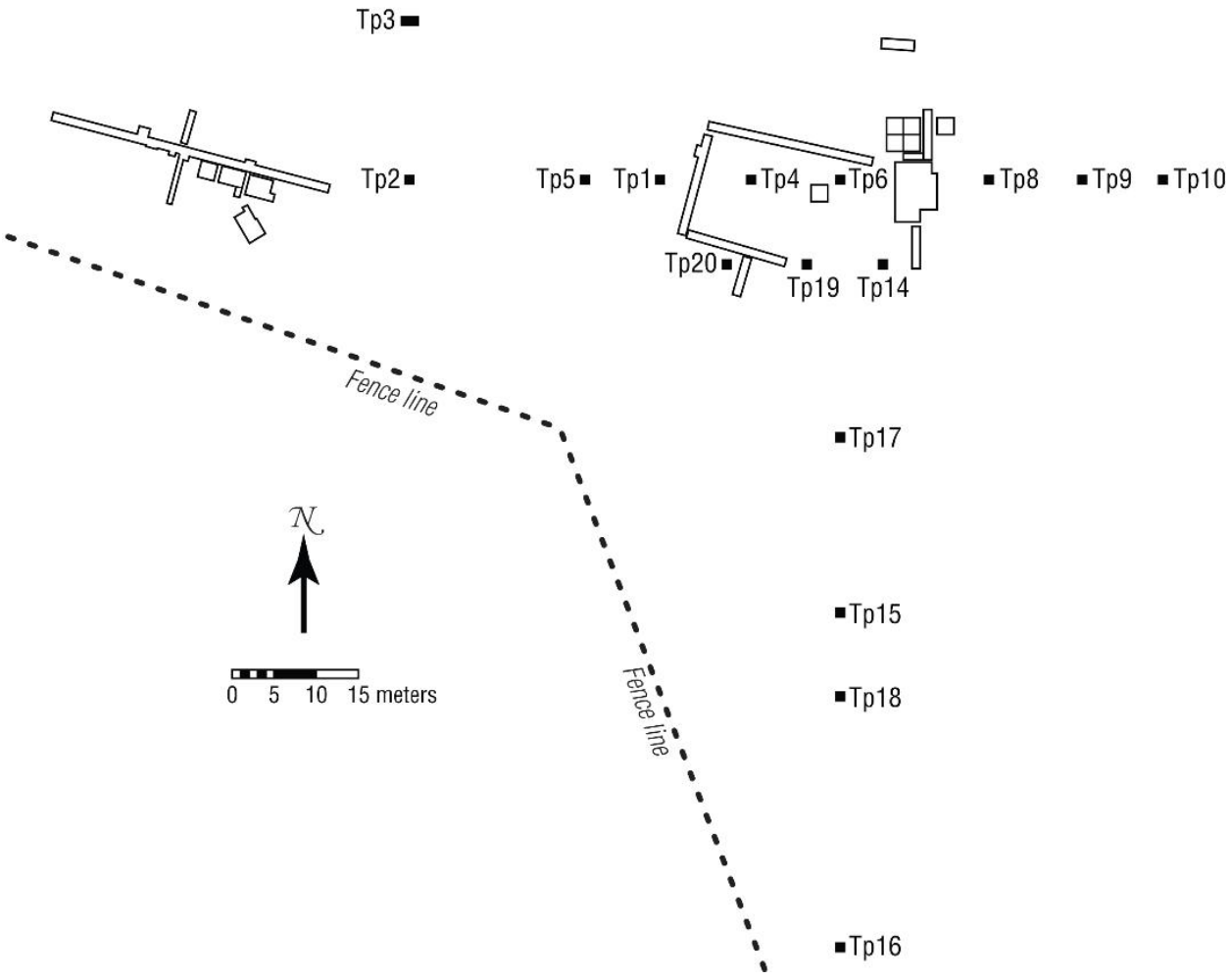

Figure 5. Excavations at the Coyote Site (after Woodall 1967:Figure 17). Figure provided courtesy of Matthew T. Boulanger and the Archaeology Research Collections at Southern Methodist University.

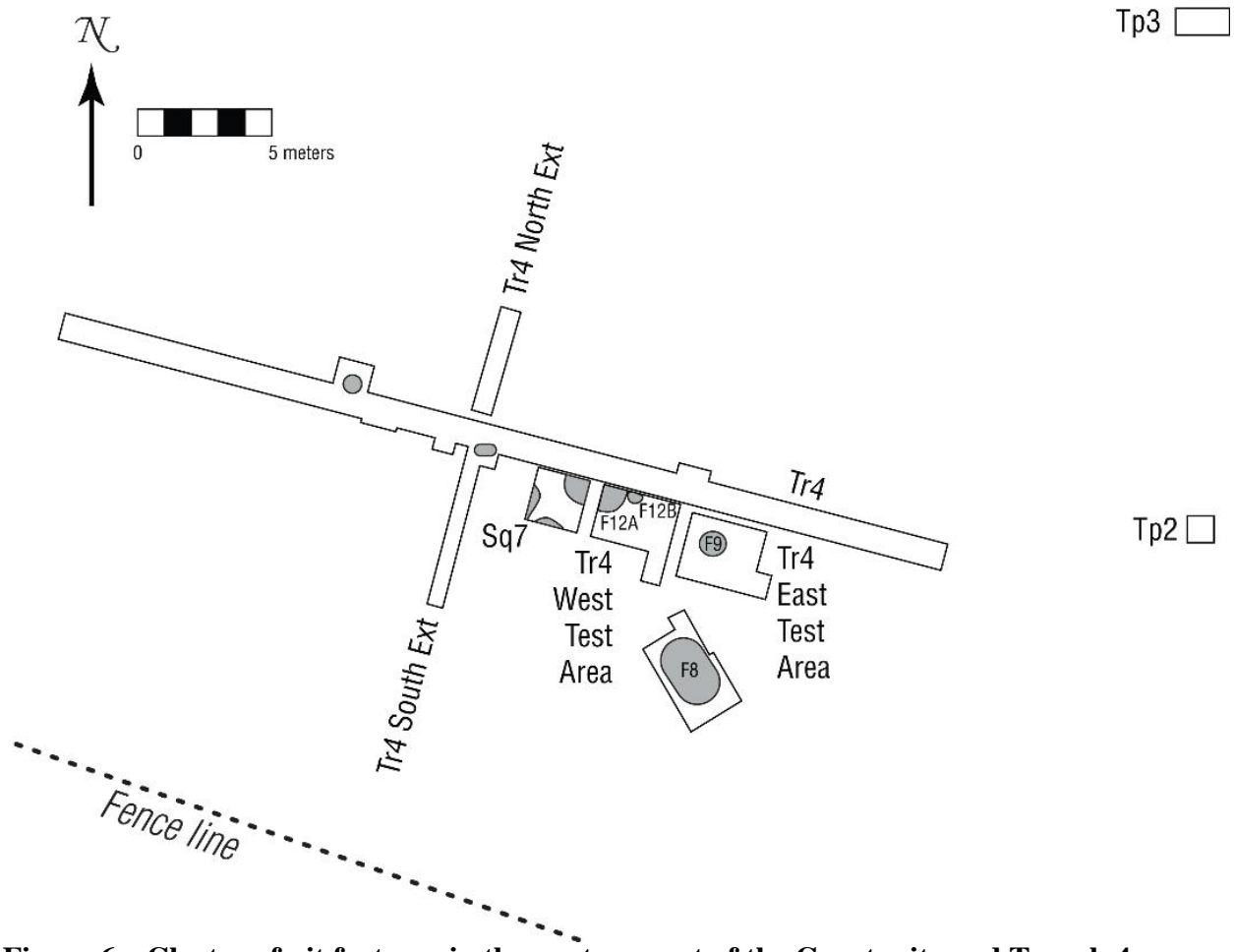

Figure 6a. Cluster of pit features in the western part of the Coyote site and Trench 4. Figure courtesy of Matthew T. Boulanger and the Archaeology Research Collections at Southern Methodist University.

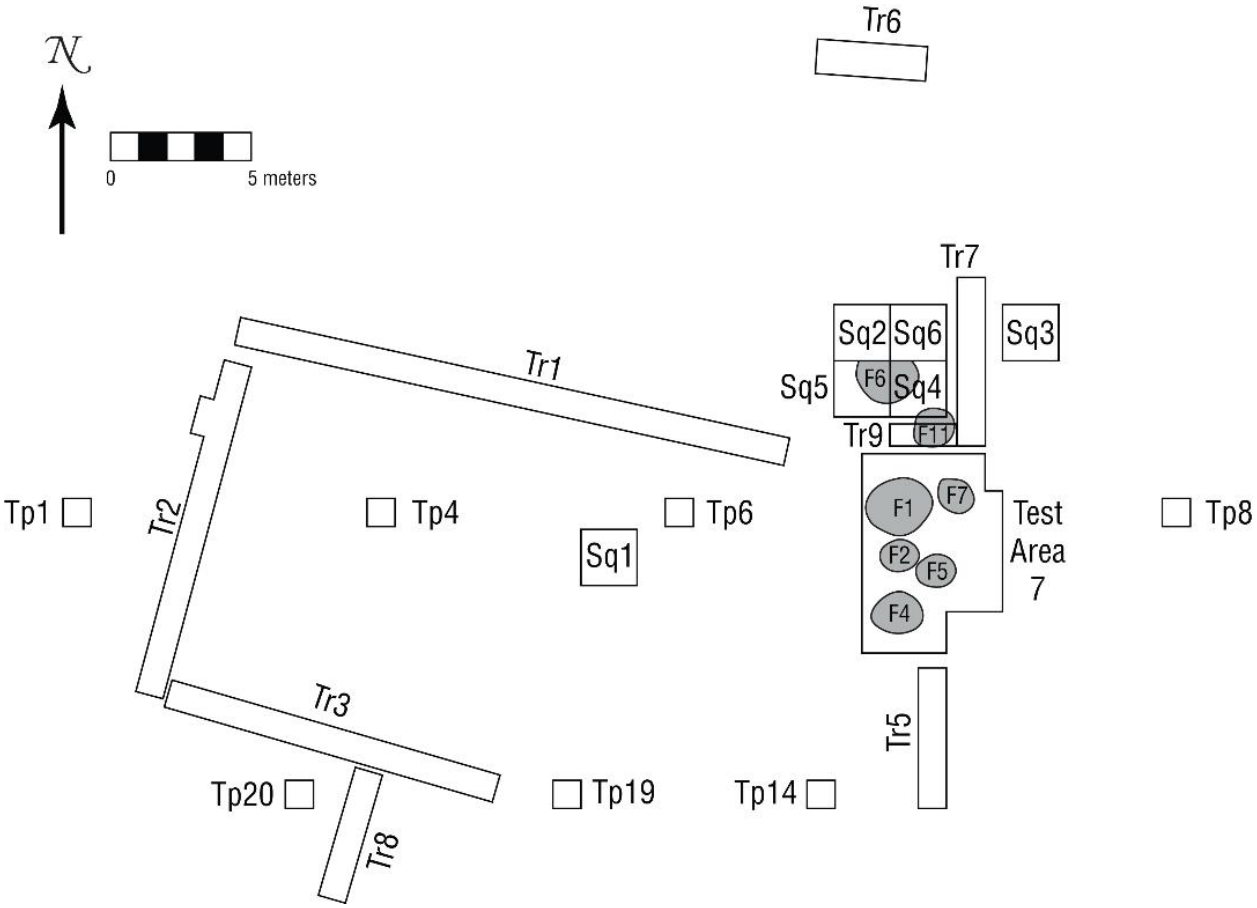

Figure 6b. Cluster of pit features in the eastern part of the Coyote site and the Test Area 7. Figure courtesy of Matthew T. Boulanger and the Archaeology Research Collections at Southern Methodist University.

Table 1. Ceramic Sherds and Clay Artifacts Inventory, the Glass Site (41MU24).

Provenience	Sherds	Sherdlets	Paint Cup Sherds	Daub	BC	N
Fea. 1	94	29	1	4	2	130
Fea. 2	182	71	1	7+	1	262
Trench 1	19			2		21
Trench 2	17	1				18
Trench 3	2					2
Trench 4	7	4				11
Trench 4/5	1			1		2
Trench 5	11			1		12
Trench 5/7	2	20		4		26
Trench 6	2					2
Trench 7	5			2		7

Table 1. Ceramic Sherds and Clay Artifacts Inventory, the Glass Site (41MU24), cont.

Provenience	Sherds	Sherdlets	Paint Cup Sherds	Daub	BC	N
Surface	22			1		23
UID	2				2*	4
Totals	366	125	2	22	5	520

BC=burned clay
*=fired clay balls
+=one piece with a drilled hole labeled a pendant by Lorrain (1967)

Most of the ceramic vessel sherds and sherdlets are from Fea. 2 (house pit) and Fea. 1 (pit cluster) in the western part of the site (see Figure 4). The paint cup sherds are also from these two features. Trenches 1, 2, and 5 have the most sherds from the different trenches at the site. The few pieces of daub and burned clay are scattered across the site (see Table 1).

Approximately 31 percent of the ceramic vessel sherds from the Glass site have been analyzed in detail, beginning with the clipping of a small part of each sherd to identify with the naked eye and a 10X lens the temper inclusions and firing conditions from sherd cross sections, focusing on attributes such as sherd type, paste and temper, firing conditions, surface treatment, sherd thickness, and decorative methods (if any) (Table 2). The sherds from the site primarily represent a plain ware assemblage, with vessels made from several different tempers (grog, grog-bone, bone, and shell), as 96.7 percent of the sherds are plain, with only 12 sherds that have decoration (eight from shell-tempered vessels and four from grog-, grog-bone-, and bone-tempered vessels). The plain to decorated sherd ratio (P/DR) is 29.5 for the assemblage as a whole, indicating a very low frequency of decorated sherds in the assemblage, regardless of which tempers were used to manufacture the vessels used at the site.

Table 2. Detailed Analysis of Glass Site (41MU24) Ceramic Vessel Sherds.

Provenience	Lot/ Specimen No.	Dec.	Sherd type	Paste-Temper	FC	ST	TH (mm)
Fea. 1	3.1	Straight engraved line	body	grog-bone	B	E B	6.2
	3.2	Plain	body	shell	J	E SM	6.3
	3.3	Plain	body	shell	J	E SM	5.6
	16.1	Plain	base	shell	G	-	10.4
	17.3	Plain	body	shell	B	-	6.5
	18.1	Plain	base	shell	A	-	13.1

Table 2. Detailed Analysis of Glass Site (41MU24) Ceramic Vessel Sherds, cont.

Provenience	Lot/ Specimen No.	Dec.	Sherd type	Paste-Temper	FC	ST	TH (mm)
	18.2	Plain	body	shell	B	-	9.0
	18.3	Plain	body	shell	K	-	7.7
	20.1	Plain	rim	shell	G	E B	7.1
	20.2	Plain	body	shell	F	E SM	6.4
	22.2	Plain	body	shell	A	E SM	6.3
	22.3	Plain	body	shell	A	-	7.7
	33.2	Plain	body	shell	B	E SM	4.7
	35.1	Plain	body	shell	B	E SM	7.0
	41.1	Plain	body	shell	B	I SC	5.3
	48.3	Plain	body	shell	J	-	6.7
	48.4	Plain	body	shell	B	E B	6.5
	49.1	Plain	base	grog	A	-	10.7
	52.1	Plain	body	grog	F	-	4.0
	53.1	Plain	body	bone	H	-	6.4
	53.5	Plain	body	shell	A	-	5.2
	58.1	Plain	body	grog-bone	G	E SM	6.5
	58.11	Plain	rim	grog	G	E SM	2.5
	58.13	Plain	body	grog	F	I/E SM	3.4
	62.1	Plain	rim	shell	A	-	6.2
	63.6	Plain	body	shell	B	E SM	6.4
	64.13	I Red slipped	body	shell	A	I SM	4.1
	64.14	Plain	body	shell	B	-	5.5
	79.1	Plain	body	shell	B	E SM	6.5
Fea. 2	5.2	Plain	base	grog-bone	A	-	9.3
	5.3	Plain	body	shell	G	-	6.2
	6.6	Plain	base	shell	B	-	14.0
	6.8	Plain	body-base	shell	G	-	9.7-12.8
	23.1	Plain	body	grog-bone	H	E SM	6.2
Fea. 2	23.2	Plain	body	shell	J	I/E SM	5.5
	23.10	Plain	body	shell	J	-	6.2
	24.6	Plain	body	shell	A	E SM	5.6
	24.7	Plain	body	shell	B	I/E SM	8.6
	26.1	Plain	body	shell	B	I/E SM	6.4

Table 2. Detailed Analysis of Glass Site (41MU24) Ceramic Vessel Sherds, cont.

Provenience	Lot/ Specimen No.	Dec.	Sherd type	Paste-Temper	FC	ST	TH (mm)
	26.2	Plain	body	shell	A	-	6.2
	26.4	Plain	body	grog	F	-	6.2
	27.3	Plain	body	shell	G	E SM	7.5
	28.1	Appliqued nodes	rim	shell	B	-	5.4
	29.2	Plain	rim	bone	A	-	6.5
	29.3	Plain	base	shell	B	-	12.2
	32.1	Plain	rim	shell	B	-	5.2
	34.1	Plain	rim	grog	F	-	8.9
	34.2	Plain	body	shell	E	E SM	7.7
	34.3	Plain	rim	shell	E	-	5.1
	44.1	Plain	body	shell	A	-	6.6
	50.1	Plain	body	grog-bone	F	E SM	5.5
	50.7	Plain	body	shell	B	E SM	7.2
	55.3	Plain	body	shell	B	I/E SM	7.3
	57.15	Plain	body	shell	B	I SM	7.3
	57.18	Plain	boy	grog	F	E SM	6.1
	59.13	Fingernail punctated rows/ intersecting Incised lines	body	grog-bone	A	-	5.6
	59.15	Diagonal Incised lines	rim	bone	B	-	7.8
	59.22	I/E Red slipped	body	shell	A	I/E SM	6.1
	60.31	Plain	body	shell	B	-	7.4
	61.1	Plain	rim	grog-bone	C	-	5.2
	61.6	Plain	body	shell	A	-	7.4
	66.1	Plain	rim	shell	B	I OR	5.5
	66.9	Plain	body	shell	F	I SM	9.5
Fea. 2	66.10	Plain	neck	shell	H	E B	6.7
	67.7	Plain	body	shell	G	-	6.3
	69.20	Plain	rim	shell	A	-	6.8
	69.21	Appliqued nodes	rim	shell	A	-	6.8
	69.22	Plain	rim	shell	A	I SM	6.7
	69.23	Plain incised lines	rim	shell	F	-	7.1

Table 2. Detailed Analysis of Glass Site (41MU24) Ceramic Vessel Sherds, cont.

Provenience	Lot/ Specimen No.	Dec.	Sherd type	Paste-Temper	FC	ST	TH (mm)
	69.24	Parallel incised lines	body	grog-bone	A	-	6.9
	75.1	Plain	body	grog-bone	B	-	7.0
	75.2	Plain	rim	shell	L	-	6.8
	75.10	Plain	body	shell	L	I SM	5.3
	78.13	Plain	body	shell	B	E SM	8.7
	80.12	Plain	body	shell	G	E SM	4.6
	80.20	Horizontal incised line	rim	shell	B	-	4.9
	80.21	Appliqued nodes	body	shell	B	-	5.1
	81.3	Plain	body	shell	B	E SM	5.1
	83.3	Plain	body	shell	G	E SM	6.6
	83.4	Plain	body	shell	F	E SM	5.1
Trench 1	46.1	Plain	body	shell	B	E SM	9.2
	46.2	Plain	rim	shell	B	-	7.3
	46.3	Plain	base	shell	B	E SM	10.5
	46.4	Plain	body	shell	D	-	7.6
	46.5	Plain	body	shell	G	E SM	5.6
Trench 2	56.3	Plain	rim	shell	B	I/E SM	7.7
	56.15	Plain	rim	shell	J	I/E SM	6.2
	56.16	E Red slipped	body	shell	F	E SM	6.4
	56.18	Plain	body	shell	G	-	5.6
	56.19	Plain	body	shell	B	-	6.1
	56.20	Plain	rim	grog-bone	A	-	6.9
	56.21	E Red slipped	body	shell	F	E SM	6.0
	56.22	Plain	body	bone	D	-	5.9
Trench 3	51.3	Plain	base	shell	A	E SM	9.4
Trench 4	82.5	Plain	body	bone	A	-	5.9
	82.10	Plain	body	shell	F	-	5.9
Trench 5	11.2	Plain	body	shell	F	I/E SM	7.6

Table 2. Detailed Analysis of Glass Site (41MU24) Ceramic Vessel Sherds, cont.

Provenience	Lot/ Specimen No.	Dec.	Sherd type	Paste-Temper	FC	ST	TH (mm)
	11.3	Plain	body	shell	D	-	7.9
	12.1	Plain	body	shell	G	I/E SM	6.4
	12.2	Plain	body	grog-bone	A	I/E SM	7.3
	12.5	Plain	body	shell	E	E SM	6.4
Trench 5/7	77.22	Plain	body	grog-bone	B	E B	5.3
Trench 6	21.2	Plain	body	shell	B	I SM	4.8
Trench 7	19.1	Plain	body	shell	B	E SM	7.7
Surface	8.1	Plain	body	grog-bone	B	E SM	4.2
	8.2	Plain	rim	shell	B	I SM	6.3
	8.3	Plain	base	shell	E	-	15.5
	8.4	Plain	body	shell	B	-	7.9
	8.5	Plain	body	shell	F	-	6.7
	73.1	Plain	body	shell	B	-	7.7
Unidentified	1.1	Plain	body	shell	B	E SM	5.7
	1.2	Plain	body	shell	B	E SM	6.3

FC=firing conditions (see Teltser 1993:Figure 2); A=oxidized; B=reduced; C-E=incompletely oxidized; F-H=reduced, cooled in open air; I-L=sooted and smudged; OR=organic residue
ST=surface treament: SC=scraped; SM=smoothed; B=burnished; I=interior surface; E=exterior
TH=thickness

The four temper categories in the Glass site assemblage are grog, grog-bone, bone, and shell. The predominant temper in virtually all intra-site proveniences is burned and crushed mussel shell (Table 3), representative of the main ceramic tradition. Approximately 90 percent of the sherds from the site are from shell-tempered Nocona Plain vessels, mostly everted rim jars with rounded shoulders and flat bases (Figures 7 and 8). The shell-tempered wares have been classified by Krieger (1946) as Nocona Plain, associated with Plains Village communities on the Southern Plains. Krieger (1946:110) described Nocona Plain as a coiled pottery "abundantly tempered with crushed mussel shell…the inner surface is always poorly smoothed…[t]he exterior is consistently more even and better smoothed than the interior." Sherds came primarily from jars, but deep bowls were also present (Krieger 1946:Figure 5n-q). A small number of the

Nocona Plain sherds had appliqued nodes, fingernail punctations, incised lines, and tool punctations (see also Suhm and Jelks 1962:115 and Plate 58)

The Nocona Plain shell-tempered sherds comprise 92.4 percent of the Fea. 1 sherds, while 90.0 percent of the sherds from Fea. 2 are shell-tempered. This suggests that the different proveniences at the Glass site are contemporaneous. The remainder of the sherds are from vessels tempered with grog (4.4 percent), grog-bone (3.8 percent), and bone (1.4 percent). It is possible that these wares are vessels made by Caddo peoples living downstream on the Red River sometime before ca. A.D. 1440 and traded/exchanged with the residents of the Glass site, or that they represent an earlier component than the shell-tempered Nocona Plain tradition.

Table 3. Temper categories in the Glass site assemblage.

Provenience	Grog		Grog-bone		Bone		Shell		N	
	Pl.	Dec.	Pl.	Dec.	Pl.	Dec.	Pl.	Dec.	Pl.	Dec.
Fea. 1	4		1	1	1		86	1	92	2
Fea. 2	8	1	7	1	1	1	158	5	174	8
Trench 1							19		19	-
Trench 2			1		1		13	2	15	2
Trench 3							2		2	-
Trench 4					1		6		7	-
Trench 4/5							1		1	-
Trench 5	2		1				8		11	-
Trench 5/7	1		1						2	-
Trench 6							2		2	-
Trench 7							5		5	-
Surface			1				21		22	-
UID							2		2	-
Totals	15	1	12	2	4	1	323	8	354	12

Taken together, the P/DR of the grog-, grog-bone-, and bone-tempered sherds is 7.75 (31/4). By comparison, the P/DR for the shell-tempered sherds is 40.38 (323/8). In other words, the locally made shell-tempered sherds are more than five times *less likely* to be decorated than the other three temper categories, and these latter may well be from a ceramic tradition of non-local origin.

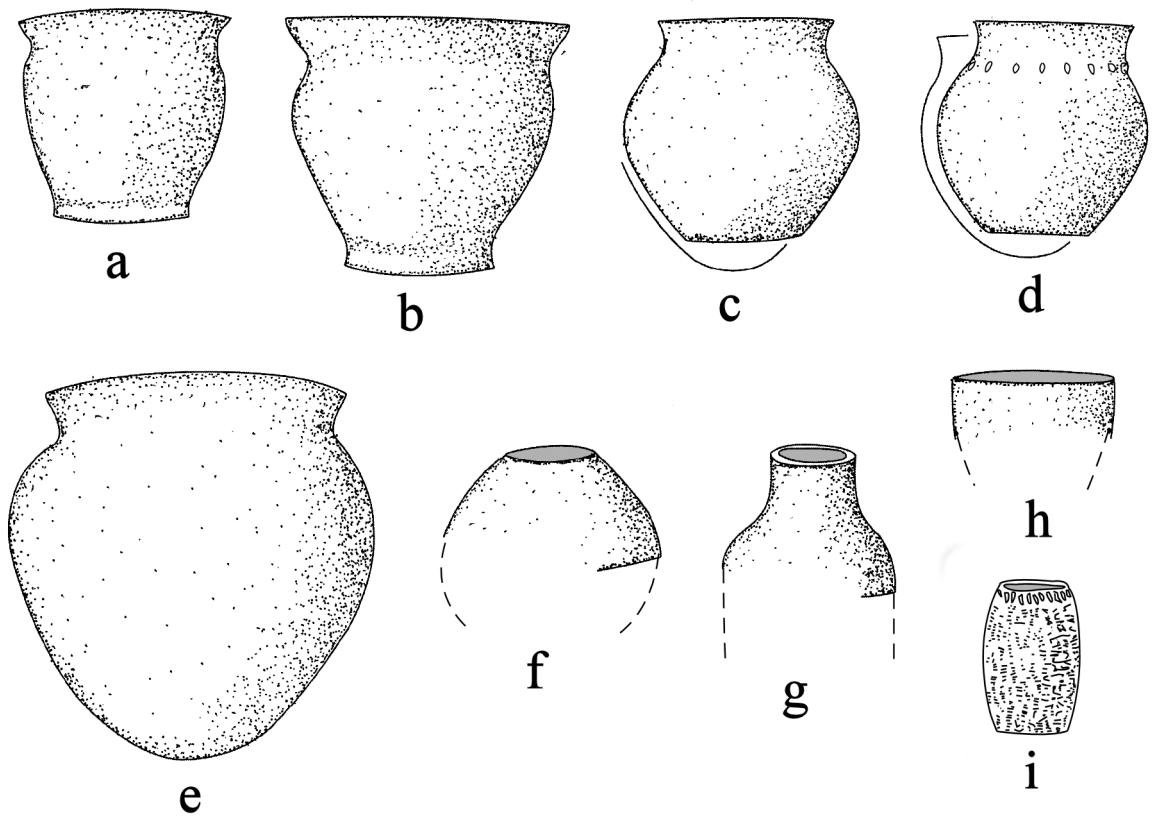

Figure 7. Nocona Plain Vessels and Paint Cup Forms on Plains Village Henrietta phase sites: a-b, flower pot jar; c, globular jar with flat or round disk bases; d, globular jar with rim appliqued nodes; e, globular jar with rounded base; f, olla; g, bottle; h, deep bowl; i, hand-molded redware or paint cup with corn cob roughened exterior (revised from Perttula and Prikryl 1995:Figure 11).

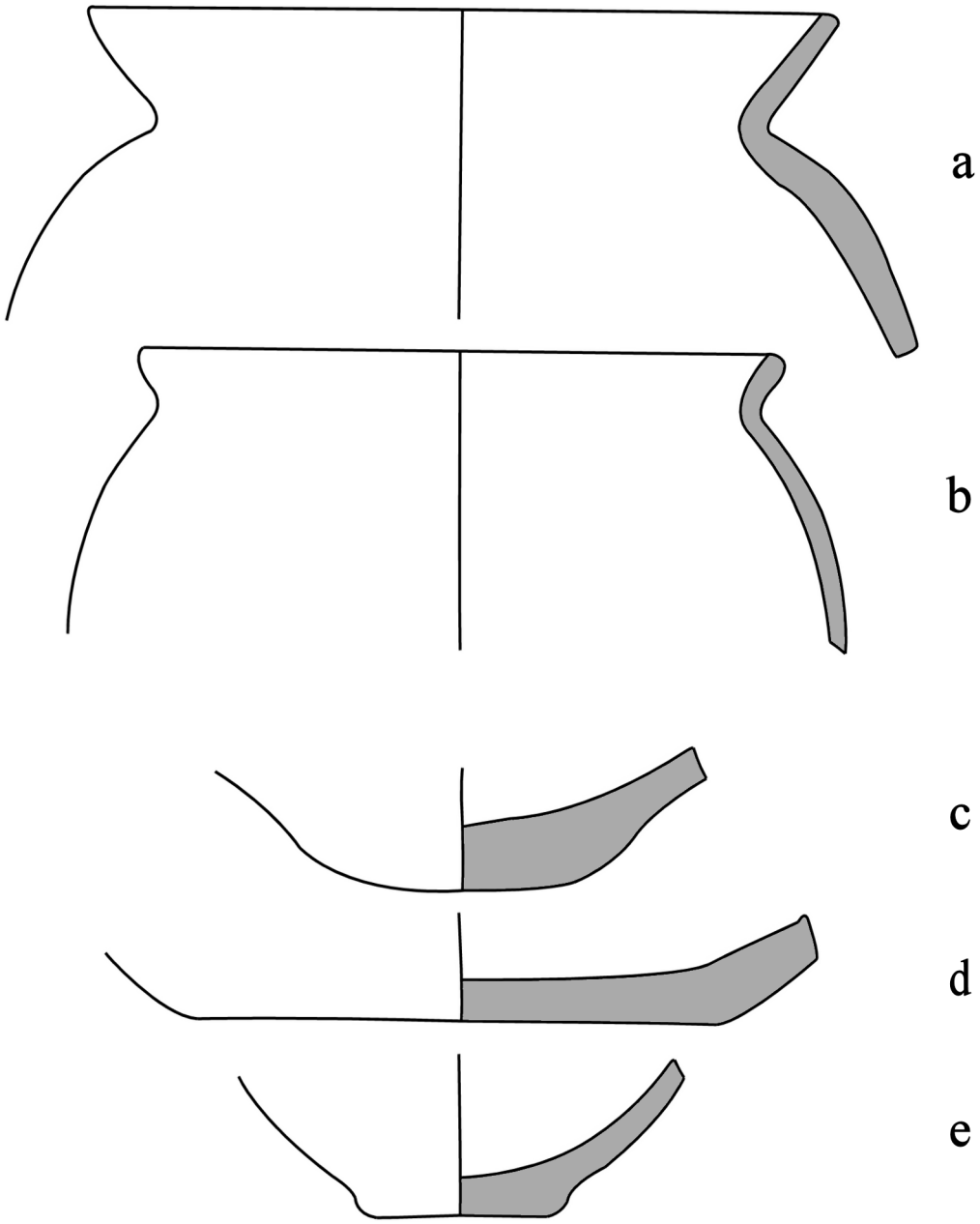

Figure 8. Rim and base sherd profiles from Nocona Plain shell-tempered ceramics from the Glass and Coyote sites: a-b, everted rim jar profiles; c, rounded base profile; d-e, flat disk base profile (revised from Prikryl and Perttula 1995:Figure 13).

The decorated shell-tempered sherds (n=8, 2.4 percent) include body sherds with interior and/or exterior red slipped surfaces (Fea. 2, Lot 59.22; Trench 2, Lot 56.16 and Lot 56.21; Fea. 1, Lot 64.13) and rim and body sherds with appliqued nodes on the rim (Figure 9a-b, Fea. 2, Lot 28.1; Fea. 2, Lot 69.21; Fea. 2, Lot 80.21). One shell-tempered rim sherd from Fea. 2 has a horizontal incised line on it (Lot 80.20). The sherds with appliqued nodes are a recognized

decorative variant of Nocona Plain (see Figure 7i). The red-slipped shell-tempered sherds are apparently a rare decorative treatment in this region, but red-slipped shell-tempered sherds are also a post-A.D. 1440 feature of McCurtain phase Caddo ceramic assemblages in the Mound Prairie of the Red River (see Regnier et al. 2021). These sherds may be from shell-tempered Clement Redware vessels (see Flynn 1976) or the undecorated portions of engraved fine ware vessels such as Avery Engraved (Regnier et al. 2021).

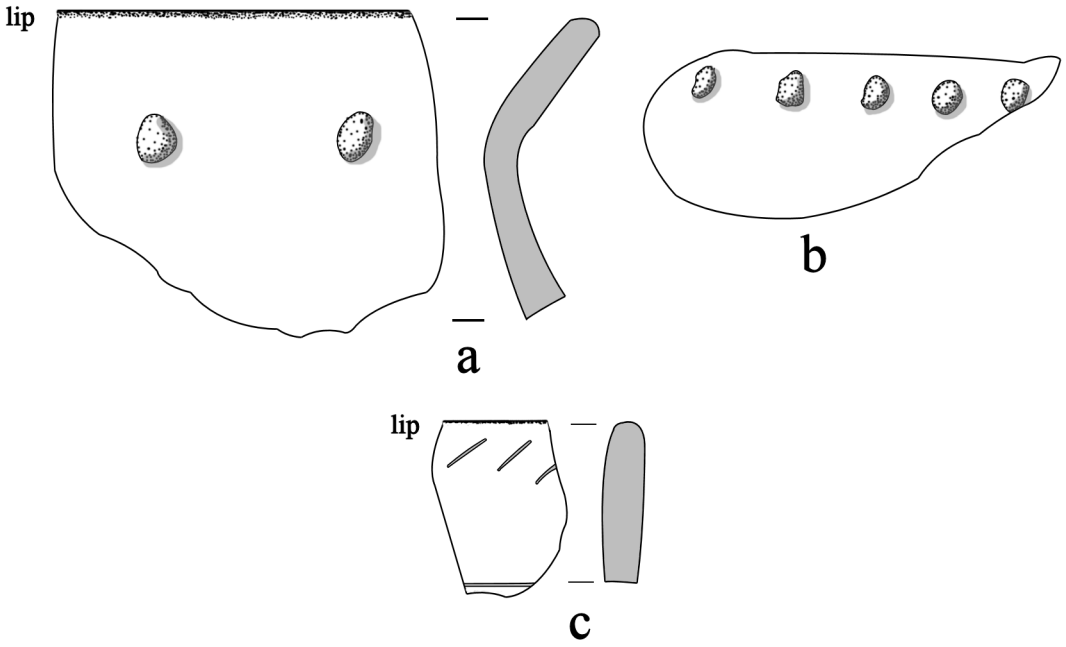

Figure 9. Selected decorated sherds from the Glass site: a, shell-tempered appliqued noded rim sherd, Fea. 2 (Lot 28.1); b, shell-tempered appliqued noded body sherd (Lot 80.21); c, bone-tempered rim sherd with short diagonal and horizontal incised lines (Lot 59.15).

The four decorated grog-, grog-bone-, and bone-tempered sherds from the Glass site (11.4 percent of these wares) include a bone-tempered rim sherd from Fea. 2 (Lot 59.15) with short diagonal incised lines and a lower horizontal incised line (see Figure 9c) and a grog-tempered body sherd with fingernail punctated rows and intersecting incised lines (Lot 59.13), likely from a Canton Incised vessel. A grog-bone-tempered body sherd in Fea. 1 has a straight engraved line (Lot 3.1), and Fea. 2 has a grog-bone-tempered body sherd with parallel incised lines (Lot 69.24). These sherds are from non-shell-tempered vessels with decorative elements consistent with Middle Caddo period sites dating from ca. A.D. 1250-1440 on the Red River (Regnier et al. 2021).

The rim and lip forms of the two different tempered wares are not the same. The non-shell-tempered wares have either direct (or standing) rims with rounded lips (n=4) or everted rims with rounded lips (n=1). Half of the shell-tempered rims have direct rims and rounded lips (n=8), and another has a flat lip. About 31 percent of the shell-tempered rims (n=5) have everted rims and exterior folded lips; none of the non-shell-tempered rim sherds have this rim and lip form. Two other shell-tempered rims have everted rims and rounded lips.

The grog-, grog-bone-, and bone-tempered sherds are from vessels fired in several different ways. As the group, the sherds from vessels fired in a reducing environment and cooled in the open air (Firing conditions F-H) are the most common, represented by 40 percent of the sample (Table 4). Sherds from vessels fired and cooled in an oxidizing environment (Firing condition A) account for another 32 percent of the non-shell-tempered sherds, and 20 percent are from vessels fired and cooled in a reducing environment (Firing Condition B). Only 8 percent of the sherds are from incompletely oxidized vessels (Firing condition C-E); this type of firing is indicative of a poorly controlled firing.

Table 4. Firing conditions in the Glass site ceramic sherds (see also Table 2).

Firing Condition	Grog/Grog-bone/Bone	Shell	N
A	**8/32%**	15/17.0%	23
B	5/20%	**37/42%**	42
C	1/4%		1
D	1/4%	2/2.3%	3
E		4/4.5%	4
F	**6/24%**	9/10.2%	15
G	2/8%	11/12.5%	13
H	2/8%	1/1.1%	3
J		**6/6.8%**	6
K		1/1.1%	1
L		2/2.3%	2
Totals	25	88	113

The shell-tempered sherds are also from vessels fired in diverse ways, but with different methods from the grog-grog-bone and bone-tempered sherds (see Table 4). Most commonly, the shell-tempered sherds are from vessels fired and cooled in a reducing environment (42 percent), followed by sherds from vessels fired in a reducing environment and cooled in the open air (23.9 percent) and sherds from vessels fired and cooled in an oxidizing environment. Sherds from incompletely oxidized vessels account for 6.8 percent of the shell-tempered sherds analyzed in detail. Approximately 10 percent of the shell-tempered sherds are from vessels that have been sooted or smudged (Firing conditions J-L) during firing and/or use, and these sherds also have evidence of organic residue on one or both vessel surfaces. None of the non-shell-tempered wares have evidence of sooting or smudging.

Forty percent of the non-shell-tempered vessel sherds have some form of surface treatment, primarily 80 percent of the sherds with a surface treatment, smoothed on the exterior and interior/exterior surfaces (Table 5). The remaining 20 percent have burnished exterior surfaces.

Table 5. Surface Treatment of Vessel Sherds from the Glass Site (see also Table 2).

Surface Treatment	Grog/Grog-Bone/Bone	Shell	N
Int. Scraped	-	1	1
Int. Smoothed	-	7	7
Int./Ext. Smoothed	2	9	11
Ext. Smoothed	6	27	33
Ext. Burnished	2	3	5
Totals	10	47	57
Total Detailed Sherd Sample	25	88	113
Percent with Surface Treatment	40	53.4	50.4

Int.=interior; E=exterior

Over 57 percent of the shell-tempered sherds that have a surface treatment have exterior smoothed surfaces (see Table 5) Exterior and interior/exterior smoothed sherds comprise 77 percent of the shell-tempered sherds, virtually the same percentage as on the non-shell-tempered sherds. Sherds smoothed on the interior surface account for 15 percent of the detailed sherd sample, while none of the non-shell-tempered sherds have evidence of interior smoothed surfaces; this suggests some differences in how certain ceramic vessels were prepared for use. In East Texas Caddo ceramic assemblages, jars are commonly smoothed on the interior surface, while bowls, carinated bowls are regularly smoothed on both sherd surfaces, and bottles are regularly smoothed only on their exterior surfaces. Only 6.4 percent of the shell-tempered sherds have been burnished on their exterior surface, compared to 20 percent of the non-shell-tempered wares, typically sherds from fine wares. Lastly, 2 percent of the shell-tempered sherds with a surface treatment have been scraped on the interior surface (see Table 5). This sherd may be from a bottle or a jar that was scraped to finish its interior surface.

The non-shell-tempered sherds from the Glass site are from vessels with thinner walls than the shell-tempered sherds. The non-shell-tempered rim sherds have a mean thickness of 6.3 mm, but the shell-tempered rims have a mean thickness of 6.47 mm. The shell-tempered body sherds have a mean thickness of 6.56 mm compared to 5.70 mm for the non-shell-tempered sherds. The shell-tempered base sherds (with flat bases) have a mean thickness of 13.0 mm, while the non-shell-tempered base sherds have a mean thickness of 10.1 mm.

Coyote Site (41MU28)

The archeological investigations at the Coyote site were originally planned to explore a historic, presumably Wichita, village site (Lower Tucker [SMU X41MU16]) first identified by local collectors. Because X41MU16 was located in a field with actively grazing cattle, the landowner would only allow the archeology crew to excavate outside of that field. Initial test pits identified Henrietta phase material culture and no unequivocal associated historic artifacts. Thus, a new site number and name (Coyote, X41MU28) was assigned to this Henrietta phase site to distinguish it from the sought after, but unexcavated, historic Wichita village (X41MU16). Excavations at Coyote (see Figures 5 and 6a-b) recovered 356 ceramic vessel sherds, including an unreconstructed vessel section, a reconstructed Nocona Plain jar, 114 sherdlets, 11 paint cup sherds (see Figure 7i), and a single piece of daub (Table 6).

Table 6. Ceramic Sherds and Clay Artifacts Inventory from the Coyote site (41MU28).

Provenience	Sherds	Sherdlets	Paint Cup Sherds	Daub	N
Vessel Section	24				24
Fea. 1	10	1			11
Fea. 2	8				8
Fea. 4	5	1			6
Fea. 4/5	1				1
Fea. 5	24	2		1	27
Fea. 6	16	8	1		26
Fea. 7	2	4			6
Fea. 8	10	6			22
Fea. 9	2		1		3
Fea. 10	2	1	1		4
Fea. 11	48	23	4		76
Fea. 12a	9	1			10
Fea. 14	2				2
TA 7	18	3	2		19
TP 1	1	3			4
TP 2	4	7			11
TP 3	20	4			22
TP 4	19	14			33
TP 5	5	3			8
TP 6	4	1			5
TP 7	58	30			93
TP 11	5				5
TP 15	1				1

Table 6. Ceramic Sherds and Clay Artifacts Inventory from the Coyote site (41MU28), cont.

Provenience	Sherds	Sherdlets	Paint Cup Sherds	Daub	N
TP 16	2				2
Trench 1	1				1
Trench 2	2				2
Trench 3	3				3
Trench 4	37	2	2		40
E4 ST	1				1
UID	13				15
Totals	356	114	11	1	482

TA=Test Area
TP=Test Pit

Approximately 50 percent of a Nocona Plain globular jar (unexamined in this study) was also recovered during excavations (Bell et al. 1967:Figure 60g) (Figure 10). The sherds are widely distributed in 12 features (principally Fea. 11, Fea. 5, and Fea. 6 in the eastern part of site, Figure 6b), 11 test pits (primarily from TP 3, 4, and 7, also in the eastern part of site Figure 6b), four trenches (especially Trench 4 in the western part of the site), the surface, and one miscellaneous sherd from a shovel test. The paint cup sherds are from four features, a Test Area 7, and Trench 4, in both eastern and western parts off the site (Figure 6a-b).

The detailed analysis of 112 sherds in the Coyote site collection represents 31 percent of the entire assemblage (Table 7). The sherds are from vessels tempered with grog, grog-bone, bone, and shell; one sherd has no temper and only a sandy paste; the affiliation of this sherd is uncertain but there are a few non-tempered sherds in the Henrietta phase component at the Harrell site (Perttula 2016). Few sherds in the overall assemblage (3.4 percent) are from vessels that have decorative elements, almost all of them from vessels tempered with grog and grog-bone.

Figure 10. Reconstructed Nocona Plain jar from the Coyote Site. Photo provided by Matthew T. Boulanger, Archaeology Research Collections, Southern Methodist University.

Table 7. Detailed Analysis of the Coyote (41MU28) Ceramic Vessel Sherds.

Provenience	Lot/ Specimen No.	Dec.	Sherd type	Paste-Temper	FC	ST	TH (mm)
Fea. 1	72.3	Plain	body	shell	G	-	6.8
	72.6	Plain	body	grog-bone	B	I/E SM	6.1

Table 7. Detailed Analysis of the Coyote (41MU28) Ceramic Vessel Sherds, cont.

Provenience	Lot/ Specimen No.	Dec.	Sherd type	Paste-Temper	FC	ST	TH (mm)
	93.1	Plain	body	shell	H	-	6.9
	93.2	Plain	body	grog	G	E SM	4.4
Fea. 2	32.3	Plain	body	shell	G	E SM	6.7
Fea. 4	40.2	Plain	body	shell	B	-	5.0
	40.3	Plain	body	grog-bone	G	E B	5.6
	53.1	Plain	body	shell	G	E SM	6.5
	53.3	Parallel brushed	body	grog-bone	F	-	6.6
Fea. 4/5	75.1	Plain	body	grog-bone	G	E B	6.4
Fea. 5	39.1	I/E Red slipped	body	grog	F	E B	5.8
	39.2	E Red slipped	body	grog	G	E B	5.8
	39.14	Plain	body	grog-bone	G	E SM	5.8
	39.20	Plain	body	shell	G	-	6.7
	76.4	Plain	body	shell	B	-	7.6
Fea, 6	69.2	Plain	rim	shell	B	-	6.7
	74.11	Plain	body	grog	G	E SM	6.8
	108.1	Plain	body	shell	G	E SM	6.5
	110.1	I/E Red slipped	body	bone	C	E SM	5.2
	110.2	Plain	body	shell	B	E SM	8.0
	110.8	Plain	body	bone	E	E SM	6.6
	110.9	Plain	body	bone	C	E SM	7.6
Fea. 7	71.3	Plain	body	grog-bone	G	E B	6.7
Fea. 8	84.7	Plain	body	grog-bone	F	E SM	6.9
	99.4	Plain	body	grog-bone	F	E B	12.1
	109.3	Plain	body	bone	F	E SM	7.6
Fea. 9	116.3	Plain	body	bone	F	I SM	6.7
Fea. 10	105.2	Plain	body-base	shell	E	E SM	9.7-17.7
	105.3	Plain	body	grog-bone	F	E SM	5.6

Table 7. Detailed Analysis of 41MU28 Ceramic Vessel Sherds, cont.

Provenience	Lot/ Specimen No.	Dec.	Sherd type	Paste-Temper	FC	ST	TH (mm)
Fea. 11	11.52	Plain	body	grog-bone	G	-	6.4
	11.53	Plain	body	grog-bone	G	E SM	5.4
	97.5	Plain	body	grog	B	I/E SM	6.4
	97.14	Plain	body	shell	G	I/E SM	7.4
	97.15	Plain	body	grog-bone	G	I SC	6.8
	97.17	Plain	body	grog-bone	G	E SM	7.0
	100.3	Plain	body	shell	G	-	5.6
	113.2	Plain	body	shell	B	E SM/ I OR	9.0
	113.25	Plain	base	shell	F	-	13.2
	113.31	Plain	body	shell	G	I/E SM	7.9
	113.50	Diagonal incised lines	rim	grog-bone	F	-	4.3
	140.1	Plain	body	grog-bone	B	E SM	4.9
Fea. 12a	133.2	Plain	body	shell	B	-	7.2
	133.3	Neck-banded	body	bone	G	-	12.5
	133.10	Plain	body	bone	F	E SM	4.9
Fea. 14	132.2	Plain	body	grog-bone	B	E SM	4.8
TP 1	4.4	Plain	rim	shell	G	-	7.6
TP 2	5.1	Plain	body	grog-bone	G	-	10.0
	41.1	Tool Punctated row	body	grog	G	-	6.2
	50.4	Plain	body	shell	E	E SM	7.8
TP 3	3.1	Plain	Strap handle	shell	B	-	5.6
	3.9	Plain	body	shell	G	-	7.7
	3.10	Plain	body	bone	F	I/E SM	8.6
	46.1	Plain	body	shell	K	-	9.6

Table 7. Detailed Analysis of 41MU28 Ceramic Vessel Sherds, cont.

Provenience	Lot/ Specimen No.	Dec.	Sherd type	Paste-Temper	FC	ST	TH (mm)
TP 4	60.5	Plain	base	shell	A	-	11.0
	60.10	Plain	body	grog	G	E SM	7.6
	86.5	Plain	rim	grog	B	-	6.9
TP 5	85.2	Plain	body	shell	F	-	5.7
TP 6	65.1	Plain	body	bone	G	E SM	7.5
	73.1	Plain	body	grog	F	I SM	5.0
	79.2	Plain	body	grog	E	E B	5.7
	80.1	Plain	base	SP	B	-	12.0
TP 7	7.1	Plain	body	shell	B	E SM	5.2
	13.1	Plain	body	shell	B	-	8.3
	23.2	Plain	base	shell	G	-	12.3
	23.4	Plain	body	grog-bone	F	E SM	9.2
	81.9	Plain	body	shell	A	-	7.5
	81.12	Plain	body	grog	A	E SM	7.9
	112.8	Plain	body	grog-bone	F	-	7.4
	112.10	Plain	body	shell	H	E SM	7.3
	112.12	Plain	body	grog-bone	A	E SM	8.5
	114.27	Plain	body	grog	E	E SM	7.0
	114.32	Plain	body	grog-bone	G	E SM	5.1
	114.42	Plain	body	shell	B	I SM	5.8
	114.43	Plain	body	shell	G	E SM	7.9
	115.6	E Red slipped	body	shell	F	E SM	5.2
	115.10	Plain	body	bone	H	-	6.2
	117.2	Plain	body	shell	B	E SM	6.6
TP 11	12.2	Plain	body	bone	A	-	8.8
TP 15	16.1	Plain	body	shell	E	-	8.5
TP 16	21.2	Plain	body	shell	G	-	9.4
Test Area 7	24.3	Plain	body	grog-bone	F	E SM	7.6
	27.2	Plain	base	grog	G	I/E SM	18.5
	28.4	Plain	body	grog	G	E SM	7.1

Table 7. Detailed Analysis of 41MU28 Ceramic Vessel Sherds, cont.

Provenience	Lot/ Specimen No.	Dec.	Sherd type	Paste-Temper	FC	ST	TH (mm)
	29.2	Plain	body	grog	B	-	8.6
	30.3	Plain	body	bone	G	-	6.6
	33.1	Plain	body	shell	B	-	7.0
E4 ST	89.2	Plain	body	shell	G	E SM	7.2
Trench 1	104.1	Plain	rim	bone	F	-	11.2
Trench 2	22.1	Plain	body	grog	G	-	7.1
Trench 3	20.1	Plain	body	shell	G	-	9.2
	20.4	Horizontal incised line	body	grog	F	-	5.4
	25.1	Plain	body	grog-bone	F	E SM	8.4
	25.2	Plain	body	shell	G	E SM	9.4
Trench 4	34.1	Plain	base	shell	G	I/E SM	11.6
	44.1	Plain	base	bone	F	E SM	10.6
	52.1	Plain	body	grog-bone	G	E SM	5.0
	61.2	Plain	body	grog-bone	H	E SM	8.5
	61.3	Plain	body	grog	G	E SM	5.7
	61.4	Plain	body	shell	B	E SM	6.9
	66.2	Plain	rim	grog-bone	B	I/E OR; I SM/E B	6.7
	66.3	Plain	body	bone	G	E B	5.2
	67.7	Plain	lower rim-lug handle	shell	B	-	7.6
	67.8	Plain	rim	grog	F	-	9.2
	67.9	Plain	rim	bone	H	I/E SM	10.0
	67.13	Plain	body	grog-bone	E	E SM	6.1
	102.1	Plain	lower rim	grog-bone	C	I/E SM	6.6
	102.5	Plain	body	bone	G	I SC	6.8
	102.15	Plain	body	bone	G	E SM	6.4

Table 7. Detailed Analysis of 41MU28 Ceramic Vessel Sherds, cont.

Provenience	Lot/ Specimen No.	Dec.	Sherd type	Paste-Temper	FC	ST	TH (mm)
UID	18.3	Plain	body	shell	G	E SM	8.9
	18.4	Fingernail punctated rows	body	grog	A	-	5.1
	18.8	Plain	body	shell	B	E SM	6.6

FC=firing conditions (see Teltser 1993:Figure 2); A=oxidized; B=reduced; C-E=incompletely oxidized; F-H=reduced, cooled in open air; I-L=sooted and smudged; OR=organic residue; SP=sandy paste
ST=surface treament: SC=scraped; SM=smoothed; B=burnished; I=interior surface; E=exterior
TH=thickness

Four different tempers were used in the vessel sherds from the Coyote site (Table 8), as there were at the Glass site (see Table 3). The use of shell temper in vessel manufacture is still common, at 38.8 percent, but much lower in proportion to the use of shell temper in the component at the Glass site, namely 90 percent. Sherds from grog-tempered vessels account for 28.1 percent, grog-bone-tempered vessel sherds comprise 18.8 percent of the assemblage, and bone-tempered vessel sherds are 14.3 percent. The dominance of non-shell-tempered ceramic wares is a primary attribute that distinguishes the Coyote ceramic assemblage from the Glass site ceramics.

Table 8. Temper categories in the Coyote site assemblage.

Provenience	Grog		Grog-bone		Bone		Shell		N	
	Pl.	Dec.	Pl.	Dec.	Pl.	Dec.	Pl.	Dec.	Pl.	Dec.
Fea. 1	2		4				4		10	
Fea. 2	3	1					4		7	1
Fea. 4	1		1	1			2		4	1
Fea. 4/5			1						1	
Fea. 5	11	2	2				9		22	2
Fea. 6	4		4		3	1	4		15	1
Fea. 7			2						2	
Fea. 8	2		4		2		2		10	
Fea. 9					2				2	
Fea. 10			1				1		2	
Fea. 11	3	1	12	1	12		19		46	2
Fea. 12a	2		3		1	1	2		8	1
Fea. 14	1		1						2	
Vessel Section	2						22		24	

Table 8. Temper categories in the Coyote site assemblage, cont.

Provenience	Grog		Grog-bone		Bone		Shell		N	
	Pl.	Dec.	Pl.	Dec.	Pl.	Dec.	Pl.	Dec.	Pl.	Dec.
Test Area 7	10		2		1		5		18	
TP 1							1		1	
TP 2	1	1	1				1		3	1
TP 3	10		1		1		8		20	
TP 4	12		1				6		19	
TP 5	2		2				1		5	
TP 6	2				1				3*	
TP 7	13	1	9		12		22	1	56	2
TP 11	2				1		2		5	
TP 15							1		1	
TP 16							2		2	
Trench 1					1				1	
Trench 2	1						1		2	
Trench 3			1				2		3	
Trench 4	7		12		10		8		37	
E4 ST							1		1	
UID	2	1	1		2		7		12	1
Totals	93	7	65	2	49	2	137	1	344	12

*does not include one sandy paste sherd

In general, however, the proportions of the shell-tempered and non-shell-tempered sherds are comparable across the site suggesting the two traditions may well be contemporaneous. Shell-tempered sherds account for 38-50 percent of the samples by provenience (see Table 8) in Fea. 1, Fea. 2, Fea. 4, Fea. 5, Fea. 10, Fea. 11, TP 3, TP 7, TP 11, and Trench 2 in the eastern part of the site (see Figure 6b), and 67-100 percent in Trenches 2 and 3, also in the eastern part of the site. The grog-, grog-bone, and bone-tempered are proportionally above 72 percent by provenience in both the eastern (Test Area 7, TP 5, TP 6, Trench 1, Fea. 6, and Fea. 7) and western (TP 2, Trench 4, Fea. 8, Fea. 9, Fea. 12a, and Fea. 14) parts of the site. If the 13 features that have ceramic sherds are considered, both wares occur together in 69 percent of them. The other 31 percent have only non-shell-tempered wares (Fea. 4/5, 7, 9, and 14), and these are distributed in both east and west site areas, and they may represent the earliest features at the Coyote site.

If the ceramics represent different ceramic traditions that may or may not be contemporaneous, this spatial dichotomy would suggest that the earliest parts of the site—with

non-shell-tempered wares resembling Williams Plain—were in both eastern and western areas, and the latest parts of the occupation are primarily in the eastern part of the site. If the ceramic traditions are contemporaneous in age, one ware of non-local Caddo origin and the other ware a local Henrietta phase shell-tempered ware, then the principal habitation area is in the eastern part of the site.

Of the sherds analyzed in detail, there are considerable differences in how non-shell-tempered vessels versus shell-tempered vessels have been fired (Table 9). The grog-grog-bone- and bone-tempered sherds are predominantly from vessels fired in a reducing environment and cooled in the open air (72.3 percent) compared to 50 percent of the shell-tempered sherds fired in this manner, mainly firing condition G (39.1 percent) that leaves a dark core and a thin oxidized lens on the exterior surface.

Table 9. Firing conditions in the Coyote site ceramic sherds (see also Table 7).

Firing Condition		Grog/Grog-bone/Bone	Shell	N
A	Oxidized	4/6.2%	3/6.5%	7
B	Reduced	7/10.8%	**15/32.6%**	22
C	Incompletely oxidized	3/4.6%	1/2.2%	4
E		4/6.2%	3/6.5%	7
F	Reduced-oxidized	**20/30.8%**	3/6.5%	23
G		24/36.9%	**18/39.1%**	42
H		3/4.6%	2/4.3%	5
K	Sooted/smudged	-	1/2.2%	1
Totals		65	46	111

A secondary means of firing the non-shell-tempered vessels is by firing and cooling them in a reducing environment (10.8 percent), but this form of firing is much more common (39.1 percent) among the shell-tempered vessel sherds (see Table 9). In other respects, there are only minor differences between the two wares in the proportion of sherds from vessels fired and cooled in an oxidizing environment, and on sherds that were incompletely oxidized in firing, an indication of a poorly controlled firing environment. However, only 8.7 percent to 10.8 percent of the sherds are from vessels that were poorly fired among the shell-tempered and non-shell-tempered wares, respectively.

More than 75 percent of the non-shell-tempered sherds analyzed in detail have evidence of surface treatment compared to 47.8 percent of the shell-tempered sherds (Table 10). For the non-shell-tempered sherds, most of them have exterior smoothing (58.6 percent) and exterior burnishing (18,3 percent) and are probably from bowls, carinated bowls, and bottles. The shell-tempered sherds are almost exclusively smoothed on their exterior surface (95.4 percent), consistent with Nocona Plain vessels (see Krieger 1946). None of the shell-tempered sherds have burnishing. Two non-shell-tempered sherds have interior scrape marks, and they may be from bottles (Table 10).

Table 10. Surface Treatment of Vessel Sherds from the Coyote Site (see also Table 7).

Surface Treatment	Grog/Grog-Bone/Bone	Shell	N
interior scraped	**2/4.1%**	-	2
exterior smoothed	30/46.2%	**18/81.8%**	48
interior smoothed	2/4.1%	1/4.5%	3
int./ext. smoothed	6/12.4%	3/13.6%	9
exterior burnished	**8 (16.3%)**	-	8
exterior burnished/int. smoothed	1/2.0%	-	1
Sherds with surface treatment	49	22	71
Total sherds analyzed in detail	65	46	111
Percentage with surface treatment	**75.4**	47.8	64.0

Only 12 sherds in the Coyote assemblage have decorated elements: seven from grog-tempered vessels, two from grog-bone-tempered vessels, two from bone-tempered vessels, and only a single shell-tempered sherd. For the assemblage as a whole, the P/DR is 28.7 (344/12), but the P/DR for the shell-tempered sherds is an extremely high 137.0. The P/DR for the non-shell-tempered sherds is much lower at 18.8, but the P/DR is 13.29 for the grog-tempered sherds, 32.5 for the grog-bone-tempered sherds, and 24.5 for the bone-tempered sherds

The one decorated shell-tempered sherd in the Coyote site collection has a red slip on its exterior surface (see Table 7). If this sherd is from a vessel made by a McCurtain phase Caddo potter that lived well downstream in the Red River basin (see Regnier t al. 2021), it would be identified as a post-A.D. 1440 Clement Redware vessel (see Flynn 1976).

There are 11 grog-, grog-bone, and bone-tempered decorated sherds at the site, 64 percent from grog-tempered vessels, 18 percent from grog-bone-tempered vessels, and 18 percent from bone-tempered vessels. They include brushed (n=1, parallel brushed marks, Fea. 4, grog-bone-tempered), fingernail punctated (n=1, fingernail punctated rows, UID provenience, grog-tempered), incised (n=4, closely-spaced parallel incised lines, TP 7, grog-tempered; straight incised line, Fea. 11, grog-tempered; closely-spaced diagonal incised lines, Fea. 11, grog-bone-

tempered; and horizontal incised lines, Trench 3, grog-tempered), neck banded (n=1, Fea. 12a, bone-tempered), red slipped (n=3, int./ext. red slipped, Fea. 5, grog-tempered; ext. red slipped bottle sherd, Fea. 5, grog-tempered; Fea. 6, int./ext. red slipped, bone-tempered), and tool punctated (n=1, a row of tool punctations, TP 2, grog-tempered). In general, these decorated sherds compare most favorably with the ceramic assemblages from Middle Caddo period sites downstream on the Red River, likely from Sanders phase sites (Regnier et al. 2021:55 and Figures 3.11 and 3.13), particularly the relative proportion of red slipped sherds. The red-slipped sherds are from Sanders Slipped vessels, the incised sherds are from Canton Incised jars, the neck banded sherd is an early non-shell-tempered variety of Nash Neck Banded, and the fingernail punctated sherd is from a Monkstown Fingernail Impressed jar. The brushed and tool punctated sherds may be from Middle Caddo period vessels manufactured in the Sulphur River basin well to the southeast of the Coyote site.

Rim and lip forms on vessels also vary between the two wares. The non-shell-tempered rims include an everted profile and a rounded lip (n=4), direct rim and a rounded lip (n=3), and a direct rim and a flat lip (n=2). The shell-tempered rims mainly have everted profiles (n=3), with either a rounded lip or an exterior folded lip, although one has a direct rim and a rounded lip. Three shell-tempered sherds from TP 3, Test Area 7, and Trench 4 (in both the east and west parts of the site, see Figures 6a-b) have either a strap handle (44.0 mm in length, 17.6 mm wide, and 7.9 mm thick) or a lug handle (27.2 mm in length, 6.7 mm wide, and 4.5 mm thick). There are no handle sherds in the Glass site ceramic assemblage.

Also in the assemblage is an unreconstructed shell-tempered jar from Lots 36, 38, 60, 74, and 86. The jar section is represented by four short everted rim sherds, 5.4 mm in thickness, and 18 body sherds (6.7 mm thick) from a Nocona Plain vessel. The exterior surface of the vessel section is smoothed. The vessel has been fired and cooled in an oxidizing environment (see Teltser 1993:Figure 2a). Included in this larger group of sherds are two plain grog-tempered body (7.0 mm thick) and base (11.5 mm thick) sherds from another vessel The vessel has been fired in a reducing environment and cooled in the open air (see Teltser 1993:Figure 2f).

The two different wares (non-shell-tempered or grog, grog-bone, and bone-tempered and shell-tempered Nocona Plain) at the Coyote site appear to be from vessels of different sizes, forms and wall thickness. Non-shell-tempered rims have a mean thickness of 7.51 mm, while shell-tempered rims have a mean thickness of 6.58 mm. Shell-tempered body sherds have a mean thickness of 7.37 mm compared to 7.12 mm thick for the non-shell-tempered wares. Base sherds are flat and disk-shaped with very thick walls (see Figure 8): 13.0 mm mean thickness for the non-shell-tempered wares and 12.3 mm thick for the shell-tempered base sherds. Some of the non-shell-tempered sherds are from thick-walled Williams Plain vessels, manufactured by Woodland and Caddo peoples from at least A.D. 200 to A.D. 1250 (see Regnier et al. 2021). Williams Plain and Nocona Plain have closely analogous vessel forms and occur in assemblages that do not have many decorated vessels at least before ca. A.D. 1000.

Summary of the Assemblages from the Glass and Coyote Sites

The Glass and Coyote site ceramic assemblages have been identified as Late Prehistoric Henrietta phase (ca. A.D. 1250/1300-1600, see Bell et al. 1967; Lorrain 1967; Woodall 1967; cf.

Prikryl and Perttula 1995) sites on the Southern Plains, also considered Plains Village sites. But as Table 11 shows, the two ceramic assemblages are very different from each other in a number of ways: (1) use of shell vs. non-shell tempers in vessel manufacture; (2) proportion of the two wares that have decorated elements; (3) differences in P/DR between wares with the same temper; (4) particular rarity of decorated sherds among the shell-tempered wares; (5) use of strap and lug handles; (6) different firing conditions between the two sites; and (7) the frequency of burnished vessel sherd surfaces between the two sites and the two wares.

Table 11. Comparison of the Ceramic Assemblages from the Glass and Coyote sites.

Attributes	Glass	Coyote
Percent shell temper	90.4	38.8
Percent grog temper	4.4	28.1
Percent grog-bone-temper	3.8	18.8
Percent bone-tempered	1.4	14.3
Percent decorated, grog, grog-bone-bone-tempered	11.4	5.0
Percent decorated, shell-tempered	2.4	0.7
P/DR, shell-tempered	40.38	137.0
P/DR, non-shell-tempered	7.75	18.8
Everted rim-exterior folded rim	X	X
Strap/lug handles		X
Principal Firing Condition, grog-, grog-bone, bone-tempered	R-OX	R-OX
Principal Firing Condition, shell-tempered	R	R-OX
Secondary Firing Condition, grog-, grog-bone, bone-tempered	OX	R-OX
Secondary Firing Condition, shell-tempered	R-OX	R
Percentage with Burnished surface	4.4*	8.0**
Sooted/Smudged sherds	X	X
Flat disk base	X	X
Paint Cup sherds	X	X

X=present; R=fired and cooled in a reducing environment (Firing Condition B); OX=fired and cooled in an oxidizing environment (Firing Condition A); R-OX=fired in a reducing environment, cooled in an oxidizing environment

* both non-shell-tempered and shell-tempered wares

** non-shell-tempered sherds only

However, there are also similarities between the two sites and their ceramic assemblages (see Table 11). First, the shell-tempered sherds from both sites have everted rim-exterior folded rims on globular jars (see Figure 7); second, the grog-, grog-bone, and bone-tempered sherds

from both sites are from vessels fired in a reducing environment and cooled in the open air; this method of firing is characteristic of East Texas Caddo ceramic vessels; third, sooted/smudged sherds are among the shell-tempered wares at both sites; fourth, both non-shell-tempered and shell-tempered vessels at both sites have flat and thick disk bases; and fifth, both sites have hand-molded paint cups.

Taking these similarities and differences in the ceramic vessel sherds (see Table 11), together with the data on the few decorated sherds in the non-shell and shell-tempered wares, the Glass and Coyote sherds are not occupied contemporaneously. The high proportion of non-shell-tempered sherds at the Coyote site (some resembling Williams Plain) and conversely a very high proportion of shell-tempered sherds (from Nocona Plain) at the Glass site strongly suggests that the Glass site, likely a single component, is younger than the Coyote site, which may have two components, one with non-shell-tempered vessel sherds and a later shell-tempered component. It is likely that most of the non-shell-tempered sherds at the two sites are from vessels manufactured by Caddo potters in East Texas (especially downstream along the Red River).

The available ceramic evidence points to the fact that the two sites were occupied in different temporal intervals in the Henrietta phase, possibly ca. A.D. 1200-1300 at the Coyote site for the non-shell-tempered wares and ca. A.D. 1400-1450 for the shell-tempered wares. It is hoped that radiocarbon dates can be obtained from feature contexts at the two sites to better establish when they were occupied by Henrietta phase peoples.

Paint Cups

Paint cup sherds, either with no apparent temper or tempered with bone, are from hand-molded cylindrical vessels that were made to hold pigment and paint. Brooks and Drass (2005:149) note that “with the low temperature firing, walls of the paint cups are probably more permeable and pigment placed in the cups could potentially soak into the pot’s interior surface." Most paint cup sherds studied by Brooks and Drass (2005:150-151) have a corncob-impressed surface (see Figure 7i), but smooth surfaced paint cups and cups with cord-impressed exterior surfaces are also known. Interior surfaces of the paint cups have a red pigment or wash.

Paint cup sherds have been reported in two Plains Village sites in North Central Texas—including the Harrell site (41YN1, Perttula 2016)—as well as a number of Plains Village sites in southern and western Oklahoma (Figure 11). The other North Central Texas site with paint cup sherds is the Glass site (41MU24) on the Red River in Montague County (Lorrain 1967, this article), and the Coyote site (41MU28, see Woodall 1967), although Krieger (1946:111) noted that he had seen a few other such sherds in the collections made by a Mr. Powell Goodwin in the same general area (Archer and Young counties) as the Harrell site, but he noted they were rare. Krieger (1946:132) also saw “two thick, yellowish bowl-rim sherds, finger molded rather than coiled and quite like those from the Harrell site” in collections from sites in the Little Wichita River basin in Clay County, Texas. These sites are thought to date between ca. A.D. 1250-1500 (Drass 1998). The Glass and Coyote sites on the Red River represent the easternmost known occurrences of paint cups.

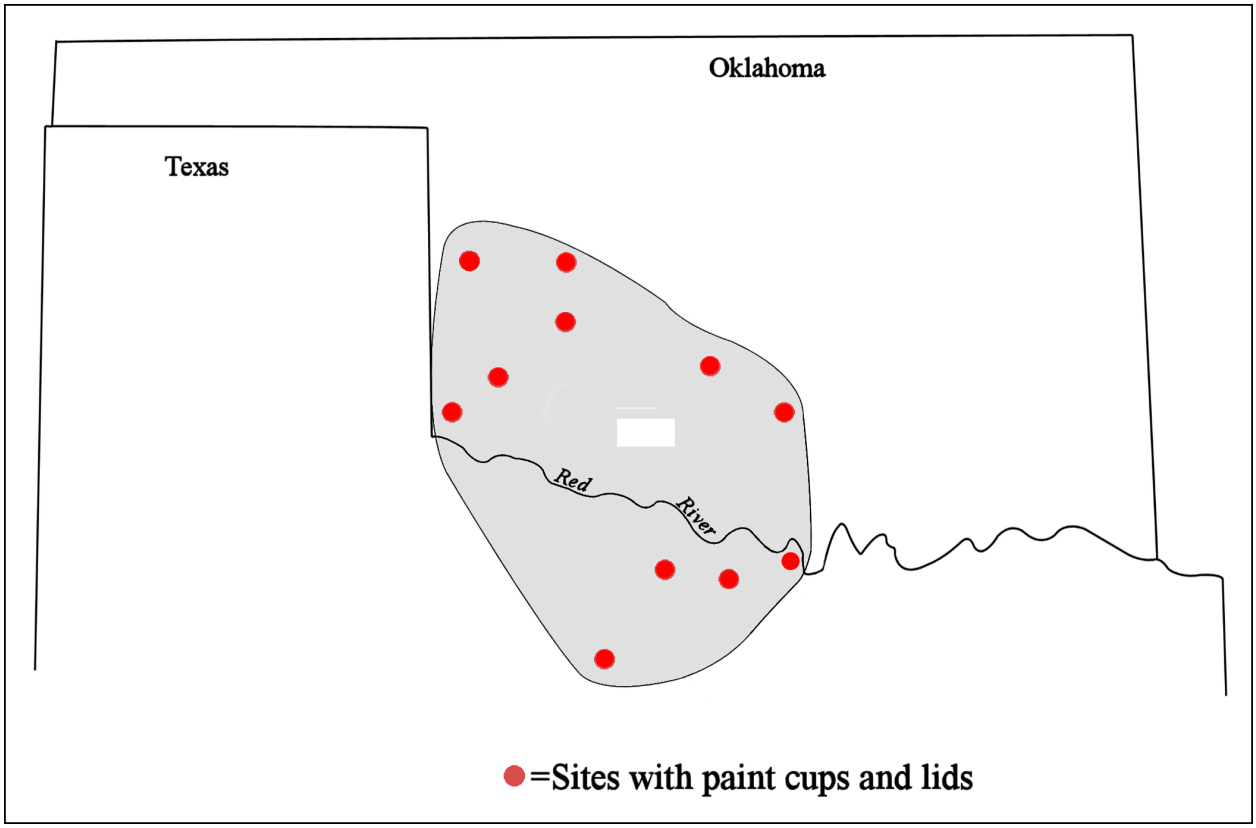

Figure 11. Distribution of paint cup sherds and lids on Plains Village sites in northern Texas and southern and western Oklahoma (after Brooks and Drass 2005:Figure 1).

The two paint cup sherds in the Glass site collections are from Feature 1 (Lot 74.1) and Feature 2 (Lot 57.4). The Feature 1 sherd is a rim (direct profile and rounded lip) with interior and exterior surface impressions; the paint cup is at least 77 mm in height. The sherd has no visible temper, and its walls are 15.0 mm in thickness. The interior surface has a thick oxidized rind. The paint cup from Feature 2 is a lower body-base sherd between 12.2-14.5 mm thick, and stands 52 mm in height. It has been smoothed on both surfaces, and there are no impressions on either surface. There is no visible temper and the interior surface has a thick oxidized rind or zone.

The Coyote site paint cup sherds include one rim and 10 body sherds (Table 12). None of the sherds have any visible temper, and only two have possible corn cob impressions on their interior and exterior surfaces; the have lumpy and poorly smoothed exterior surfaces. The one rim sherd is 9.0 mm thick, and the body sherds range from 10.6-21.0 mm in thickness, with a mean thickness of 17.5 mm. Each of the paint cup sherds have thick interior oxidized zones, but none of them have an interior residue or paint traces.

Table 12. Paint Cup Sherds from the Coyote Site.

Provenience	Lot No./ Specimen No.	Paint Cup Sherd Descriptions
Fea. 6	69.1	body sherd, no visible temper, thick interior oxidized zone
Fea. 9	116.1	rim sherd, thick interior oxidized zone, 9.0 mm
Fea. 10	105.4	body sherd, no visible temper, thick interior oxidized zone, 15.2 mm thick
Fea. 11	97.4	body sherd, 21.0 mm thick, vertical incised lines, no visible temper; thick interior oxidized zone
	98.1	body sherd, no impressions, thick interior oxidized zone, 20.9 mm thick
	98.2	body sherd, no impressions, thick interior oxidized zone, 17.6 mm thick
	113.1	body sherd, no visible temper, thick interior oxidized zone, 18.3 mm thick
TP 7	81.1	body sherd, no impressions, thick interior oxidized zone, 19.5 mm thick
	81.2	body sherd, no impressions, thick interior oxidized zone, 19.5 mm thick
Trench 4	90.1	body sherd, int./ext. impressions, 10.6 mm thick
	90.2	body sherd, int./ext. impressions, 15.0 mm thick

None of the paint cup sherds in the Glass and Coyote sites assemblages have exterior corn cob-impressed decorations. This is the most common exterior decoration on paint cups in southern and western Oklahoma Plains Village sites (Brooks and Drass 2005:154-155).

Daub, Burned Clay, and Fired Clay Balls

The pieces of daub are found about equally in Fea. 1 and Fea. 2 (n=11) at the Glass site and the trenches (n=10), especially in Trench 5 and 7 (n=7). Only two of the pieces of daub have grass impressions and others appear to have stick impressions. Over 90 percent of the daub pieces have been oxidized when exposed to fire, suggesting they were from the first parts of a structures were burned in the open air and not smothered as the house continued to collapse on itself. The smothered pieces of daub in Fea. 2 and Trench 5 were fired and cooled in a low oxygen environment. One unique piece of daub in, with grass impressions on both somewhat rectangular sides, had a 7.7 mm hole drilled through it; Lorrain (1967) considered this a pendant. It appears that this piece of daub had been collected from a burned structure, modified with a drilled hole, and then eventually in the trash dumped in the Fea. 2 house pit.

The three pieces of burned clay are from Fea. 1 and Fea. 2 at the Glass site. They are small in size, and amorphous in shape, and may be pieces broken from hearth or oven clay linings or associated burned areas.

The two clay balls from the Glass site have been used as cooking elements (i.e., cooking foods, boiling water, etc.) in high oxygen environments. The complete clay ball is 26.0 mm in diameter and may only have been used a few times. Rather, clay balls used more often would tend to have become reduced fired and more likely to fragment.

Only a single piece of daub was recovered from Fea. 5 at the Coyote site. Apparently, there were no structures occupied at the site that were burned down before the site was abandoned, providing no chance for the clay covering the walls of structures to be exposed to fire and the preservation of burned pieces of daub with grass impressions.

Historic Artifacts

A single piece of late 19th-early 20th century stoneware was recovered in Trench 3 (Lot 51.1) at the Glass site. It has a clear Bristol glaze on the exterior surface and a brown lead-glazed interior surface.

Two late 19th-early 20th century stoneware body sherds were recovered in Trench 4 at the Coyote site (Lots 90.4 and 90.5). The first was a Bristol-glazed vessel with a clear glaze on both vessel surface, while the other had a brown lead glaze on both vessel surfaces. A single whiteware plate sherd was in Test Pit 7.

Summary and Conclusions

In this report, I have discussed a re-examination of the ceramic vessel sherds and other clay artifacts (sherdlets, daub, burned clay, ceramic pipes, clay figurine, and paint cup sherds) from the Glass site (41MU24) and the nearby Coyote site (41MU28) on the Red River in the Spanish Fort Bend area in Montague County, Texas. These sites were excavated in 1966 as part of the Wichita Archeology and Ethnohistory project (Bell et al. 1967; Lorrain 1967; Woodall 1967). At that time, they were identified as pre-contact Henrietta phase settlements probably dating after ca. A.D. 1300. The collections are curated at the Archaeology Research Collections, Southern Methodist University in Dallas, Texas.

The re-examination of the ceramic vessel sherds from the two sites relied on the detailed examination of sherd type, rim and lip form, temper and paste, firing condition, surface treatment, sherd thickness, decorative methods and elements for a sample (31 percent) of the sherds in each assemblage; they have comparable sample sizes: 354 and 366 vessel sherds. The analysis of the ceramic vessel sherds indicates that the assemblages have both shell-tempered vessel sherds as well as grog-, grog-bone-, and bone-tempered vessel sherds. But the proportions of these wares are considerably different, especially in the use of shell temper: 90 percent of the Glass site sherds are from shell-tempered vessels compared to 40 percent at the Coyote site. These shell-tempered vessels are from Nocona Plain flower-pot shaped jars and simple bowls, often well smoothed on their exterior surfaces, and have flat, thick, disk bases. Rims are commonly everted in profile. Decorated sherds are very rare, and include appliqued nodes (Nocona Appliqued) and shell-tempered red slipped sherds (cf. Clement Redware dating after

A.D. 1440); the red slipped sherds are probably non-locally made downstream on the Red River among McCurtain phase Caddo potters and traded/exchanged with Henrietta phase communities.

The grog-tempered, grog-bone-tempered, and bone-tempered sherds are abundant at the Coyote site: 60 percent of the assemblage, but only 10 percent of the Glass site sherds have these temper categories. These sherds are from vessels that also have flower-pot shaped jars (Williams Plain) generally made before A.D. 1250, bowls, carinated bowls, compound bowls, and bottles. These vessels are not commonly decorated, but those that are at both sites have decorative methods and elements that closely compare to Middle Caddo period (ca. A.D. 1250-1440) Sanders phase ceramics on Red River Caddo sites with incised, brushed, punctated, incised-punctated, red slipped, and engraved utility ware and fine ware.

Based on the differences identified in the use of temper for vessel manufacture and the character of the decorative methods/elements on the two wares indicates that the Glass and Coyote site ceramic assemblages have Henrietta phase ceramic components, but the two sites were occupied in different temporal intervals in the Henrietta phase, possibly dating from ca. A.D. 1400-1440 for the shell-tempered wares. or slightly later at the Glass site and ca. A.D. 1250-1300 or so at the Coyote site. The non-shell-tempered wares at the Coyote site may date around ca. A.D. 1200-1300, with decorated vessel sherds from apparent non-local Caddo wares, and before the dominance of shell-tempered ceramic vessels among Southern Plains groups in this part of the Red River.

Finally, plain ceramic elbow pipes and clay figurines are only present in the later Henrietta phase component at the Glass site. However, hand-molded paint cup sherds are noted in each assemblage, but are most common at the earlier Henrietta phase component at the Coyote site.

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