

The Journal

Houston Archeological Society

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Wilson W. Crook, III, Editor

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Forward

The *Journal of the Houston Archeological Society* is a publication of the Society. Our Mission is to foster enthusiastic interest and active participation in the discovery, documentation, and preservation of cultural resources (prehistoric and historic properties) of the city of Houston, the Houston metropolitan area, and the Upper Texas Gulf Coast Region.

The Houston Archeological Society holds monthly membership meetings with invited lecturers who speak on various topics of archeology and history. All meetings are free and open to the public.

Membership is easy! As a nonprofit organization, membership in the Houston Archeological Society is open to all persons who are interested in the diverse cultural history of Houston and surrounding areas, as well as the unique cultural heritage of the Upper Texas Gulf Coast Region. To become a member, you must agree with the mission and ethics set forth by the Society, pay annual dues and sign a Code of Ethics agreement and Release and Waiver of Liability Form.

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Editor's Message

I am pleased to present Issue Number 135 of The Journal, the second issue to be published by the Houston Archeological Society in 2015. This issue does not have a specific theme but contains eight articles about various aspects of Texas archeology covering the Archaic, Late Prehistoric and Historic periods.

The first two papers reflect the recent work by HAS Director Mike Woods on defining two new dart point types from an extensive study of private collections from East Texas. Following Mike's papers are a series of illustrations on Historic Period munitions prepared by Tom Nuckols. These are followed by a group of papers dealing with the Late Prehistoric of the East Fork of the Trinity River. The first is the presentation of three new bone collagen dates for the district from the Branch (41COL9), Lower Rockwall (41RW1) and Glen Hill (41RW4) sites. This paper is then followed by three short articles dealing with various artifact types including a miniature ceramic vessel from the Sister Grove Creek (41COL36) site, a rare dart / spear point type known colloquially as a "Gary Pike," and two polished hematite celts from the same site. Lastly, our local expert, Louis Aulbach, has written a paper on the history of Houston's early settlement known as "Frost Town". As the HAS will be participating in an excavation of this area in the near future, this article should serve as an excellent "primer" for all who wish to be involved in the field work.

We plan to publish several Special Reports as well as at least one issue of The Journal in 2016. At a special meeting of the HAS Board in October of 2015, we decided to expand the range of subjects that could be included in The Journal to include any topic of archeological interest that is studied and written by a HAS member. First preference will be given to subjects along the Gulf Coast / Houston area, followed by archeological subjects within the State of Texas. Material from outside Texas and the U.S. would receive next consideration. So if you have worked on a site in Europe, Africa, Meso-America, etc., write it up and submit it to The Journal.

As always, we are very open to receiving any new submission that deals with an archeological subject. Do not worry that your paper may not be "perfect"; your editor is more than willing to work with you to create a publishable result. Please send all submissions and inquiries to Dub Crook at the following email address:

dubcrook@kingwoodcable.com

Or call me with questions at 281-360-6451 (home) or 281-900-8831 (cell).

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THE NECHES RIVER DART POINT: DESCRIPTION AND CLARIFICATION OF A “RELATIVELY” NEW DART POINT TYPE

Michael S. Woods

Introduction

During the late 1950's and early to mid-1960's there was an increase in Archeological activity in the Eastern zone of the Southeast Texas region, more specifically around Jasper, Newton, Angelina, Sabine, and other counties due to the construction of Sam Rayburn Reservoir and Toledo Bend Reservoirs. As a budding young avocational archeologist living in the area, I was very much excited about this increased interest in the prehistory of the area.

Having an early interest in prehistoric stone tools and the early prehistoric people of the area, I was very fortunate that my father knew a local avocational archeologist, Mr. D. T. Kent, Jr., who became a good friend, and an early archeological mentor to both myself and my late brother, Paul Woods.

Mr. Kent, better known to his friends simply as “Kent”, had collected a large, well-documented, surface collection of Native American artifacts from Jasper, Newton, and surrounding counties which I became fascinated with. Kent marked the locations of the sites which he had found on USGS topographic maps and labeled each of the artifacts to designate which site they came from. He was self-educated about the archeology of the area, but he also learned from and became friends with some of the well known archeologists from several of the major universities and the Texas Archeological Salvage Project who were performing large salvage projects in conjunction with the Corps of Engineers lakes being established in the area. Some of those archeologists who became friends with Kent were W. A. “Bill” Davis, Lathel Duffield, Dee Ann Suhm, E. Mott Davis, Dan Scurlock, Elton Prewitt, and others. Kent was also instrumental in establishing “The Sabine-Neches Archeological Society” in this East Texas area with others who were interested in archeology.

Kent was particularly interested in the lithic materials he collected and was encouraged to purchase a copy of *The Handbook of Texas Archeology: Type Descriptions* (Suhm, et al. 1962) so that he could identify the surface materials he was finding. He then began to notice in the early 1960's at a couple of his sites, he was finding a dart point which did not

match any of the descriptions in the current literature. After consulting with some of the aforementioned archeologists about the identity of this dart point type, he was encouraged to write a type description of the point which he sent to Lathel Duffield (Kent 1961) for critique by Dee Ann Suhm and Ed Jelks for possible inclusion in an updated version of *The Handbook of Texas Archeology*.

Unfortunately, Kent's dart point description was never published in the literature during that time for critique or recognition by others in the Texas archeological community. However, some of the archeologists (Jelks 1965:140-141) working in the Southeast Texas area on the reservoir project sites did utilize Kent's description of this new dart point type, with his permission, when they found the point on several of the sites they were excavating.

The primary purpose of this paper is to “re-introduce” the Neches River Dart point type to the Texas archeological community as it was originally described by D. T. Kent, Jr., and secondarily to recognize and correct some confusion about the description which occurred a few years later regarding the dart point type description.

Original Description by Kent

The original description by D. T. Kent, Jr. of the Neches River dart point type as prepared by Kent and marked as his “Final Draft” (paper in possession of the author) is described as follows (as quoted from Kent's Final Draft Paper):

Neches River Point

Description

Outline: The Neches River point has a crudely triangular blade and an expanded stem. The blade edges are usually straight (A,C) to convex (O,P), but can be slightly concave and/or recurved (J,M). The shoulders, which are generally slightly rounded (B,C), can vary to weakly barbed forms (D,O). A trait

characteristic of these points is the slight to very prominent serrations beginning at the shoulders and extending upwards $\frac{1}{2}$ to $\frac{2}{3}$'s the length of the blade edge. Above the serrations fine, well spaced, secondary flaking produces a thinning of the remaining blade edge, face and tip (B,E). When this secondary flaking is concentrated on opposite faces and edges, a prominent bevel is produced. The stem, which is always expanded, is generally formed by corner notches and it varies from $\frac{1}{4}$ to $\frac{1}{3}$ of the total length of the point. The base is straight (B,C) to slightly convex (N,P). Specimens which have a convex base tend to have a bulbous stem (J,N) due to the angle at which the stem edges and base meet. The base is always bifacially thinned by the removal of one or more flakes, the scars of which rarely extend past the shoulders of the point. With this thinning of the base and blade tip, the point is generally thickest at the juncture of the blade and stem.

Dimensions: The Neches River point is a small to medium size dart Point whose length ranges from 2.9 cm to 5.3 cm with the average specimen being 4.4 cm. In thickness the points vary from 0.5 cm to 1 cm with the average being 0.8 cm. In width at the shoulders the blade ranges from 1.6 cm to 2.8 cm with an average of 2.2 cm.

Cultural Affiliations: Although the Neches River point has not been found in stratigraphic association with defined cultures, it apparently occurs in an Archaic context judging from its surface association. It has been found on the surface with San Patrice, Gary, Kent, Booker and Palmillas-like points. Although serrated dart points are occasionally found in this area, the distinctive Neches River serration is not known to occur on any other form, nor is the Neches River form known to occur without the serrations. No specimens with concave bases are known. Neches River points somewhat resemble Williams points, but are smaller and not as wide. Also, Williams lacks the blade serrations and

generally has a more prominent shoulder than Neches River.

Distribution: While this preliminary definition of the Neches River point is based on a relatively small number of specimens (22) from the same general area near the Neches River in Jasper County, Texas, other specimens are found at sites in San Augustine, Shelby, Newton, and Sabine Counties, Texas. Out of state it is found in the Catahoula Lake region of Louisiana. (Various Newton County sites, Amo Daniels personal communication. Shelby County, West and S.E. of Center; Sabine County, 41SB63, 41SB62, and 41SB24; San Augustine County, 41-42D5-17 W.A. Davis – Personal Communication).

Estimated Age: Possibly 1000 BC to 500 or 1000 AD

References: Suhm and Jelks, 1962 p. 259, Plate 130
Bell, 1960 p. 97, Plate 48

Discussion

As mentioned earlier, Kent's description and new dart point type, unfortunately, was not published in any archeological literature in the early 1960's. However, in the stone artifact identification guides published which were searched by the author (Turner and Hester, 1985: 131; Turner and Hester, 1993: 163; Turner and Hester, 1999: 163; Davis, 1995: 140-141) there seems to be some discrepancies as to the identification of the Neches River dart point from the original description which Kent had written.

The methodology utilized to research this inconsistency in the dart point description was to begin looking at the references the authors of the identification guides had utilized. The first inconsistency from the original description by Kent which was discovered looking through the previously mentioned identification references was by Prewitt (1974: 67) where he "expanded the definition" of the Neches River dart point to include "rectangular stem specimens as well as the expanding stem specimens" (Prewitt 1974: 67). The author of this paper is an avocational student of archeology and by no means a lithics expert as is the case with most of the persons quoted and or referenced in this paper. However, it is not understood how the type description of a dart point as originally submitted by Kent which specifically states that the serrated blade and "the stem, which is always expanded, is generally formed by corner

notches and it varies from one fourth to one third of the total length of the point” as distinguishing physiologic characteristics of the point type can be “expanded” to include a “rectangular stem specimen” (Prewitt 1974: 67). Prewitt does go on to say that the “expanded definition”

Neches River will be designated “Oletha” variant for the “parallel stem specimens” (Prewitt 1974: 67). In the author’s opinion, this “variant” designation has no resemblance to the original Neches River dart point description by Kent except a partially serrated blade and is very confusing for subsequent Archeological site investigators.

Another inconsistency and miss-identification is in print in at least two of the next identification guides which are sent out to the market which is somewhat surprising that the most prestigious identification publication (Turner and Hester 1985) does not even have the correct depiction of the original Neches River point which Kent describes in 1961 only the “Oletha” variant designated by Prewitt (1974:67). The later editions of the typology guide (Turner and Hester 1993, 1999) do include one cor-

rect example of the Neches River point that Kent described, but they make **no differentiation** between the initial description by Kent and the “variant” parallel stem point that Prewitt (1974:67) describes. Moreover, Turner and Hester (1993: 163, 1999: 163) include in their description of the Neches River point a portion of the description which states “The tip may be rounded or chipped **straight across like a chisel-bit** rather than pointed.” This description is incorrect and appears to be describing another dart point which Kent described as the Booker dart point (see article by author in this edition of The Journal).

The second typology guide (Davis 1995) which not only seems to “cut and paste” a portion of the incorrect description from prior authors, but he does elaborate on the two varieties from Prewitt’s expansion of variants previously noted (Prewitt 1974: 67). Davis, additionally, in the examples he has depicted for the reader (Davis 1995: 141) has only the “Oletha” variant and does not have the original, correct, example of the Neches River point which Kent had described in 1961 and Prewitt designates as the “Dewitt” variant (Prewitt 1974: 67). Davis (1995: 140)



Figure 1. Photos of Neches River Points from Kent Collection

also has a reference which is describing the “Oletha” variant described by Prewitt (1974:67) previously as the “Navasota Beveled Point” by Bryan (1936: 81-95).

Fortunately, Elton Prewitt was a personal friend of Kent as well and knows the genesis of the Neches River dart point type as defined by Kent. Prewitt (1995: 84, 122) does a good job on clarification of the previous confusion of the original type description and the “variants” from the prior literature.

Kent, in his original description of the Neches River dart point, includes a section on “Cultural Affiliations” which he attempts to place a time range on this new dart point type which he found in generally deflated sites in association with both older and younger lithic assemblages. Kent placed the time range on this dart point in “an Archaic context”. In a search of the literature by the author, there have been at least two references found where the Neches River dart point that Kent was describing was located in context at other sites as being associated in the Archaic or possibly described by Jelks (1965: 268) as “.....Although the sample is small, the distribution of Neches River dart points at McGee Bend (Sam Rayburn) suggests that they also predate the Brookeland Focus proper”. Jelks (1965:267) stated that the “Brookland Focus Appears to be a local variant of a broad Archaic pattern that encompasses much of eastern Texas....”.

At least three other sites located in the literature were found to have excavated Neches River points in context as described by Kent including the Strawberry Hill Site (41SJ160) (Keller and Weir, 1979), the Crawford Site (41PK69) (Ensor and Carlson, 1988), and the Jamison Site (41LB2) (Aten 1967).

The distribution of the Neches River dart point may be somewhat biased or skewed at archeological sites around the East Texas and Louisiana areas possibly for a couple of reasons. One possible reason might be due to the lack of early publication and or peer review of the actual dart point type as Kent had described it in 1961. Had this information been reviewed and published earlier, possibly more archeologists would have recognized the point type as such in excavations. The following table (right column) is a current list which was compiled as the author reviewed the literature for information about this dart point type.

Conclusions and or Observations

It is imperative when studying the “Neches River” dart point type that one be very diligent in identifying both the type description and the associated references so as to obtain the correct, original description by Kent (1961) rather than the confusion

Neches River Dart Point – Distribution of “Kent Described” Types

From Kent Collection	
Site No.	Number of Known / Identified Points
41JP51	3
41JP135	3 (?)
41JP120	3
41JP96	7 (?)
41JP66	1
Other Sites – East Texas	
41JP97	1
41SB62	?
41SB63	?
41SB24	?
41LB2	2
41SJ160	2
41PK69	3
Sites from Sam Rayburn Reservoir Area – (Jelks 1965:261)	
41SB50 – Walter Bell Site	1
41SA89 -- Sawmill Site	1
41SA94 -- Wylie Price Site	11
41SB36 -- Print Bell Site	2
41SA123 – Blount Site	2
41SB8 -- Brink Powell Site	1
Louisiana Distribution	
Number of Known / Identified Points	
Catahoula Lake Region	?
Fort Polk Area (Anderson and Smith 2003:275)	3

with the “variants” as initially described by Prewitt (1974:67) which was later corrected by Prewitt (1995:84, 122). It is also interesting to note that the Neches River dart point described by Kent is very similar to and probably the same dart point style from western Louisiana called the “Sinner” type (Anderson, et al 2003:275).

In the opinion of the author, it appears that some of the confusion of the early type description and literature references could have been prevented if there were some form of single, archeological “review board” available in Texas similar to having one official site review location at TARL. One could submit potentially new lithic artifact types to the

Figure 2. Physical Measurements of Neches River Points from Kent Collection

Site Number	Max. Thickness (mm)	Maximum Length (mm)	Haft Length (mm)	Maximum Blade Width (mm)	Neck Width (mm)	Base Width (mm)	Weight (gm)	Comments
41JP135	9.85	42.47	5.5	25.92	15.8	19.39	8	Unknown mottled stone material
41JP135	9.37	42.77	5.34	N/A	15.21	15.6	7.1	Light tan chert; cortex on both faces
41JP135	8.84	39.94	6.56	21.02	16.02	19.92	5.6	Light gray chert
41JP51	8.55	41.05	6.79	23.64	11.81	17.01	6.35	Dark brown silicified wood
41JP51	4.87	29.49	4.78	17.95	10.95	14.03	2.2	Tan chert
41JP51	7.92	28.66	5.02	17.81	15.05	18.09	3.7	Light tan chert
41JP120	7.5	44.66	7.99	21.04	13.99	18.38	6.85	Pink/red heat-treated chert
41JP120	7.4	43.75	5.2	20.05	11.77	18.07	6.75	Tan chert
41JP96	9.68	53.85	6.8	28.49	15.17	18.46	12	Cream/white silicified palm wood
41JP96	7.53	41.38	6.78	24.39	14.24	18.71	6.3	Cream/light colored chert
41JP96	7.42	42.45	5.75	22.28	14.7	18.82	6.05	Light tan/cream chert
41JP96	9.09	35.91	5.1	25.55	14.44	20.01	6.6	Light tan chert
41JP96	7.18	N/A	6.11	26.1	15.57	19.42	7.4	Tan chert; broken distal tip
41JP96	6.59	36.91	4.34	22.76	14.23	17.53	4.7	Cream colored chert
41JP96	7.65	27.98	6.61	20.71	15.49	18.19	4.1	Cream colored chert
41JP96	7.89	37.42	6.64	24.46	14.34	16.72	5.7	Tan chert; heat treated
41JP96	8.24	30.51	4.47	17.61	13.53	16.81	3.95	Tan chert
Average	6.86	38.7	5.87	22.49	14.25	17.95	6.08	

committee for review and clearance for release of approved nomenclature to the archeological community.

Acknowledgments

I would like to thank and remember my late brother, Paul Woods and his wife Becky for their time helping me document some of Kent's sites and encouragement to complete this report. All of the folks in the Houston Archeological Society who have encouraged and helped with this article like Louis Aulbach, TAS Steward, who helped me locate TARL site reports for reference, Linda Gorski, HAS President, and Wilson "Dub" Crook, Editor of the HAS Journal for his patience and gentle "nudging" for completion of and review and correction of this manuscript.

I would also like to thank Elton Prewitt for his mentorship in East Texas archeological ideas and

untold contributions to this and other projects. Last but not least by any means, I would like to remember the late Mr. D. T. Kent, Jr. for his mentorship in archeology thus promoting my interest in the field, the stories of East Texas which were always in abundance, and mostly for his friendship and encouragement in archeology.

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THE BOOKER DART POINT: A POTENTIALLY NEW DART POINT TYPE FOR THE TEXAS AREA

Michael S. Woods

Introduction

This paper is the result of several years of observation and work by a long time friend and early archeological mentor in my life which is long overdue. My late East Texas friend and avocational archeological mentor, Mr. D. T. Kent, Jr., was introduced to me by my father when I had shown great interest in Native American stone tools and artifacts (see previous paper “The Neches River Dart Point: Description of a “Relatively” New Dart Point Type” in this issue HAS Journal).

Mr. Kent or “Kent” to whom he was known by his friends, had a very large artifact collection from sites he had located and surface collected from Jasper, Newton, and surrounding counties in the eastern region of the Southeastern Texas Archeological area. He began surface collecting in the early 1960’s and documented every surface find on USGS Topographic maps, carefully labeling the artifacts so that he would know exactly which site each artifact came from. As mentioned in my previous paper, there had been an increase in archeological activity in these and other counties due to the construction of McGee Bend (later Sam Rayburn) Reservoir as well as the Toledo Bend Reservoir.

Kent was self educated about the archeology of the area, but he also learned from and became friends with some of the well known archeologists from several of the major universities and the Texas Archeological Salvage Project who were performing large salvage projects in conjunction with the Corps of Engineers lakes being established in the area. Some of those archeological researchers who became friends with Kent were W. A. “Bill” Davis, Lathel Duffield, Dee Ann Suhm, E. Mott Davis, Dan Scurlock, Elton Prewitt, and others. Kent was also instrumental in establishing “The Sabine-Neches Archeological Society” in this East Texas area with others who were interested in archeology.

Kent was particularly interested in the lithic materials he collected and was encouraged to purchase a copy of *The Handbook of Texas Archeology: Type Descriptions* (Suhm, et al 1962) so that he could identify the surface materials he was finding. He then

began to notice in the early 1960’s at a couple of his sites, he was finding a dart point which did not match any of the descriptions in the current literature. After consulting some of the aforementioned archeologists about the identity of this dart point type, he was encouraged to write a type description of the dart point which he sent to Lathel Duffield (Kent 1961) for critique by Dee Ann Suhm and Ed Jelks for possible inclusion in an updated version of *The Handbook of Texas Archeology: Type Description*. Unfortunately, Kent’s dart point description was never published in the literature during that time for critique or recognition by others in the Texas archeological community.

This paper describes a potentially new dart point type which Mr. Kent named the “Booker” dart point. The Booker point has two variations, the “Smythe” and the “Everett”, both of which I will describe utilizing the exact description that he wrote and submitted in the letter to Lathel F. Duffield in 1961 (Kent 1961).

Original Description of Booker Point by Kent

The original description by D. T. Kent, Jr. of the Booker dart point including both variations as prepared by Kent and marked as his “Final Draft” (paper in possession of the author) is described as follows (as quoted from Kent’s Final Draft Paper):

Booker Point

Description

Outline: The Booker point is a small to medium size dart point having an expanded stem, a crudely triangular blade and a wide base. Blade edges are straight (O,R) to concave (C,U), but can be convex (M, AA). Concave blade edges are not recurved and tend to produce a rather blunt, thin, chisel like tip in about one-half the specimens (A,G). Points having the blunt tips usually display thinning-flake scars beginning

at the tip and extending downward on the face of the blade (C,F,K). This thinning tends to sharpen the wide, blunt tip. Asymmetrical blade edges are common, some points having one straight or convex blade while the other is concave (G,L). Beveling is common, but seemingly follows no pattern. Blade edges may be beveled on both edges of one face, both edges of both faces or may be alternately right or left hand beveled. The base is wide, straight (C,D) to slightly convex (G,AA), and is thinned, usually by the removal of one large flake from one side and one or more smaller ones from the other (B,O,Y). Very rarely the base is slightly concave as a result of this thinning (V,W,Y). The stem is always expanded, generally very strongly, as a result of the angle of the corner notching. Stem width is generally $2/3$'s the width of the point, and stem length is generally $1/3$ the length of the point. Based on shoulder treatment the following two varieties of Booker are recognized:

Variety Smythe (A-P) has prominent barbs which are always wider than the base, but never long enough to reach the base line.

Variety Everett (Q-FF) has well developed, angular shoulders which can vary to slight barbs.

Dimensions: Length range is from 2.8 cm to 4.6 cm with the average specimen being 3.7 cm long. Width varies from 2.3 cm to 2.9 cm at the shoulders, and the average is 2.8 cm. Thickness range is from 0.6 cm to 0.9 cm.

Cultural Affiliations: The Booker point has not been found in stratigraphic association with defined cultures, but appears to occur in an Archaic context, judging from its surface association. It has been found in surface sites with Evans, Gary, Ellis, Carrollton, Lange, Neches River, Williams, Edgewood, Bulverde, Palmillas, Perdiz, Friley and Alba. Booker bears some resemblance to Lange, however, Booker is smaller, has a shorter blade and lacks the recurved blade of the Lange. Booker stems generally expand more strongly than Lange. Booker points compare somewhat to Ellis and Edgewood, all being in the same size range, but Booker tends to have concave rather than convex blade edges, and rarely has the concave base of Edgewood. Booker stems are generally longer than either.



Figure 1. Booker dart point, variety "Smythe," from the D. T. Kent Collection.

Distribution: Booker points have been found in three sites in Jasper County, Texas and at one site (41SB57) (W.A. Davis, personal communication) in Sabine County, Texas.

Estimated Age: Possibly 1000 B.C. to 500 or 1000 A.D.

References: Suhm and Jelks, 1962, p.183, Plate 92, p. 187, Plate 94, p. 203, Plate 102; Bell, 1958 p. 21, Plate 10, p.37, Plate 18
Bell 1960 p. 33, Plate 16.

Provenience of Illustrated Points: Three surface sites in Jasper County, Texas (D. T. Kent, Jr. Collection).

Discussion

Unlike the Neches River point that was recognized and described by Kent from surface finds at several sites at about the same time as the Booker dart point, there have been very few Booker points reported in the literature. Kent sent the description of the Booker dart point at the same time with his description of the Neches River dart point (see previous article in this issue of HAS Journal) to Lathel Duffield (Kent 1961). With this being said, at least Duffield and Drs. Jelks and Suhm would have known about the potential new dart point type and

Distribution of Booker Dart Point by Site (Both Varieties)

Site Number	Dart Point No.
41JP96	38
41JP135	12
41JP45	1
41LB2	1
Un-Numbered Louisiana Site	1

Distribution of Booker Dart Point by Variety (All Sites Except 41LB2)

Smythe Variety	Everett Variety
20	32

possibly seen some examples coming into the lab from around the East Texas area during the multitude of site investigations prior to the construction of the Sam Rayburn and Toledo Bend Reservoirs. None were reported as this type by Jelks (1965) or other literature which the author has reviewed. The only two reports which did report "Booker" dart points were one in Kent's "Distribution" section of site 41SB57 (per W. A. Davis) and a second location was mentioned by Aten (1967:25) in Liberty County at site 41LB2. Prewitt (1995:93) has the Booker dart point listed in his last typology paper in an effort to establish a new, comprehensive projectile typology reference for Texas. This lack of information is



Figure 2. Booker dart point, variety "Everett," from the D. T. Kent Collection.

probably a direct result of at least two factors. One, the Booker dart point typology was never published for the archeological community to fully scrutinize, and two, the lack of a published description caused dart points to not be recognized as the Booker type and thus were never published in the literature.

In Kent's prior description of the Booker dart point, he recognized that there were two different varieties: (1) the variety "Smythe" which is described as containing "prominent barbs which are always wider than the base, but never long enough to reach the base line." (Figure 1), and (2) the variety "Everett" which Kent described as having "well developed, angular shoulders which can vary to slight barbs." (Figure 2).

Another well defined characteristic of this potential new dart point type was that "about one half of the specimens have blunt tips that usually display thinning-flake scars beginning at the tip and extending downward on the face of the blade" (Figure 3).

A "blunt, chisel like tip" is somewhat uncharacteristic of a dart point which is generally sharpened to increase the potential for penetration on the end of a dart. This "modified" lithic point technology could possibly lend itself to some other function rather than that of being primarily for weapons or a tool for hunting game animals.

Conclusions

This dart point type described by Mr. D. T. Kent, Jr. from the 1960's poses several questions for the archeological community. Have others seen this type dart point and classified it in some other way? Is this lithic tool specifically a dart point with the uncharacteristic "chisel-like" point on many of the specimens which were found? Is there a greater distribution around Texas than the limited number of sites already reported?

It is the author's intent with this paper to attempt to collect more information on this dart point type and answer some of the questions that were begun when Mr. Kent began finding this dart point in the 1960's.

Acknowledgements

I would like to thank and remember my late brother, Paul Woods and his wife Becky for their time helping me document some of Kent's sites and encouragement to complete this report. All of the folks in the Houston Archeological Society who have encouraged and helped with this article like Louis Aulbach, TAS Steward, who helped me locate TARL site reports for reference, Linda Gorski, HAS President, and Wilson "Dub" Crook, Editor of the



Figure 3. Distal end of a Booker dart point showing its characteristic blunt, chisel-like tip.

HAS Journal, for his patience and gentle "nudging" for completion of and review and correction of this manuscript.

I would also like to thank Elton Prewitt for his mentorship in East Texas archeological ideas and untold contributions to this and other projects. Last but not least by any means, I would like to remember the late Mr. D. T. Kent, Jr. for his mentorship in archeology thus promoting my interest in the field, the stories of East Texas which were always in abundance, and mostly for his friendship and encouragement in archeology.

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- Aten, Lawrence E.
1967 Excavations at the Jamison Site (41LB2), Liberty Co., Texas. *Houston Archeological Society Report No. 1*. Houston Archeological Society, Houston, Texas.
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1963 The Wolfshead Site: An Archaic – Neo American Site in San Augustine County, Texas. *Bulletin of the Texas Archeological Society* 34:83-141.

Kent, D.T., Jr.

- 1961 Letter to Lathel F. Duffield containing MS descriptions of Neches River and Booker dart points. In *McGee Bend Reservoir Files*, Texas Archeological Research Laboratory, The University of Texas at Austin.

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- 1995 Distribution of Typed Projectile Points in Texas. *Bulletin of the Texas Archeological Society* 66:83-173.

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ADDITIONAL HISTORIC MUNITION ILLUSTRATIONS

Thomas L. Nuckols

While preparing the munitions sections of both the Third Powell Site (41FB269) and San Felipe de Austin (41AU2) reports for publication, a decision was reached by the editors to not include a series of illustrations for a number of reasons including space, additional cost, etc. (Aucoin and Swift 2014; Marek et al. 2011). Accordingly, it was mutually decided that these illustrations should be included in a future issue of The Journal. This short note thus serves to record these illustrations for future use by researchers on Historic period archeological sites.

The six illustrations were drawn using Computer Automated Drafting (CAD) technology and include the following:

- Metallic Rimfire Cartridge
- How a Metallic Rimfire Cartridge Works
- Metallic Center-Fire Cartridge
- How a Metallic Center-Fire Cartridge Works
- Shotshell
- How a Shotshell Works

Those of you unfamiliar with firearms may not realize that all three of these types of Historic munitions persist in various forms to this day. The metallic rimfire cartridge is most commonly seen in .22 and .177 calibers; almost all other modern rifle and pistol ammunition are of metallic center-fire construction; and of course, shotgun shells operate the same as historic shotshells, both also using a center-fire primer system.

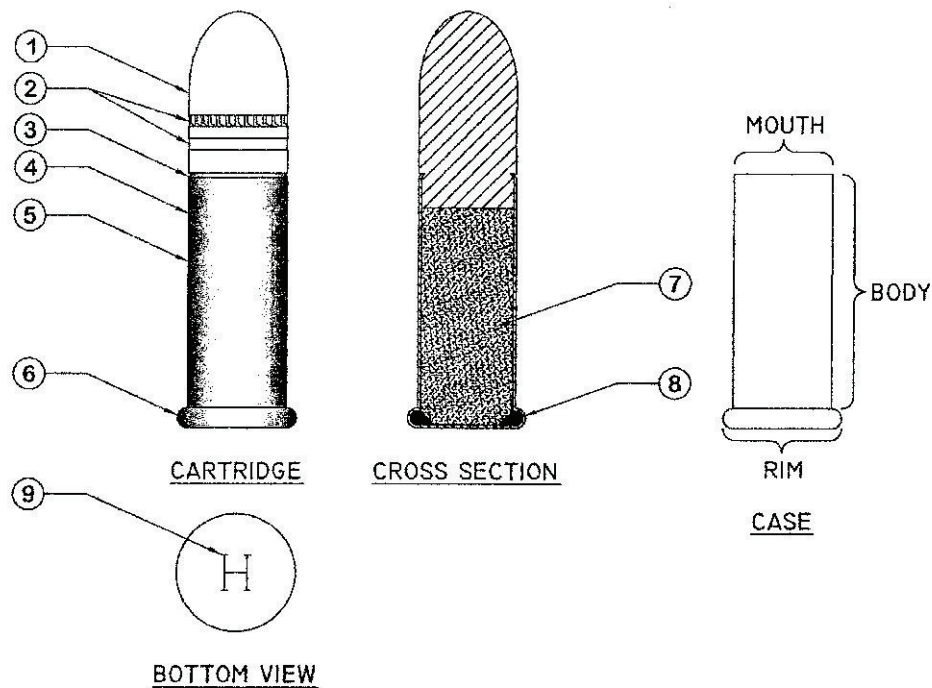
These three munition types will encompass virtually all cartridges found in post-Civil War sites, with a few metallic rimfire cartridges even pre-dating the Civil War. It is hoped that these illustrations, combined with those in the Powell site report and others, will help HAS members in both identification of munition type as well as how these munitions were designed to operate.

References Cited

- Aucoin, Elizabeth K. and Linda Swift, Editors
2014 *The Elizabeth Powell Site (41FB269), Fort Bend County, Texas*. Houston Archeological Society Report No. 25, Part 3, September, 2014.
- Marek, Marianne, John W. Clark, Barbara A. Meissner, Thomas L. Nuckols, John E. Dockall, and Elizabeth K. Aucoin
2011 *Historical and Archeological Investigations at San Felipe de Austin (41AU2): 2002-2006. Volume II: Artifact Analysis*. Report prepared for the Texas Historical Commission, Austin, Texas, December, 2011.

METALLIC RIMFIRE CARTRIDGENOMENCLATURE:

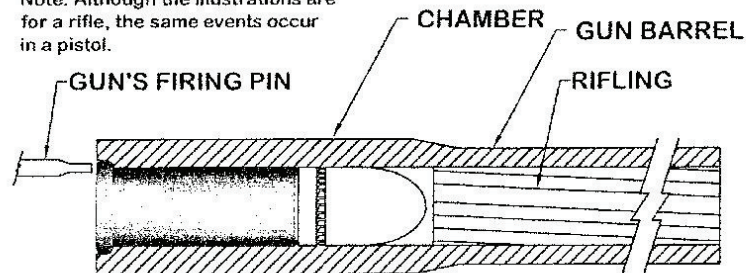
1. Lead bullet
2. Cannelure (for illustration purposes one plain and one knurled cannelure are shown)
3. Crimp
4. Case cannelure
5. Case
6. Rim
7. Gunpowder
8. Primer
9. Impressed headstamp

NOTE

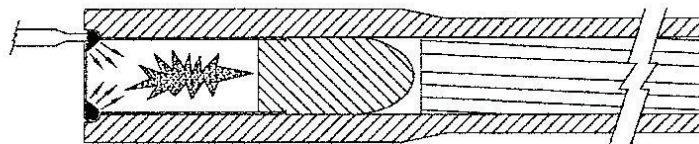
The rimfire cartridge depicted is for illustration purposes only and other than the headstamp does not reflect any particular example found at 41FB269.

HOW A METALLIC RIMFIRE CARTRIDGE WORKS

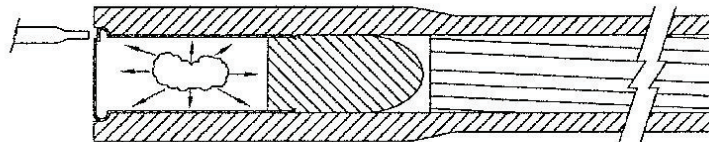
Note: Although the illustrations are for a rifle, the same events occur in a pistol.



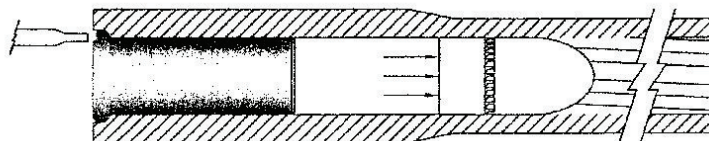
1. Rimfire cartridge in the gun chamber.



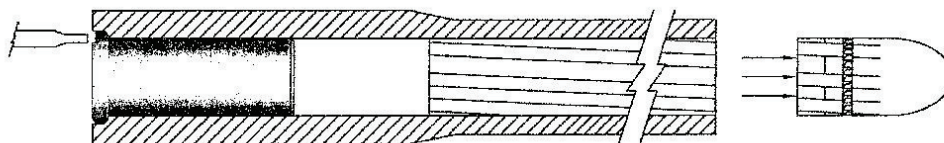
2. When the guns trigger is pulled, it releases the firing pin. The Firing pin strikes the edge of the hollow rim of the cartridge pinching it against the chamber causing the primer to ignite, which in turn ignites the gun powder.



3. Gas from the burning powder expands in the case.



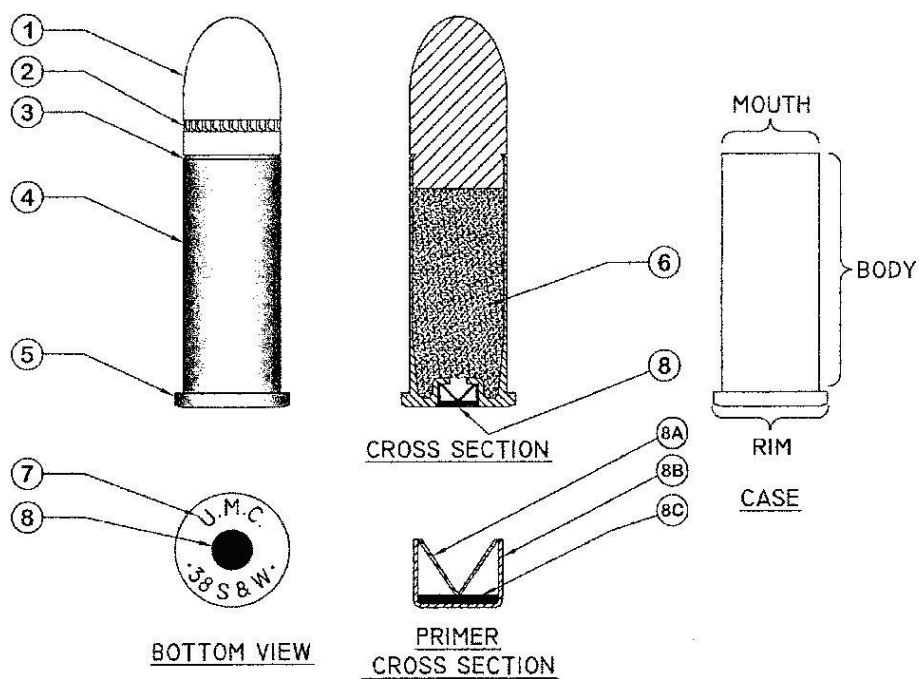
4. The gas pushes the bullet out with force. As the bullet travels down the barrel, the rifling (spiral grooving), imparts a spin to the bullet stabilizing it's flight.



5. The speeding bullet exits the barrel and is left with an imprint of the rifling and the crimp. The cartridge rim is left with an imprint of the firing pin.

CENTER-FIRE METALLIC CARTRIDGENOMENCLATURE:

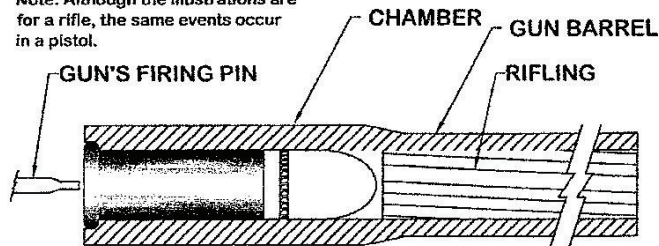
1. Lead bullet
2. Cannelure
3. Crimp
4. Case
5. Rim
6. Gunpowder
7. Impressed headstamp
8. Primer
 - 8A. Anvil
 - 8B. Cup
 - 8C. Priming compound

NOTE

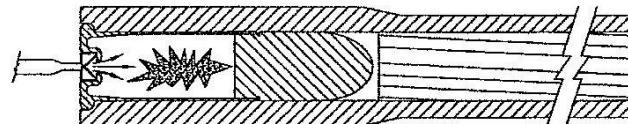
The center-fire cartridge depicted is for illustration purposes only and other than the headstamp does not reflect any particular example found at 41FB269.

HOW A METALLIC CENTER-FIRE CARTRIDGE WORKS

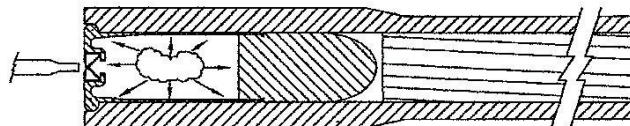
Note: Although the illustrations are for a rifle, the same events occur in a pistol.



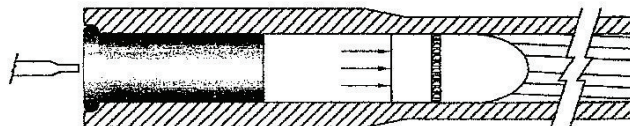
1. Center-fire cartridge in the gun chamber.



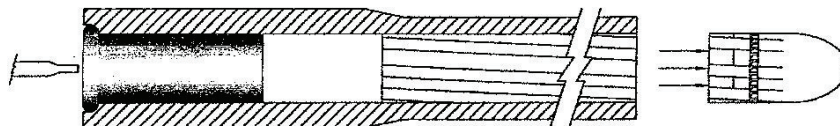
2. When the gun's trigger is pulled, it releases the firing pin. The firing pin strikes the base of the primer pinching it against the anvil causing the primer to ignite, which in turn ignites the gun powder.



3. Ignition of the gun powder creates pressure.



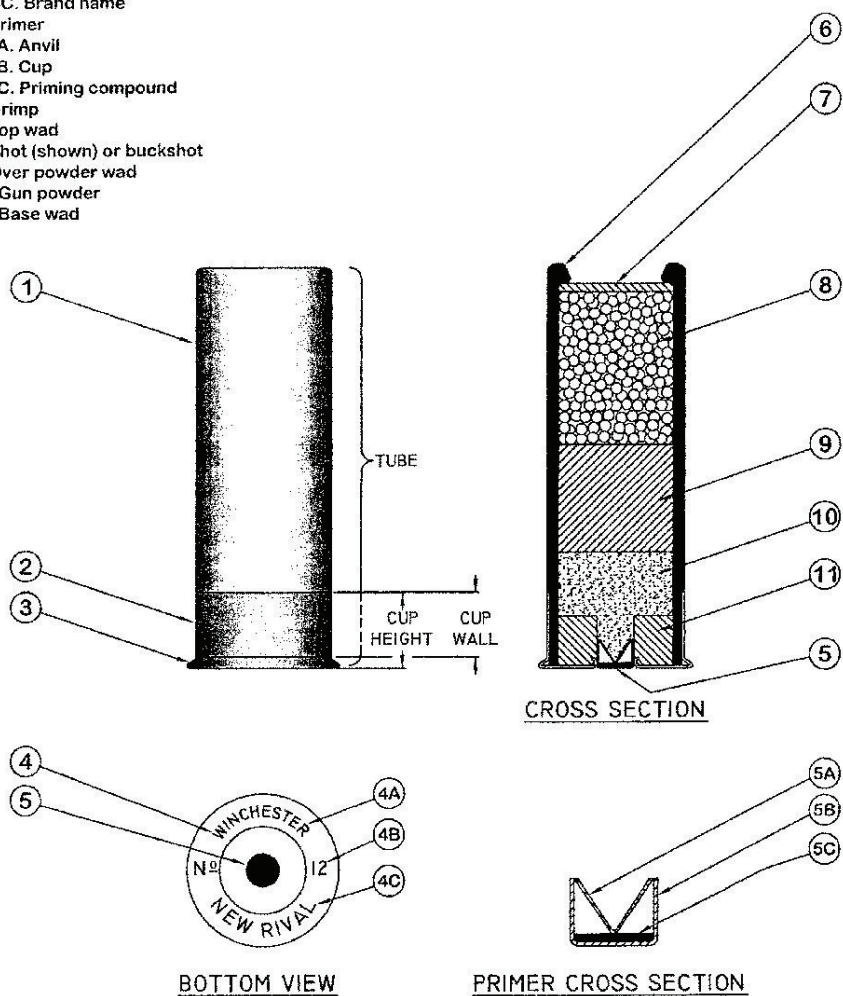
4. The pressure pushes the bullet out with force. As the bullet travels down the barrel, the rifling, imparts a spin to the bullet stabilizing its flight.



5. The speeding bullet exits the barrel and is left with an imprint of the rifling and the crimp. The primer is left with an imprint of the firing pin.

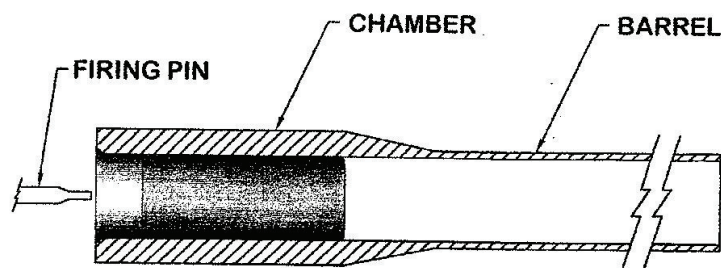
SHOTSHELLSHOTSHELL NOMENCLATURE

1. Paper tube
2. Brass cup
3. Rim or head (integral with the cup)
4. Impressed headstamp
 - 4A. Manufacturing Company
 - 4B. Gauge
 - 4C. Brand name
5. Primer
 - 5A. Anvil
 - 5B. Cup
 - 5C. Priming compound
6. Crimp
7. Top wad
8. Shot (shown) or buckshot
9. Over powder wad
10. Gun powder
11. Base wad

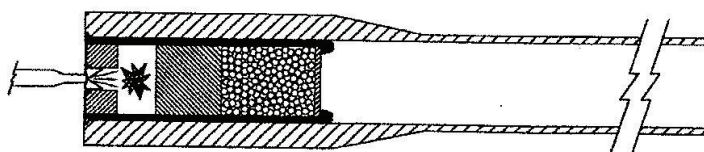
NOTE

The shotshell depicted is for illustration purposes only. The headstamp is shown correctly; the internal components for the example found at 41FB269 are conjectual.

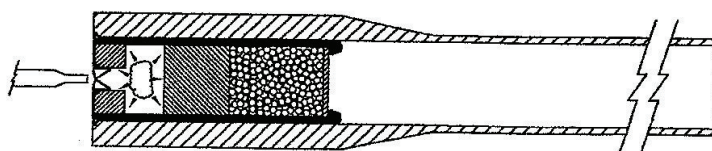
TOM NUCKOLS 4/2008

HOW A SHOTSHELL WORKS

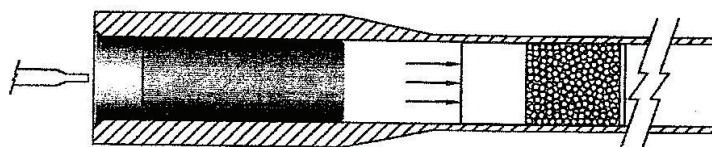
1. Shotshell in the shotgun chamber.



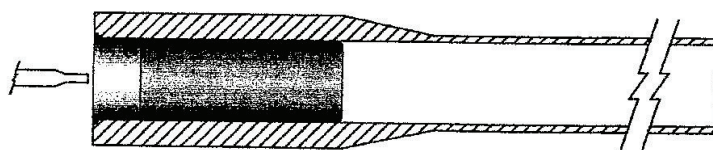
2. When the shotgun's trigger is pulled, it releases the firing pin. The firing pin strikes the base of the primer pinching it against the anvil causing the primer to ignite, which in turn ignites the gun powder.



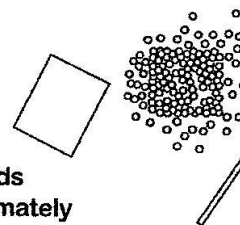
3. Ignition of the gun powder creates pressure.



4. The pressure pushes the wads and shot out with force.



5. The speeding wads and shot exit the barrel. The wads fall to the ground and the shot spreads out at approximately 1" per yard, reaching a maximum spread at about 50 yards. The empty shotshell's (called a hull) primer is left with an imprint of the firing pin.



THREE NEW RADIOCARBON DATES FROM THE EAST FORK

Wilson W. Crook, III and Mark D. Hughston

Introduction

To date, a total of fourteen radiocarbon dates have been obtained from four Late Prehistoric period sites along the East Fork of the Trinity River and its tributaries. This includes nine dates from the Sister Grove Creek site (41COL36) in Collin County (Lynott 1975, 1978), one date from the Hogge Bridge site (41COL1) in Collin County (Marmaduke 1975; Valastro et al. 1978), two dates from the Upper Farmersville site (41COL34) in Collin County (Crook and Hughston 2015b), and two dates from the Upper Rockwall site (41RW2) in Rockwall County (Valastro et al. 1967; Ross 1968). The authors have recently completed a major re-evaluation of the Late Prehistoric occupation along the East Fork (Crook and Hughston 2015a). As part of this work, a large amount of previously excavated material has been made available to us for analysis from a number of local collectors. This includes some human skeletal material that was excavated during the 1940's to 1950's. Small fragments of this material from three sites which hitherto had no radiocarbon data, including the Branch site (41COL9), the Lower Rockwall site (41RW1), and the Glen Hill site (41RW4), were subjected to collagen extraction and age dating. This paper discusses the results of these three analyses and places the new dates into context with the body of East Fork radiocarbon age data.

The Branch Site (41COL9)

The Branch site is located in south central Collin County, about 18 km (11 miles) southeast of McKinney (Figure 1, Station 7). The site is on the south side of County Road 546, 400 meters east of the Branch general store (Crook 2007). The site covers approximately 3 Ha (7.3 acres) on the floodplain 700 meters east of the East Fork of the Trinity River. In this regard, the Branch site is somewhat unusual for the Late Prehistoric of the East Fork as it is not located immediately adjacent to a major source of water. The reason for this anomaly appears to be the presence of

numerous freshwater seep springs which crop out along the first terrace above the river (Figure 2). The Branch site runs north-south parallel to this terrace and in close proximity to the springs.

The main part of the site lies on top of a tongue-shaped terrace remnant that juts out westward toward the East Fork floodplain. Immediately below the terrace (in the direction of the East Fork) is a characteristic "rim-and-pit structure." The structure is oblong in shape, 18 x 15 meters in size, with the long axis oriented north-south. Stephenson (1952) placed a trench through the pit structure and the Dallas Archeological Society conducted limited excavations across the site in 1959 (Harris 1965). The first author (WWC) also conducted a limited stratigraphic excavation (two 1.5 x 1.5 meter squares) in 1973 (Crook 2007).

Enlargement of the Lavon Reservoir in the 1970's resulted in the inundation of the majority of the Branch site. The site has remained under the lake until recently. The extended drought over the last several years has significantly affected the lakes along the East Fork of the Trinity River with both Lake Lavon (Collin County) and Lake Ray Hubbard (Rockwall and Dallas Counties) now being well below conservation levels (National Weather Service 2014). As a result, many archeological sites which had been inundated by the lakes back in the 1960's and 1970's have been re-exposed. One of those completely exposed was the Branch site. Recent visits to the site by the authors have shown that 40+ years of wave action has severely deflated the stratigraphy, leaving a number of artifacts exposed on the surface. In particular, a number of bone fragments have been exposed including a few fragments of one heavily burned human cranium.

Two burials were uncovered at the Branch site by Stephenson's trench through the rim-and-pit structure (R. L. Stephenson, personal communication, 1973). The burials were found just outside the pit structure near its southern rim. Both were single internments of adults of undetermined sex, flexed on their left side, with no attendant grave furniture (R.

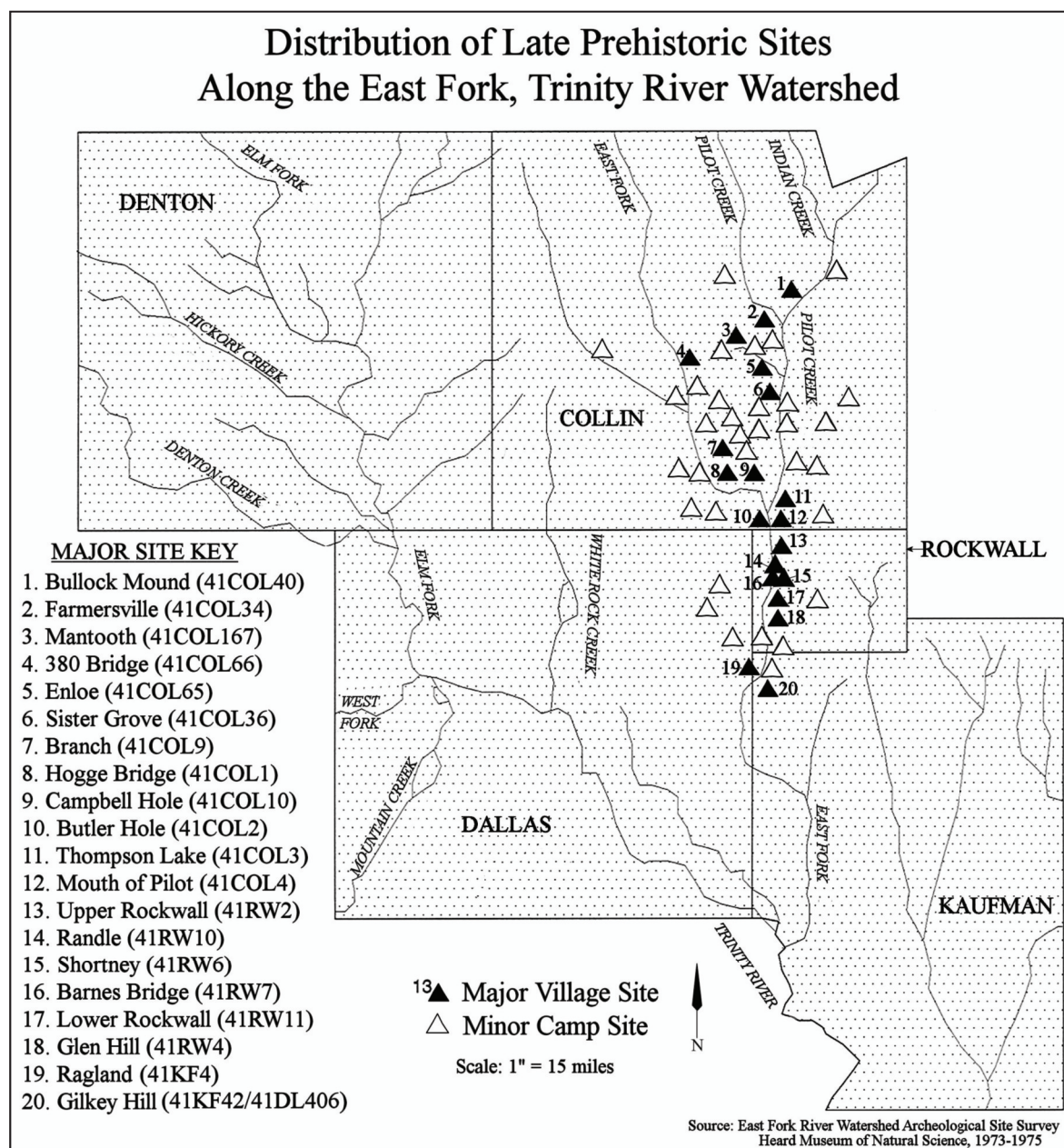


Figure 1. Distribution of Late Prehistoric period sites along the East Fork of the Trinity River and its tributaries. Sites discussed herein include the Branch site (Station 7), Lower Rockwall (Station 17), and Glen Hill (Station 18).

K. Harris, personal communication, 1973). In the late 1950's, members of the Dallas Archeological Society conducted several test squares across the Branch site. In one area near the middle of the main occupational part of the site several cranial fragments were recovered. Despite efforts to find the rest of the burial, no other human remains were located (Lester Wilson, personal communication, 1973). These skull fragments were made available to the first author for the purpose of future radiocarbon dating.

Three small cranial fragments from the DAS excavation weighing 21.3 grams, 9.8 grams and 4.0 grams, respectively, were selected for analysis and sent to Beta Analytic, Inc. for collagen extraction and Accelerator Mass Spectrometry (AMS) dating (Beta-392413).

Lower Rockwall (41RW1)

The Lower Rockwall site is located in east central Rockwall County about 1.5 km (1 mile) south-



Figure 2. Active seep spring, one of several which would have provided a source of fresh water to inhabitants of the Branch site.

east of Rockwall (see Figure 1, Station 17). The site is on the east side of the East Fork on a low rise in the river floodplain. A prominent 24 x 16 meter (80' x 52') rim-and-pit structure was present on the eastern side of the site (Lorrain and Hoffrichter, 1968). Midden debris was found over an area of approximately 200 x 200 meters (Harris and Suhm, 1963). Members of the Dallas Archeological Society extensively worked the site in the 1940's and 1950's (Hanna, 1942; Harris, 1948; Blair, 1960), recovering a large number of diagnostic Late Prehistoric artifacts. This included the excavation of twelve burials, many of which had accompanying grave furniture items (bone awls, dart points, scrapers, etc.). Lower Rockwall is one of the largest sites along the East Fork (4.0 Ha) and has produced over 7,500 artifacts, nearly 25% of all those reported from the region.

In anticipation of the construction of Forney Reservoir (later re-named Lake Ray Hubbard) and the inundation of many East Fork sites, Harris and Suhm (1963) recommended that Lower Rockwall receive high priority for a detailed excavation of its rim-and-pit structure. This excavation was completed in the summer of 1965 with the results published

in 1968 (Lorrain and Hoffrichter, 1968). While two additional burials and several hearths were uncovered, no radiocarbon dates were ever run on any of the site materials. In 1970, the site was inundated and remains beneath Lake Ray Hubbard today.

In the 1970's the first author (WWC) was given several fragments of a human femur from the Lower Rockwall site by the late Lester Wilson of Wylie, Texas for use in future radiocarbon dating. The material came from a shallow burial near the southern rim of the site's pit structure and had been exposed by plowing. The single internment contained an adult of undetermined sex, flexed on its left side. Several bone tools were found nearby but it could not be determined if they were directly associated with the burial (Lester Wilson, personal communication, 1973).

The two femur fragments weighed 24.7 grams and 7.7 grams, respectively. Both were selected for analysis and sent to Beta Analytic, Inc. for collagen extraction and AMS dating (Beta-392414).

Glen Hill (41RW4)

The Glen Hill site is located in southeastern Rockwall County about 6 km (3.5 miles) southeast of Rockwall (see Figure 1, Station 18). The site covers approximately 2.0 Ha on a small rise on the east side of the East Fork. Two areas of occupation were identified and preliminary excavations by the Dallas Archeological Society (DAS) suggested that two rim-and-pit structures could be present at the site (Wilson 1952). As part of the Forney Reservoir survey, Harris and Suhm (1963) recommended that the Glen Hill site receive high priority for a detailed excavation in order to determine if a rim-and-pit structure or structures was present at the site. This excavation was completed in the summer of 1965 with the results published in 1966 (Ross, 1966). Several trenches were placed across the site in locations where members of the DAS thought they might intersect a pit structure; however, no definitive evidence of a pit could be found (Ross 1966). The excavation did uncover two new burials and several very large (one meter square) concentrations of freshwater mussel shells. No radiocarbon dates were

ever obtained on any of the excavated materials. In 1970 the site was inundated and remains beneath Lake Ray Hubbard today.

In the 1970's Lester Wilson gave the first author the proximal end of a human femur for use in future radiocarbon dating. The material came from a burial in the western part of the site that had been exposed by plowing. The single internment contained an adult male, flexed on its left side and facing north. A single grit-tempered plain ceramic sherd (probably type Williams Plain) was found in the burial pit associated with charcoal and mussel shell fill (Figure 3) (Lester Wilson, personal communication, 1973). The femur fragment, weighing 48.3 grams was selected for analysis and sent to Beta Analytic, Inc. for collagen extraction and AMS dating (Beta-392415).

Radiocarbon Dating Results

As mentioned above, three fragments from the temporal region of a human cranium from the Branch site and cortical bone from femora of two individuals from the Lower Rockwall and Glen Hill sites were submitted to Beta Analytic, Inc. for radio-



Figure 3. Small Williams Plain sherd found in association with the burial described above from the Glen Hill site (41RW4), Rockwall County, Texas.

carbon dating. Bone collagen was preserved and each sample provided adequate amounts of carbon for a standard AMS analysis. Each bone was washed with deionized water, the surface scraped free of the outer layers, a small portion was crushed, and a cold and dilute hydrochloric acid was applied until sufficient apatite was removed. A sodium hydroxide pretreatment was applied to ensure no secondary organic acids were present (Beta Analytic, Inc. Collagen extraction protocol, <http://www.radiocarbon.com/pretreatment-carbon-dating.htm>, accessed November 9, 2014). In addition to a conventional radiocarbon date, both carbon (C^{13}/C^{12}) and nitrogen (N^{15}/N^{14}) isotope data were obtained from all three samples. Results for carbon isotopes are calculated during the radiocarbon dating analysis; nitrogen isotope analysis was performed on the same portion of bone removed and treated for radiocarbon dating.

When obtaining age dates on bone, it is recommended that both carbon and nitrogen isotope values also be obtained. This is due to the fact that the consumption of fish can result in a “reservoir effect”, requiring a correction to radiocarbon dates in individuals with a significant aquatic component to their diet (Cook et al. 2001). Given the close proximity of all three burials to the East Fork River, it was logical to conclude that the inhabitants of Branch, Lower Rockwall and Glen Hill could have relied on fish for a portion of their diet, thus exploiting the riverine resources near the burial sites.

Carbon isotope data provides information on the types of plant material being consumed, whether C3 plants (grasses, trees shrubs, nuts) or C4 plants (maize, amaranth, chenopodia, etc.). Carbon isotope ratios can also be affected by the types of plants consumed by animals that are then used as protein sources by humans. In particular, bison and marine animals may consume a diet more rich in C4 than C3 plants, thus potentially altering the carbon isotope

ratio in humans who have a diet high in these sources of protein. Nitrogen isotope analysis not only provides important information needed for the potential correction of radiocarbon dates on bone, but also provides information on protein consumption and the type of protein, terrestrial or aquatic, being consumed.

Radiocarbon results from all three samples are shown in Table 1. Radiocarbon age on the cranial fragments from the Branch site was 930 $\pm$ 30 BP, with a two-sigma (95 percent probability) calibrated date of A.D. 1025-1165. This fits well within the Late Prehistoric occupational period for the site and is consistent with other dates obtained from the East Fork, in particular Sister Grove Creek, Hogge Bridge and Upper Rockwall.

Radiocarbon age on the femur from Lower Rockwall site was 1240 $\pm$ 30 BP, with a two-sigma calibrated date of A.D. 680-880 (Beta-393414). Similarly, radiocarbon age on the femur from the Glen Hill site was 1310 $\pm$ 30 BP, with a two-sigma calibrated date of A.D. 665-770 (Beta-393415). These are the earliest dates yet obtained for the Late Prehistoric period along the East Fork and may represent the end of a Woodland period or the earliest beginnings of the Late Prehistoric.

Due to the lack of isotope values for North Central Texas, carbon isotope comparisons and interpretations were based on general published averages of isotope values in Larsen (1997) and Schoeninger and Moore (1992). Nitrogen isotope values were compared to data provided in Schoeninger and Moore (1992) and Cook et al. (2001). Isotope values of consumers of a diet based on C3 plants will generally have carbon isotope values ranging from -20% to -24% (Schoeninger and Moore 1992). Individuals with diets rich in C4 plants will have isotope values that range from -9% to -16% (Schoeninger and Moore 1992). Diets based on CAM (Crassulacean Acid Metabolism) such as cactus, yucca, etc. fall in

Table 1. Radiometric Data from Branch, Lower Rockwall and Glen Hill Sites

Sample	Conventional Radiocarbon Age	1 Sigma Calibration	2 Sigma Calibration	$^{13}C / ^{12}C$	$^{15}N / ^{14}N$
41COL9 – S1 (Beta-393413)	930 $\pm$ 30 BP	A.D. 1035-1155	A.D. 1025-1165	-16.6	+9.3
41RW1 – P1 (Beta-393414)	1240 $\pm$ 30 BP	A.D. 715-775	A.D. 680-880	-20.5	+5.2
41RW4-Tr1 (Beta-393415)	1310 $\pm$ 30 BP	A.D. 665-760	A.D. 655-770	-19.6	+5.1

between these two ranges. Bousmann and Quigg (2006) place the boundary for C4 plants at -14.6%. Nitrogen values for terrestrial diets generally fall between +8% and +10%. Evidence of a substantial fish component to the diet generally results in higher nitrogen isotope values, above +12% (Schoeninger and Moore 1992).

The carbon isotope values obtained from the three samples of -16.6%, -20.5% and -19.6% indicate a diet that is based more on C3 plants than C4. While on the low end of the range for C3, the values are consistent with a diet based more on C3 materials (grass seeds, nuts) with maybe some C4 chenopods, amaranth and/or CAM plants (cactus or succulents) added. This is consistent with the virtual lack of evidence for extensive use of maize in East Fork Late Prehistoric sites (Lynott 1975; Crook and Hughston 2015a).

The nitrogen isotope values of +9.3%, +5.2% and +5.1% indicate none of the individuals consumed an extensive amount of fish. Instead the values fall well within the range for humans primarily consuming terrestrial mammals such as deer. Therefore, despite the site's presence in close proximity to the East Fork River, fish appears not to have been a major constituent in the diet of at least the three individuals analyzed in this study.

Conclusions

The three new radiocarbon dates described above bring the total number to 17 for the Late Prehistoric occupation along the East Fork and its tributaries. Moreover, they add new dates for three sites, Branch, Lower Rockwall and Glen Hill, which previously had no established radiocarbon age. Lastly, while two collagen dates were obtained from a burial at Sister Grove Creek (Feature 15), the carbon and nitrogen isotope data, if calculated, were never reported (Lynott 1975). Thus the data from the three individuals analyzed herein provides the first radiometric indicators of diet.

The two sigma calibrated date obtained from the Branch site of A.D. 1025-1165 fits well with both the estimated age of the occupation at the site and similar calibrated dates obtained from Hogge Bridge (A.D. 1000 +/- 70), Upper Rockwall (A.D. 1020 +/- 90), and six dates from Sister Grove Creek (A.D. 950-1160) (Marmaduke 1975; Valastro et al 1967; Ross 1968; Lynott 1975; Valastro et al. 1978). In particular, the burial at Feature 15 at Sister Grove Creek, dated to A.D. 1160 by both a conventional radiocarbon date on charcoal and two bone collagen dates, contained three arrow points (two Scallorn, one Catahoula) in the chest cavity. The three dates effec-

tively also date the ages of these two arrow point types.

The Branch site has produced two sherds of Chupadero Black-on-White and one sherd of Mimbres Black-on-White (Mimbres Classic III) pottery (Crook 2007, 2013). Chupadero Black-on-White has an established age range of ca. A.D. 1050-1550 and Mimbres Classic III has an age range of ca. A.D. 1000-1140 (New Mexico Office of Anthropological Studies,

<http://www.ceramics.nmarcheology.org/organization-of-classification-system.htm>, accessed November 12, 2014). Both of these dates support the newly obtained radiocarbon date from the Branch site.

The two-sigma calibrated ages from the human femurs from the Lower Rockwall and Glen Hill sites of A.D. 680-880 (Beta-393414) and A.D. 655-770 (Beta-393415) represent the earliest dates yet obtained from a Late Prehistoric age site along the East Fork. Whitley and Skinner (2012) recently excavated a multiple burial exposed on the west side of Lake Ray Hubbard at the Rose Hill site (41DL8). Two human skeletons yielded Late Archaic age dates of 3010 +/- 30 BP and 2860 +/- 30 BP (1380-1130 BC, 1120-930 BC), some 1,500-2,000 years before the Lower Rockwall and Glen Hill dates. Hitherto, researchers have postulated that the Late Prehistoric of the East Fork evolved from a terminal Archaic or Woodland period phase somewhere in the A.D. 500-800 timeframe (Lynott 1975; Crook and Hughston 2008, 2009; Crook 2014). Given the near association of a Williams Plain ceramic sherd with the Glen Hill burial (Lester Wilson, personal communication, 1973), the new date could mark either the end of a ceramic Woodland period and/or the initial beginnings of the Late Prehistoric along the East Fork. Either way, it expands the ceramic tradition along the East Fork from roughly A.D. 700 at Glen Hill to at least A.D. 1590 at Sister Grove Creek.

A list of all the radiocarbon dates from the Late Prehistoric of the East Fork, including the three new dates described herein, is shown in Table 2.

Acknowledgments

The authors are grateful to the late Lester L. Wilson for giving us the samples analyzed in this study. We also wish to thank the Heard Natural Science Museum (McKinney, Texas) and the Collin County Historical Society who sponsored some of the original portions of this research and then graciously allowed us to re-examine and quantitatively analyze parts of the collections from the 1973-75 field seasons. In particular, we wish to thank Dr. Sy

**Table 2. Radiocarbon / Collagen Dates
From East Fork Late Prehistoric Period Sites**

Site	Sample Reference Number	Corrected Radiocarbon Date (A.D.)	Comments
Hogge Bridge (41COL1)	TX-1928	1000 ± 70	Charcoal in association with fire-cracked rock from large hearth inside rim-and-pit structure
Branch (41COL9)	Beta-393413	1020 ± 30	Collagen from human skull fragment from center of site
Upper Farmersville (41COL34)	Beta-376327	1300 ± 30	Trash Pit – charcoal from pit within pit rim; associated with Nocona Plain bowl
Upper Farmersville (41COL34)	Beta-376328	1370 ± 30	Charcoal from hearth near middle of rim-and-pit structure
Sister Grove Creek (41COL36)	TX-2033	1590 ± 70	Feature 5 – charcoal in association with fire cracked rock in a hearth from the central part of the rim-and-pit structure
Sister Grove Creek (41COL36)	TX-2034	980 ± 200	Feature 6 – charcoal from a hearth in the southern part of the rim-and-pit structure
Sister Grove Creek (41COL36)	TX-2036	1380 ± 80	Feature 7 – charcoal from a hearth in the northern part of the rim-and-pit structure
Sister Grove Creek (41COL36)	TX-2037	980 ± 70	Feature 8 – charcoal from a suspected hearth at the base of the rim-and-pit structure
Sister Grove Creek (41COL36)	TX-2038	950 ± 240	Feature 10 charcoal from a hearth in the eastern end of the rim-and-pit structure
Sister Grove Creek (41COL36)	TX-2039	1330 ± 80	Feature 11 – charcoal from a hearth outside the rim-and-pit structure
Sister Grove Creek (41COL36)	TX-2040	1160 ± 90	Feature 15 – charcoal from a burial located outside the rim-and-pit structure
Sister Grove Creek (41COL36)	SMU-233	1160 ± 60	Feature 15 – collagen and apatite date from human bone from burial
Sister Grove Creek (41COL36)	SMU-239	1160 ± 45	Feature 15 – collagen and apatite date from human bone from burial
Upper Rockwall (41RW2)	TX-320	1330 ± 120	Burial 1 – charcoal from grave fill within rim-and-pit structure
Upper Rockwall (41RW2)	TX-315	1020 ± 90	Charcoal from burned zone inside rim-and-pit structure
Lower Rockwall (412RW1)	Beta-393414	710 ± 30	Collagen from human femur from burial near rim-and-pit structure
Glen Hill (41RW4)	Beta-393415	730 ± 30	Collagen from human femur from burial near center of site (Vance Collection)
TOTAL	17 Dates	Range: A.D. 710-1590	

Table 2. Radiocarbon Dates From East Fork Late Prehistoric Sites

Shahid, Executive Director, and Ms. Michelle Dudas, Natural Sciences Curator.

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A PARTIAL MINIATURE CERAMIC VESSEL FROM THE SISTER GROVE CREEK SITE (41COL36), COLLIN COUNTY, TEXAS

Wilson W. Crook, III

Introduction

A partial miniature ceramic vessel has been recovered from the Sister Grove Creek site (41COL36) in Collin County, in North Central Texas. The vessel is of an un-named sandy-paste plain type, but is similar in composition to sandy-paste-tempered vessels from East Texas. However, its small size, approximately 50 mm from base to rim, makes it unique to both North Central and East Texas. The vessel has no decoration of any kind and shows extensive fire mottling. Whether the latter is from use or from later having been discarded into a hearth is unknown. As there is no precedent for such a miniature vessel either along the East Fork of the Trinity River or elsewhere in Northeast Texas, it is believed that it is likely the product of exchange from outside the region. This paper thus serves to describe the find and puts on record further evidence of contact between the Late Prehistoric aboriginal inhabitants of the East Fork and other cultures outside the region.

Sister Grove Creek Site (41COL36)

The Sister Grove Creek site is located in central Collin County about 6.5 km (4 miles) west of the town of Farmersville. The site lies on a small rise immediately west of Sister Grove Creek, a tributary of the East Fork of the Trinity River (Figure 1, Station 6). The site was explored by members of the Dallas Archeological Society in the 1950's and 1960's but due to lack of extensive cultivation over the site, few diagnostic artifacts were recovered. The site's archeological potential was reviewed during a survey of the area prior to the expansion of Lake Lavon (Lorrain 1965). Due to the presence of a large, undisturbed "Wylie rim-and-pit structure", Sister Grove Creek was designated for future excavation. This work was undertaken by Mark Lynott of SMU in the summer of 1974 (Lynott 1975a, 1975b). The primary objective of the excavation was to determine the purpose of the rim-and-pit structure but small sections of the rest of the site were also tested. While

Lynott did not unambiguously determine the purpose of the pit structure, he did excavate a number of burials and more importantly, obtained nine radio-carbon dates that greatly added to framing the occupational horizon of the Late Prehistoric along the East Fork and its tributaries (Lynott 1978). Lynott's 1974 excavations are by far the most comprehensive and best in terms of methodology and information collected from any conducted along the East Fork of the Trinity River. Enlargement of the Lavon Reservoir in 1979 inundated the site halting all archeological investigation.

The extended drought over the last several years has significantly affected the lakes along the East Fork of the Trinity River with both Lake Lavon (Collin County) and Lake Ray Hubbard (Rockwall and Dallas counties) being well below conservation levels (National Weather Service, 2014). As a result, most of the Sister Grove Creek site, including the area of the rim-and-pit structure, was re-exposed. Over 30 years of wave action has severely deflated the site; this erosion has exposed a large number of artifacts both around the edges of the pit structure as well as elsewhere throughout the site. It has also allowed for the site's true dimensions to be measured, something that Lynott was not able to do because of ground cover and trees. Aerial dimensions of the site are 228 x 138 meters (748' x 454') or 3.15 Ha (7.795 acres).

In order to take advantage of the current situation, the author visited Sister Grove Creek throughout 2014 to take photographs of the site and its major feature, the rim-and-pit structure. Wave action has severely deflated the site with most of its original stratigraphy now no longer intact. In particular, the upper gray-black soil horizon that contained the site's cultural materials has now mostly been eroded away along with the northern rim of the rim-and-pit structure. On one site visit following a strong rain, a number of ceramic sherds were discovered over a 30 x 30 meter area immediately east of the pit structure. After cleaning, one of these sherds was discovered to be about 40 percent of a miniature ceramic vessel.

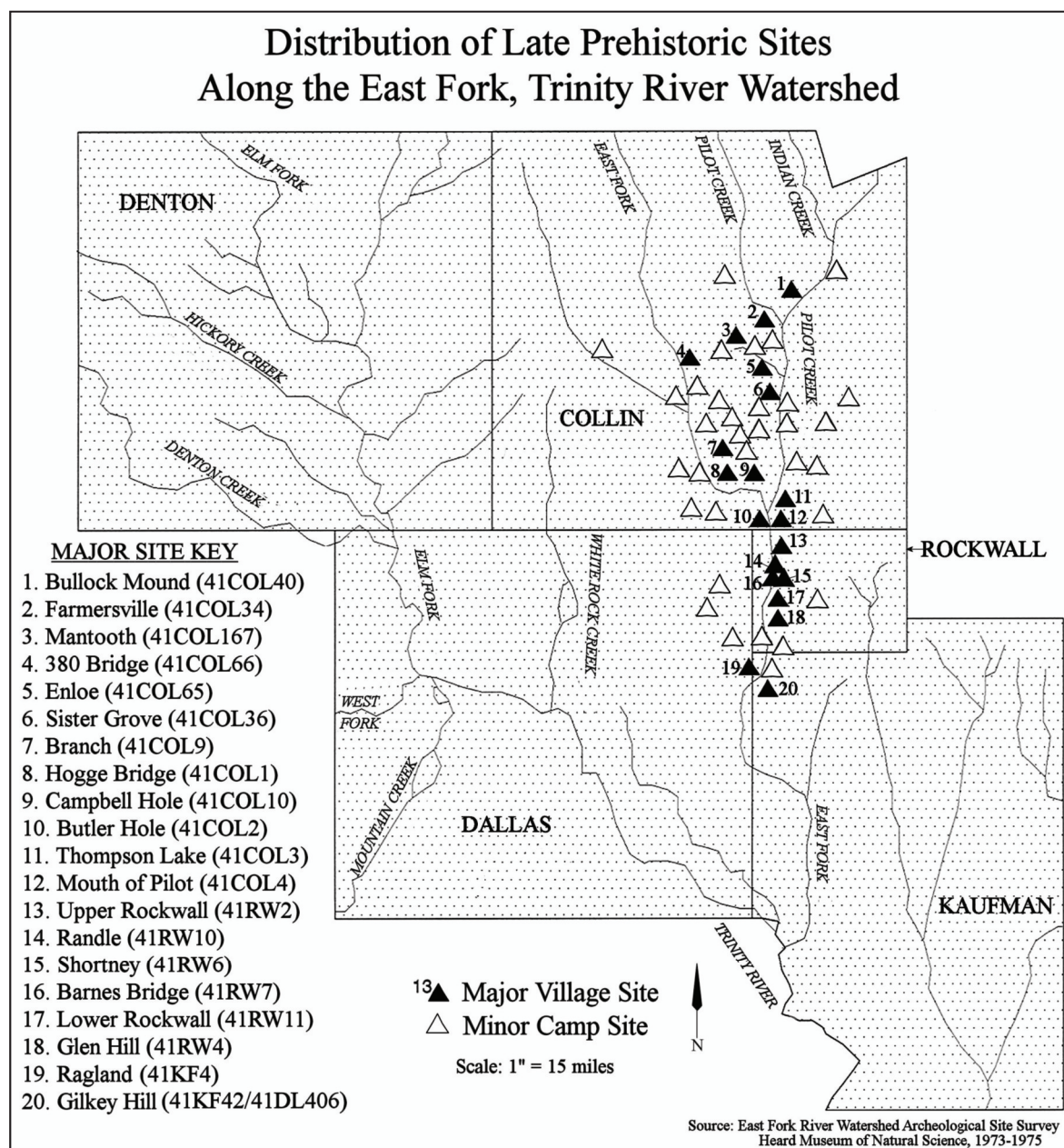


Figure 1. Distribution of the Late Prehistoric sites along the East Fork of the Trinity River and its tributaries. Major sites are identified by solid black triangles and identified by name; minor seasonal campsites are shown as unfilled triangles.

Return visits to the site failed to find any more of the artifact.

Miniature Vessel

The recovered sherd comprising about 40 percent of a miniature vessel was carefully cleaned using water and a firm brush and then hardened in a weak solution of Muriatic acid (HCl). The sherd was then measured and viewed under a binocular microscope. The breaks on the sides and the base of the sherd are

all old and weathered and thus the possibility of other parts of the same vessel remaining at the site is probably small. However, based on the curvature of the rim and the sides, a rough estimate of the vessel's original size can be determined. The partial miniature vessel is shown in Figure 2.

The vessel is a small jar, approximately 50 mm in height. It appears to have had a slightly rounded to flat base approximately 48 mm across with a gently rounded body that slopes inward near the base of the rim and then flares outward (see Figure 2). Estimated



Figure 2. Miniature sandy-paste-tempered vessel from the Sister Grove Creek site.

diameter of the orifice is 39 mm. The vessel is plain with no exterior decoration.

Wall thickness of the vessel varies from 7.2 mm near the rim to 7.8-9.5 mm in the main part of the body. These thickness data suggest that the vessel appears to have been built from the base upwards to the rim (Krause 2007). It is tempered with a sandy-clay paste. The color of the vessel is variable, primarily due to extensive fire mottling, ranging from pale brown (10YR 6/3), brown (10YR 5/3), yellowish-gray (10YR 5/4), to dark grayish-brown (10YR 4/2). The core of the sherd is darker than the surface, suggesting the vessel was fired in a low oxygen or reducing environment, and then pulled from the fire to cool. Both the interior and exterior surfaces of the vessel are highly smoothed.

Conclusions

Ceramic trade between the aboriginal inhabitants of the East Fork of the Trinity River and Caddo groups along the Red River and in East Texas has been well-established (Crook and Hughston 2008; Crook 2014a). This includes one vessel of Foster Trilled Incised, *var. Foster* that is known to originate in the Red River basin of northeast Texas, southeast Oklahoma, southwest Arkansas and northwestern Louisiana (Kelley 1997, 2012). The presence of a Foster Trilled Incised, *var. Foster*, vessel in a Late Prehistoric site on the East Fork of the Trinity clearly indicates trade between an East Fork aboriginal group and one of the Red River Caddo groups, probably the prehistoric ancestors of the Kadohadacho (Crook 2007; Crook and Perttula 2008). Other

distinct Caddo wares found in East Fork sites include a Sanders Engraved water bottle from the Upper Farmersville site (Harris 1948), a Killough Pinched jar from the Upper Farmersville site (Crook 2014b), a Maydelle Incised jar from the Lower Rockwall site (Crook 2014c), and an un-named shell-tempered plain jar from the Sister Grove Creek site (Crook 2015). Caddo pottery was widely traded across Texas and surrounding states (Perttula 2002; Perttula et al. 2002) in prehistoric and historic times, especially after about A.D. 1400, when there were apparently periodic contacts and interaction between several different and non-Caddo aboriginal groups and southern Caddo groups. The problem is while a few small ceramic vessels are known from the Caddo homeland, most frequently associated with juvenile burials, none are anywhere near as small as the miniature vessel described herein (Timothy K. Perttula, personal communication, 2014).

Traditionally, miniature ceramic vessels are associated with little people (children) and have been classified either as toys or the product of novice potters (Carey 2006). Small, so-called "thumb pots" and other miniature vessels do occur in the Pueblo Southwest, but are rare artifacts and typically not an article normally associated with trade (Wetherington 1968; Holschlag 1975; Crown 2014). They are also generally crudely made and have been ascribed to the work of children learning to make pottery (Crown 2014). Bagwell (2002) however, found that some miniature vessels in the Pueblo Southwest were the product of children learning pottery manufacture while others were made by adults and used for ceremonial purposes. Carey (2006) describes a

similar sacred/ceremonial function for miniature ceramic vessels in the Mississippian Cumberland and Lower Ohio River valleys.

Carey (2006) reviewed 212 miniature vessels from the upper Mississippian region and found that 60 percent were made by potters with high motor ability and 39 percent were made by potters with adequate motor ability and skill. Only one percent was made by novice potters. Jars were the predominant vessel form (48 percent) followed by small bowls (33 percent).

In the upper Mississippian region, well-made miniature vessels were almost exclusively made by skilled adult potters and used for specialized ritual/ceremonial purposes (Carey 2006). In particular, these vessels were used in mortuary rituals as fat / incense burners (Swanton 1946). Carey found that such miniature jars are consistently constructed where the diameter of the orifice is no less than 75 percent the diameter of the vessel's base. The Sister Grove Creek vessel, while undecorated, has a well-made curved body that flares outward to a slightly everted lip. This is not like the simple "thumb" or "pinched" pots of the Pueblo Southwest and clearly is the work of a potter more skilled than a child. The jar's orifice has an estimated diameter of 39 mm, which is 81 percent of the estimated base of the vessel (48 mm). While consistent with those reported from the upper Mississippian region, the purpose as well as origin of the Sister Grove Creek vessel remains unknown.

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A UNIQUE EAST FORK LITHIC ARTIFACT: THE “GARY PIKE”

Wilson W. Crook, III

Introduction

During the summers of 1973-74, the author was employed by the Heard Natural Science Museum of McKinney, Texas to conduct a comprehensive archeological site survey of Collin County and perform salvage excavations at several sites which were subject to future inundation by the expansion of Lake Lavon. Periodically during the survey, I would review my findings with notable local avocational archeologists to seek their observations on the excavation results and artifacts recovered to date. On one such occasion I was showing the late R. K. “King” Harris some of the artifacts excavated from the Upper Farmersville site (41COL34). He immediately picked up the tip of a long, thin chert point and exclaimed “you found part of a Gary Pike!” I responded by asking what a “Gary Pike” was to which King stated that they were a rare, undescribed point type that was found in Late Prehistoric period sites along the East Fork of the Trinity River. He further stated that only a few examples had been found and never more than one or two from an individual site. As such, he believed they were special ceremonial artifacts that were hafted onto a lance and served as symbols of authority and power.

The author, in conjunction with Mark D. Hughston, recently concluded a 42-year study re-evaluating all the aspects of the Late Prehistoric period of the East Fork of the Trinity River and its tributaries. As part of this study we have examined all the known artifact collections from the district including those of past excavations as well as from local avocationalists (Stephenson 1952; Harris and Suhm 1963; Lorrain 1965; Ross 1966; Lorrain and Hoffrichter 1968; Lynott 1975). In total, nearly 32,000 artifacts have been studied and recorded. This includes 11 of Harris’ so-called “Gary Pikes”. This paper serves to describe the artifact and put it on record to see if similar artifacts have been found elsewhere across Texas outside the East Fork.

Artifact Distribution

The 11 “Gary Pikes” have been found at seven of the larger East Fork sites including Upper Farmersville (41COL34), Sister Grove Creek (41COL36), Branch (41COL9), Upper Rockwall (41RW2), Lower Rockwall (41RW1), Glen Hill (41RW4) and Gilkey Hill (41KF42/41DL406) (Figure 1 – Stations 2, 6, 7, 13, 17, 18 & 20). Multiple points have been found at Upper Farmersville (3) Upper Rockwall (2) and Lower Rockwall (2); the remaining four sites just have a single known example. Most of these points have been found on the surface but four (Branch, Upper Farmersville, Lower Rockwall, and Glen Hill) come from known provenience and are always associated with the Late Prehistoric period, in horizons with both arrow points (Alba, Catahoula and Scallorn) and ceramics.

Of the 11 known examples, four (Branch, Upper Farmersville, Upper Rockwall, Lower Rockwall) are in the R. K. Harris Collections currently curated at the Smithsonian Institution (Museum Support Center), two are in the collections at the Texas Archeological Research Laboratory (TARL) in Austin, and five are in the author’s possession. No other examples, broken or complete were found in any other major or minor site along the East Fork. Moreover, no similar artifact has been observed in collections at TARL, SMU and the Smithsonian from immediately west (Elm and West Forks of the Trinity River) or south (Pecan Springs (41EL11), Bird Point Island (41LS201), and Adams Ranch (41NV177) of the East Fork (Ellis, Limestone, Navarro Counties) (Stephenson 1949; Prikryl 1990; Bruseth and Martin 1988). Similarly, no like projectile point is reported from the Caddo homeland to the east, either from the Late Archaic, Woodland or Caddo (Late Prehistoric) periods (Cliff 1998; Perttula 1992; Perttula and Walker 2012).

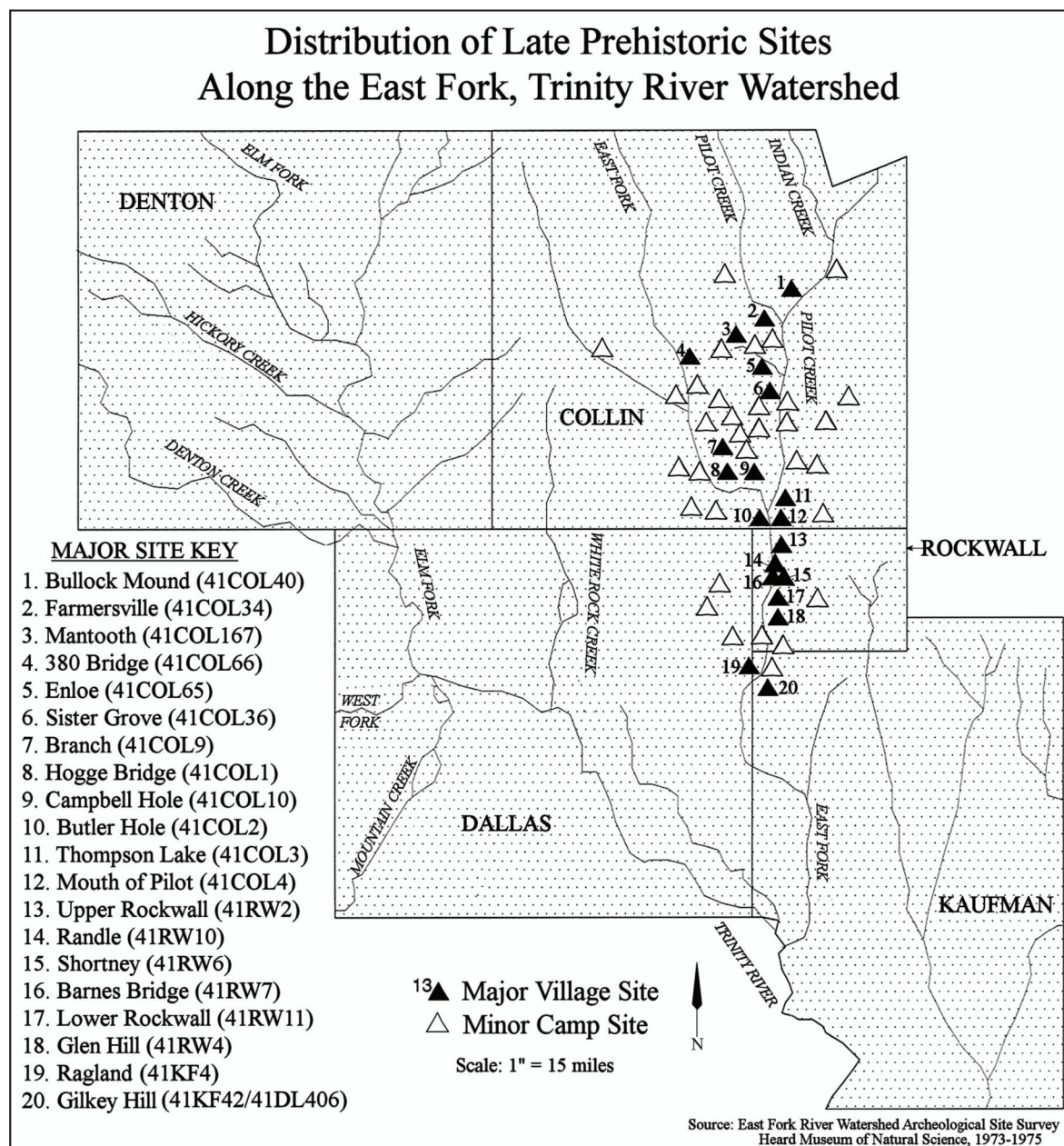


Figure 1. Distribution of the Late Prehistoric sites along the East Fork of the Trinity and its tributaries. Major sites are identified by solid black triangles and identified by name; minor seasonal campsites are shown as unfilled triangles.

The "Gary Pike"

In general, the "Gary Pikes" are long (65-88 mm) and very narrow (18-23 mm); in cross-section they are diamond-shaped not lenticular. Small barbs (<5 mm), which extend perpendicular to the blade, are characteristically present at the midpoint of the artifact such that the tip and the base are similar in lengths. The points seem to have been hafted up to the placement of the barbs because broken specimens all break at this point. No lateral

edge grinding is present but some of the points have exaggerated serrations on the tips (Figure 2). Microscopic examination (20-60x) shows little wear or edge polish; no evidence of hafting wear was observed. There is no wear on the tips and they were not used as a hafted drill or perforator. The points only resemble Gary points in that they have a rounded base but their elongate shape coupled with the lack of a true contracting stem makes them something different from either a Gary or a Wells



Figure 2. Examples of “Gary Pikes” from various Late Prehistoric sites along the East Fork of the Trinity River. Left to Right: Upper Farmersville (2), Sister Grove Creek, Upper Rockwall, Gilkey Hill.

point. Physical measurements of the 11 known examples are listed in Table 1.

Color of the artifacts is light bluish gray (GLEY 2 7/1) to bluish-gray (GLEY 2 6/1) and they all appear to be consistently constructed of the same type of chert. Under UV radiation, all the specimens fluoresce a deep yellow-orange color, typical of Edwards chert.

To further test if the chert used in the construction of the “Gary Pikes” did indeed come from the Edwards Plateau, six of the samples were subjected to a source analysis utilizing X-Ray Fluorescence (XRF) techniques. In this regard, the methodology to analyze chert developed by Williams and Crook (2013; Crook and Williams 2013) was utilized. The artifacts analyzed came from Upper Farmersville (Table 1, Numbers 3 and 4), Sister Grove Creek (Table 1, Number 5), Upper Rockwall (Table 1, Numbers 6 and 7), and Gilkey Hill (Table 1, Number 10) sites.

All analyses were conducted using a Bruker Tracer III-SD portable (pXRF) energy-dispersive X-Ray Fluorescence spectrometer equipped with a rhodium target X-Ray tube and a silicon drift detector with a resolution of 145 eV FWHM for 5.9 keV

x-rays at 200,000 counts per second over an area of 10 mm². Data was collected using a suite of Bruker pXRF software and processed using Bruker’s empirical calibration software add-on. Sample area on each artifact was carefully selected to specifically avoid any inclusions within the chert and, where possible, on a flat surface (such as a flake scar) to reduce scattering effects due to artifact surface topography. Each artifact was analyzed twice with measurements taken from both the obverse and reverse face and averaged.

Trace elements from the five “Gary Pikes” were measured using operating parameters of 15 keV, 55µA in order to detect major traced elements. A total of 10 readings were made on each sample using 15 second live-count time, which was then averaged. Intensities for the K-alpha peaks were recorded for a suite of 18 elements including Na, Mg, Al, Si, P, S, K, Ca, Ba, Ti, V, Cr, Mn, Fe, Co, Ni, Cu and Zn. Measured intensities in parts per million were then calculated as ratios to the Compton Peak of the rhodium target and converted to weight percent using Bruker’s empirical calibration source. To further differentiate the chert samples, a second analysis was

Table 1. East Fork Gary “Pike” Measurements

Site	Material	Length (mm)	Width (mm)	Thickness (mm)	Comments
Branch	Edwards Chert	69.9	20.6	7.4	Complete (R. K. Harris Collection)
Upper Farmersville	Edwards Chert	78.1	22.5	7.5	Complete (R. K. Harris Collection)
Upper Farmersville	Edwards Chert (Callahan Divide)	53.3	12	6.5	Tip (WWC)
Upper Farmersville	Edwards Chert (Callahan Divide)	36	16.5	6	Tip (WWC)
Sister Grove Creek	Edwards Chert (Callahan Divide)	65	23.1	7.5	Complete (WWC)
Upper Rockwall	Edwards Chert (Callahan Divide)	73.4	17.9	7.3	Complete (WWC)
Upper Rockwall	Edwards Chert (Callahan Divide)	88.4	18	7.1	Complete (R. K. Harris Collection)
Lower Rockwall	Edwards Chert	72.6	21.1	7.5	Complete (R. K. Harris Collection)
Lower Rockwall	Edwards Chert	39.4	15.1	7.8	Tip (TARL)
Glen Hill	Edwards Chert	78.1	22.5	7.5	Complete (TARL)
Gilkey Hill	Edwards Chert (Callahan Divide)	75.8	17.5	7.2	Complete (WWC)
Total 11 specimens, 7 sites	Edwards Chert (100%)	75.2 (ave.) n = 8	20.4 (ave.) n = 8	7.4 (ave.) n = 8	8 Complete, 3 Tips

conducted on each specimen at a higher operating energy 40 keV, 55 μ A, using 0.3 mm copper and 0.02 mm titanium filters in the X-Ray path, and a 60 second live-count time. Peak intensities were measured for a second suite of 12 elements including As, Pb, Th, Rb, U, Sr, Y, Zr, Nb, Mo, Sn and Sb.

From this total suite of elements, 15 trace elements were used for the final statistical analysis. Elements within the chemical signature of chert that are subject to secondary chemical enrichment and/or depletion were removed for the purpose of the analysis. The final suite of trace elements, including Ti, Co, Ni, Rb, Sr, Y, Zr, Nb, Mo, Sn, Sb, Ba, Pb, Th, and U, were measured, calibrated, and converted to parts per million (ppm). Raw data was processed using a multivariate discriminant analysis (Fisher's Discriminant Analysis) (Fisher 1936; Friedman

1989, Krzanowski 1977; Rencher 1992). Unlike principal component analysis, this statistical method allows data to be analyzed by region which means discrete variance in chemical signatures can be analyzed and compared. A geologic database of nearly 500 samples from known locations across the Edwards Plateau was constructed using the same analytical methods (Williams and Crook 2013). Each archeological artifact was analyzed individually to generate a probability of its relationship to a particular geologic source. Based on the processed results from the geologic samples, four source areas for the Edwards Plateau were identified including (1) the eastern part of the plateau in and around the Gault site (41BL323), (2) the eastern part of the Edwards Plateau encompassing the Fort Hood Military Reservation, (3) the southern and south-central parts of the

plateau including the Leon Creek area in and around San Antonio in Bexar County plus Medina County, and (4) the Callahan Divide area (Coke, Taylor and Nolan counties) and Howard County in the north-western part of the plateau.

Based on the trace element chemistries measured in the “Gary Pike” specimens, all six correspond to the Callahan Divide area of the Edwards Plateau.

Conclusions

As stated above, I do not believe the points described herein are a variety of the Gary point but are rather something altogether different. The Gary point as described in the literature shows an unusual amount of variation, more than in almost any other dart point type (Suhm and Krieger 1954; Suhm and Jelks 1962; Schambach 1982, 2001, 2002; Densmore 2007). This is due to the inclusion of almost all rounded stem points into this one category. Thus the term “Gary” tends to be a catch-all term for any contracting stem dart point of Late Archaic to Woodland to Late Prehistoric age (Densmore 2007).

At least six sub-varieties of the Gary point have been identified based on the presence of slight or prominent shoulders, narrow or wide widths, and crude or well- rounded stems (Duffield 1963; Schambach 1982, 2002). These six varieties include the following:

- Bodcaw (large, wide with weak shoulders)
- Manice (wide with prominent shoulders)
- LeFlore (large with wide shoulders)
- Malvern (large with weak to no shoulders)
- Gary (long and wide with medium shoulders)
- Camden (thin and pointy with poorly rounded stems)

Schambach (2002) and Densmore (2007) simplified these six categories into three including (1) LeFlor (Bocaw + Manice), (2) Gary (Malvern + Gary), and (3) Camden. Their research shows that Gary points typically decrease in size from the Late Archaic to the Late Prehistoric period. Gary points from sites dating to 4,500-3,500 BP typically have a length in excess of 55 mm. Gary points from sites dating to 2,500 to 1,000 BP (including the Late Prehistoric period) typically have lengths in the 45-52 mm range or even smaller (Bell 1953; Densmore 2007). The decrease in length is accompanied by a lesser degree of reduction in width such that Gary points become more lozenge shaped with time. Shoulders of Gary points also become less pronounced with time as well (Schambach 1982).

All of the variations described above occur throughout the Late Prehistoric sites along the East Fork of the Trinity River (Crook and Hughston 2008, 2009, 2015). The only noticeable change based on excavated sites with known provenience is that Gary points generally decrease in size in younger soil horizons. In pre-arrow point horizons, Gary points are found in association with ceramics (typically Williams Plain). Along the East Fork, these projectile points are usually in excess of 55 mm in length. Gary points persist in time through the introduction of the bow and arrow but get smaller, many being in the 35-50 mm range. Several Gary points have been recovered from ceramic-bearing horizons at the Upper Farmersville site that appear to be attempting to mimic arrow points in size (Patterson 1973; Crook and Hughston 2009, 2015).

The points described herein run directly counter to this trend. Known only from Late Prehistoric contexts in association with both arrow points and ceramics, they are considerably longer than almost any other projectile point (65-88 mm) and are narrower than all Gary points (18-23 mm). The lack of a prominent contracting stem further distinguishes them from true Gary points.

Harris postulated that the “Gary Pikes” were special ceremonial artifacts that were hafted on a lance and as such, only one or two were ever present at an individual site (R. K. Harris, personal communication, 1973). However, no hafting polish was observed on any of the complete specimens. Breakage of three of the specimens at or just above the small midpoint barbs is the only indication of use and/or that the points may have been hafted.

There is no evidence that the points were ever hafted into a spear and the term “Pike” remains a colloquialism from Harris. The points are, however, very rare, extremely well-made, and constructed of a material that occurs a considerable distance (~300 km) from the East Fork. Thus they appear to fulfill the role of a high value, prestige item even if their exact function remains unknown. It is also unknown if similar artifacts occur elsewhere in Texas Late Prehistoric contexts. It is hoped that by making these artifacts of published record, it will stimulate a response on other occurrences assuming the artifact is not indigenous only to the East Fork of the Trinity River.

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TWO POLISHED HEMATITE CELTS FROM THE SISTER GROVE CREEK SITE (41COL36), COLLIN COUNTY, TEXAS

Wilson W. Crook, III and Mark D. Hughston

Introduction

Recently two polished hematite celts have been found at the Sister Grove Creek site (41COL36) in Collin County, Texas. Polished stone artifacts are present in Late Prehistoric age sites along the East Fork of the Trinity River but are minor constituents of the total artifact assemblage. Only 87 polished stone artifacts have been recorded which represents 0.4 percent of the total lithic artifact assemblage from the district (Crook and Hughston 2015). Polished stone artifacts present in East Fork sites include celts, gorgets, boatstones, pipes and beads/pendants.

A total of 24 polished stone celts have been found in six East Fork sites including Hogge Bridge (1), Butler Hole (1), Upper Farmersville (9), Sister Grove Creek (2), Lower Rockwall (8), and Upper Rockwall (3) (Stephenson 1952; Housewright et al. 1948; Harris and Suhm 1963; Lorrain 1965; Ross 1966; Crook and Hughston 2009, 2015). Most are made from polished limestone but five celts, two from Upper Farmersville, one from Upper Rockwall, and the two from Sister Grove Creek described herein are made from polished hematite (Fe_2O_3). These polished hematite axes are usually quite small, typically less than 75 mm in length (Crook and Hughston 2015).

This is the first known occurrence of polished stone from the Sister Grove Creek site and thus adds another occurrence for this type of artifact. Moreover, since the celts are constructed from polished hematite as opposed to limestone or another local lithic material, they likely represent items which have been imported into the site, perhaps as exchange goods. This paper describes the artifacts and based on their trace element geochemistry, speculates on their origin.

The Sister Grove Creek Site (41COL36)

The Sister Grove Creek site is located in central Collin County about 6.5 km (4 miles) west of the town of Farmersville (Figure 1, Station 6). The site lies on a small rise immediately west of Sister Grove Creek, a major tributary of the East Fork of the

Trinity River. The site was explored by members of the Dallas Archeological Society in the 1950's and 1960's but due to lack of cultivation over the site, few diagnostic artifacts were recovered. The site's archeological potential was further reviewed during a survey of the area prior to the expansion of Lake Lavon (Lorrain 1965). Due to the presence of a large, undisturbed "Wylie rim-and-pit structure", the site was designated for future excavation. This work was undertaken by Mark Lynott of SMU in the summer of 1974 (Lynott 1975). The primary focus of the excavation was on determining the purpose of the rim-and-pit structure but parts of the rest of the site were also tested. Enlargement of the Lavon Reservoir in 1979 inundated the site halting all archeological investigation.

The extended drought over the last several years has significantly affected the lakes along the East Fork of the Trinity with both Lake Lavon (Collin County) and Lake Ray Hubbard (Rockwall and Dallas Counties) being well below conservation levels (National Weather Service 2014). As a result, most of the Sister Grove Creek site, including the area of the rim-and-pit structure, was re-exposed.

Over 35 years of wave action has severely deflated the site including eroding the northern rim section of the rim-and-pit structure. This erosion has exposed a large number of artifacts both around the edges of the pit structure as well as elsewhere throughout the site. In January and March of 2014, the authors visited the site to make an initial assessment of the cultural features still present and to photograph the rim-and-pit structure. In the area immediately east of the rim-and-pit structure two well-preserved hematite celts were recovered.

Hematite Celts

The two artifacts are shown in Figures 2 and 3 (celt #1) and Figure 4 (celt #2). While celt #1 has suffered considerable damage from use, its bit edge and part of the base are still present so the original dimensions can be measured. Both celts are very similar in overall size and shape. Maximum length

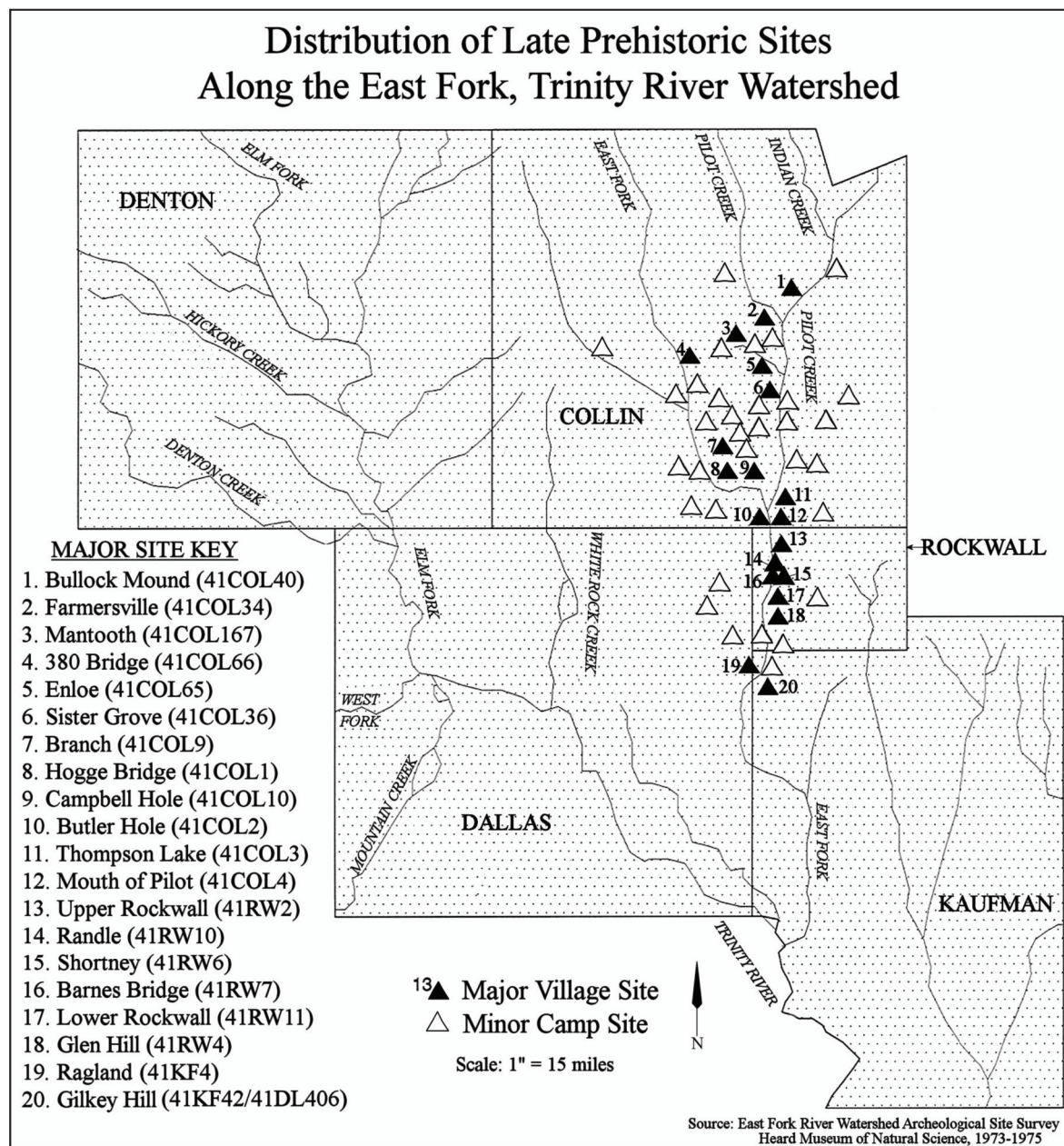


Figure 1. Distribution of the Late Prehistoric sites along the East Fork of the Trinity and its tributaries. Major sites are identified by solid black triangles and identified by name; minor seasonal campsites are shown as unfilled triangles.

for celt #1 is 63.1 mm; 65.3 mm for celt #2. Maximum widths are 36.1 and 34.0 mm, respectively. Thickness is 18.9 mm for celt #1 and 15.0 mm for celt #2.

As can be seen in the figures, celt #1 retains its original polished surface on the obverse face; however, the reverse face has been damaged from use. Exposure of the interior of the artifact to groundwater has resulted in the formation of thin red ochre coatings (see Figure 3). Celt #2 retains its original form

and as a result, still has a polished metallic surface (see Figure 4).

On celt #1, a faint groove can be seen (see Figures 2 and 3) where the artifact had been hafted. This groove occurs 28-30 mm from the bit edge, slightly forward of the midpoint of the artifact. No such groove is present on celt #2, however extensive scarring of both lateral edges is present starting at 28 mm from the bit edge and extending all the way back to the proximal end of the artifact. This scarring was either done intentionally in order to facilitate hafting

Figure 2. Obverse face of hematite celt #1 recovered from the Sister Grove Creek site.



Figure 3. Reverse face of hematite celt #1 recovered from the Sister Grove Creek site. Note semi-circular halfting groove near the mid-point of the celt.



Figure 4. Hematite celt #2 recovered from the Sister Grove Creek site. Note the damage chips both along the bit edge and near the mid-point of the celt.



Table 1. Measurements / Features of Sister Grove Creek Hematite Celts

Major Attributes	Celt #1	Celt #2
General Shape	Rectangular with square base and parallel edges	Rectangular with square base and parallel edges
Lithic Material	Metallic hematite with minor red ochre on surface	Polished metallic hematite
Color	10GY 3/1 very dark greenish-gray to 10YR 3/3 dark brown to 5YR 3/3 dark reddish-brown	10B 4/1 dark bluish-gray to 10B 4/1 very dark bluish-gray
Blade Damage	Extensive; celt broken from bit edge back to midpoint on obverse face; re-sharpening of bit edge on obverse face	Minor chipping on bit edge; damage on both lateral surfaces from the midpoint to the proximal end from halfting wear
Maximum Length (mm)	63.1	65.3
Maximum Width (mm)	36.1	34.0
Maximum Thickness (mm)	18.9	15.0
Hafting Groove	Present – 28-30 mm from bit edge	None but extensive flake scarring on the lateral surfaces from 28 mm from the bit edge to the base of the celt

and/or resulted from use. Thus the two celts appear to have been hafted in a similar manner with only the forward 40 percent of the celt exposed in its mounting. Moreover, given the damage on both artifacts, these two celts appear to have been very much working implements and not imported ceremonial objects. This observation is underscored by the fact that celt #1 has been resharpened on the reverse face subsequent to its breakage. Table 1 below summarizes all the physical features and measurements of the two Sister Grove Creek hematite celts.

Moseley (1996) describes a large number of hematite celts from the Southern Great Plains, west of the East Fork of the Trinity River. Three basic shapes occur there including (1) triangular with the bit edge along the base of the triangle, (2) rectangular with the bit edge on one of the short ends, and (3) oval with the bit edge along one of the short sides. The two celts described herein clearly fit with Moseley's rectangular form (type 2). Average dimensions of the rectangular celts recorded from the Texas Southern Great Plains sites are 42 x 26 x 10 mm, slightly smaller than the two celts from Sister Grove Creek.

X-Ray Fluorescence Analysis

Hematite celts are known from both North Central and East Texas (Moseley 1996, 2014; Perttula

2002; Perttula and Walker, 2012) as well as from the Upper Trinity drainage (Prikryl 1990). Five specimens are known from Late Prehistoric sites along the East Fork (Harris and Suhm 1963; Crook and Hughston 2009; 2015). In all instances, hematite celts are relatively rare artifacts.

The hematite celts from the Southern Great Plains and the Elm Fork of the Trinity are believed to have originated from a deposit of metallic hematite cobbles in Stephenson County (Moseley 1996). There hematite nodules and slabs of 5 cm or more crop out within the Pennsylvanian Avis Sandstone Formation (Plummer and Morre 1929; Myers 1965; Moseley 1996, 2014).

The hematite found in celts from the Caddo homeland is believed to have originated in the Ouachita Mountains of southern Arkansas and eastern Oklahoma (Timothy K. Perttula, personal communication, 2015). In the Ouachita Mountains, notably Polk, Montgomery and Garland counties, metallic hematite occurs in siliceous shales, in greywackes, and as cement in brecciated novaculites (Penrose 1892). In the latter, metallic hematite can be found in masses ranging between 1-15 cm in size.

In order to try to determine if the hematite present in the two celts from the Sister Grove Creek site comes from a single or multiple origin, both artifacts were subjected to a trace element geochemical anal-

**Table 2. Trace Element Geochemistry
of Sister Grove Creek Hematite Celts (ppm)**

Trace Element	Celt #1	Celt #2
Calcium	4.714696	3.521412
Titanium	0.514824	0.980125
Chromium	-	-
Manganese	0.299688	-
Cobalt	0.033476	0.042759
Nickel	-	-
Copper	-	-
Zinc	0.008785	0.006656
Arsenic	0.008510	0.001167
Rubidium	0.013819	0.022152
Strontium	-	-
Yttrium	-	-
Zirconium	0.001698	-
Niobium	-	-
Molybdenum	-	-
Tin	0.000344	0.000372
Antimony	0.001050	0.001274
Barium	0.134060	0.237596
Lead	0.002888	0.001592
Thorium	0.010157	0.018371
Uranium	-	-

ysis using a portable X-Ray Fluorescence spectrometer (pXRF). The analysis was conducted using a Bruker Tracer III-SD handheld energy-dispersive X-Ray Fluorescence spectrometer equipped with a rhodium target X-Ray tube and a silicon drift detector with a resolution of ca. 145 eV FWHM (Full Width at Half Maximum) at 100,000 cps over an area of 10 mm². Data was collected using a suite of Bruker pXRF software and processed running Bruker's empirical calibration software add-on. The analyses were conducted in March, 2015 at the laboratory of the Gault School of Archeological Research located at Texas State University in San Marcos.

Trace element chemistries of the two hematite celts were measured at 40keV, 36.2µA, using a 0.12 mm aluminum / 0.10 titanium filter in the X-Ray path, and a 300 second live-count time. For the two celts, peak intensities for K α peaks of 18 elements including calcium (Ca), titanium (Ti), chromium (Cr), manganese (Mn), cobalt (Co), nickel (Ni), copper (Cu), zinc (Zn), arsenic (As), rubidium (Rb), strontium (Sr), yttrium (Y), zirconium (Zr), niobium (Nb), molybdenum (Mo), tin (Sn), antimony (Sb), and barium (Ba); and L α peaks for three additional elements including lead (Pb), thorium (Th) and uranium (U) were calculated as ratios to the Compton peak of rhodium and converted to parts-per-million

(ppm). The results for the two celts are shown in Table 2.

As can be seen in the above table, both celts consist primarily of Fe_2O_3 with very few significant trace elements. In fact, all those elements whose concentration is at or below one part per million is really at the effective detection range of the instrument. As such, the two celts differ in trace element chemistry only slightly in the amount of calcium, titanium and manganese, but the differences are so slight as to be negligible. Thus it would appear that both artifacts derive from the same geologic source.

Based on the physical appearance of celt #1, which appears to have used the exterior of an ovoid-shaped hematite cobble for one face of the artifact (see Figure 2), it would seem that this celt is very similar to those described by Moseley (1996; 2014) from the North Central Texas region west of Fort Worth. Given the identical trace element chemistries between the two celts, celt #2 would also appear to have originated from the Southern Great Plains region as well.

Conclusions

Polished stone celts are a rare but consistent trait item in Late Prehistoric period sites across North Central and East Texas. Celts constructed of hematite are even rarer but are known from both the Southern Great Plains, East Texas and along the East Fork of the Trinity River and its tributaries. Hematite celts are most common in the Southern Great Plains where they have been listed as one of the characteristic trait items of the Late Prehistoric Henrietta phase (Suhm et al. 1954). Although known from a number of counties in the region encompassing the Henrietta phase, a major manufacturing center is located in Stephens County (Moseley 1996). At site 41SE17 on Big Sandy Creek, Forrester (1991) describes the recovery of 14 polished and 41 flaked hematite celts, all apparently constructed from hematite cobbles coming from the Pennsylvanian Avis Sandstone.

In general, the hematite celts from the Southern Great Plains are small, typically less than 70 mm in length with many in the 40-50 mm range. By contrast, non-hematite polished stone celts from East Texas are much larger, ranging from 70 mm to as much as 140 mm (Webb et al. 1969; Tunnell 1959; Pertulla et al. 1995). Hematite celts from East Texas Caddo contexts are typically significantly smaller, ranging from 50-75 mm in length (Walters 2009). Availability of hard, metallic hematite is probably the limiting factor in determining the smaller size of hematite celts versus other polished stone. Hematite cobbles in Stephens County, Texas are seldom longer than 50-60 mm. Similarly, hematite from the Ouach-

ita Mountains in southwestern Arkansas occurs in masses 1-15 cm in length, with the average being smaller than 100 mm (Penrose 1892). Thus with reduction through initial shaping and subsequent grinding and polishing, a final celt of 40-70 cm is likely the maximum-sized end product. In this regard, the two celts recovered from the Sister Grove Creek site at 63 and 65 cm, respectively, are near the upper end of size for polished hematite celts from Texas archeological contexts.

XRF analysis of the two celts shows they have very nearly identical trace element chemistries and thus both probably originate from the same general source. Based on the observation that celt #1 appears to have been made from a natural cobble, both Sister Grove Creek celts are assumed to come from the Southern Great Plains, likely originating in Stephens County, Texas.

Despite the rarity of polished hematite material, the two celts from the Sister Grove Creek site were apparently not used as ceremonial objects. On the contrary, both celts show chipping and damage that could only have been produced through extensive use-wear. Thus while undoubtedly treasured items the celts were also high value work tools. Their continued use as chopping tools is evidenced by the extensive refurbishment of the bit edge of celt #1 after the axe broke.

Age of the celts is problematic. Both artifacts were found in an area of the site which has been deflated by 35+ years of wave action of Lake Lavon. Thus all provenience data has been lost. Lynott (1975) obtained nine age dates from the site; seven conventional radiometric dates obtained on charcoal and two bone collagen dates from a human burial. Dates were obtained from hearth features near the base of the site's rim-and-pit structure as well as from other features throughout its depth to near the surface. These features have yielded age dates of 980 +/- 70 near the base of the structure to 1590 +/- 70 near the surface (Lynott 1978). This age range frames both the occupational period for the Sister Grove Creek site as well as for most of the Late Prehistoric along the East Fork (Crook and Hughston 2009, 2015). The hematite celts could have been brought into the site at any time during this 600+ year time span, however, a significant increase in exchange goods can be seen in East Fork Late Prehistoric sites beginning around ca. A.D. 1300 (Crook and Hughston 2015). It is known that the aboriginal inhabitants of both Sister Grove Creek and other East Fork Late Prehistoric sites participated in seasonal hunting trips to the Southern great Plains for bison (Crook and Hughston 2015). Based on new age data on bison remains from archeological contexts across Texas, Lohse et al. (2014) see a window from ca. A.D.

1300-1420 when bison were plentiful on the Texas Great Plains. Most likely the hematite celts described herein were introduced into the Sister Grove Creek site sometime in this time period.

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FROST TOWN, HOUSTON'S FIRST SUBDIVISION

Louis F. Aulbach

Introduction

After the Battle of San Jacinto, Jonathan Benson Frost established his homestead about one half mile east of the center of the new town of Houston, and in April, 1837, he purchased fifteen acres from A. C. and J. K. Allen. After his untimely death a few months later, the property was subdivided by his brother Samuel Miles Frost into a subdivision of eight blocks of twelve lots each and it became known as "Frost Town." As such, it was one of the earliest subdivisions of Houston. Prior to the Civil War, Frost Town developed as a prosperous residential community of predominantly German immigrants. Eventually, the name Frost Town became associated with the surrounding additions and tracts of land, so that much of the Second Ward was referred to as Frost Town. In the late 1800's, the residential character of the neighborhood declined with the rise of industrialization in the Second Ward. The second generation of the original residents had moved to other locations in the city, and Frost Town became mostly tenement housing. African-Americans and a new wave of European immigrants moved in gradually. During the early twentieth century, Mexican immigrants moved into the area as well. In the 1950's, Frost Town fell victim to urban renewal and highway transportation systems. The Elysian Viaduct was constructed through the center of the original Frost Town Subdivision, Highway U. S. 59 was built along the eastern edge, the remaining homes were removed, and the cultural heritage of the major phases of immigrant settlement in Houston was seemingly lost.

Frost Town – A Brief History

Jonathan Benson Frost left Fayette County, Tennessee on March 22, 1836 for Texas and joined the cavalry company of Captain James Smith, the Nacogdoches Mounted Volunteers, on April 11, 1836 (Texas State Library and Archives Commission 1837). The Nacogdoches Mounted Volunteers were organized on that day and the unit probably joined

the army at the camp west of the Brazos River opposite Groce's Plantation (Texas State Historical Association 2005). Frost served in the Texas army for three months until he was given an honorable discharge on July 12, 1836 (Texas State Library and Archives Commission 1837).

His father, John M. Frost passed away on June 21, 1836 at Cottonport in Williamson County, Tennessee (Tripod Family Tree 2005). After his discharge, Jonathan Frost returned to Tennessee to bring his family back to Texas. Samuel and James appear to have returned as well. With the death of the family patriarch, Jonathan Frost organized the move of his whole household and his extended family to Texas. He brought his slaves, his household, and his blacksmith equipment to an area on Buffalo Bayou (Texas State Historical Association 2000) about eight meandering miles upstream of Harrisburg, or six miles over land, and about a half mile below the proposed town site of Houston. Jonathan Frost built his home on land adjacent to William F. Hodge.

The Allen brothers eventually came around to the settlers like Frost and Hodge to formalize the sale of the land on which they had constructed their homes. James S. Holman, a partner in the Houston Town Company, surveyed a fifteen acre tract bordering Buffalo Bayou on the north and lying adjacent to a ten acre tract on the west belonging to William F. Hodge (Harris County, Texas 1837). On the same day, April 13, 1837, in separate transactions, Augustus C. Allen and John K. Allen completed the sale of the fifteen-acre tract to Frost and the ten-acre tract to Hodge (Harris County, Texas 1837a). Each tract sold for a price of \$100 per acre. Thirteen days later, in a transaction that followed a similar pattern, the Allen brothers sold a fifteen-acre tract adjoining Frost's land on both the south and the east to John W. Moody, the Auditor of Public Accounts for the Republic (Harris County, Texas 1837b).

Just as he was settling in and establishing his blacksmith shop, Jonathan B. Frost died at his home on September 16, 1837, at age 32, of cholera (Frost Family History Project 2005). Frost was buried in the area that was later designated as the Frost Town

cemetery (Clark 1986). Samuel M. Frost was appointed to be the administrator of the estate of Jonathan B. Frost by Judge Andrew Briscoe on October 30, 1837 (Glass 1989). A security bond of \$7,000 was placed with William F. Hodge, the neighboring farmer (Harris County, Texas 1837c). Samuel Frost asked the probate court, on March 26, 1838, to permit the sale of Jonathan Frost's land as sixteen lots of about one acre each (Clark 1985).

In June of 1838, Samuel M. Frost laid out a subdivision of eight blocks, lettered A through H. The subdivision was two blocks wide and four blocks long (Muir 1969). Each block had twelve lots in a pattern similar to that of the town of Houston (Glass 1989). Each block had ten lots that were 50 feet by 100 feet in size and two larger lots 50 feet by 125 feet. The main street of the subdivision was Spruce Street, a thirty-foot wide lane running north to south between the two rows of blocks. The east-west cross streets were narrower than Spruce Street (Gish 2000). Arch Street was eighteen feet wide, Race Street was twenty feet wide, and Vine Street was eighteen feet wide. Two lots in Block H, numbers 7 and 8, were set aside for a cemetery since it is believed that Jonathan Frost was buried there (Clark 1986).

On July 4, 1838, Samuel Frost sold Block A, lots 1, 2 and 4 to Henry Trott (Clark n.d.). This transaction initiated the sale of lots, usually for \$25 or \$30 each. Sixty-six of the ninety-six lots had sold by April, 1839 (Art & Environmental Architecture, Inc. 2003).

County records indicate that the subdivision was platted as "Frost Town" and has always been spelled as two words on all manuscript documents (Glass 2004). The first printed reference to Frost Town was made in the September 11, 1839 edition of the *Telegraph & Texas Register* when four lots in "Frost town" were advertised for sale (Muir 1969a). Within a decade, the name Frost Town was associated with the neighborhood that developed around and near the Frost blocks. O. F. Allen, nephew of the city founders, writing in 1936, states that Frost Town referred to a large area of the Second Ward, commencing near Jackson Street and running parallel with Buffalo Bayou for about ten or twelve blocks along Runnels Street and Canal Street (formerly German Avenue) to about North Delano Street (Allen 1936). Although it was platted as a distinct subdivision outside of Houston, Frost Town was never separately incorporated. In 1840, the City set an arbitrary rectangular bound as the City limit that extended as far to the west as the modern Gillette Street and as far to the east as the modern North Velasco Street. Frost Town fell within these city limits at that time.

Starting in late 1839 and continuing through the 1840's, Germans began settling in the Frost Town area. By the late 1840's, there were about seventy-five German families and single men living in and near Frost Town (Clark 1986). Frost Town was a thriving German community by early 1854. German singing societies added to the cultural life of the city. The Houston Turnverein had its beginnings at this time as well (Gish 2000). The religious life of the German community supported the establishment and growth of Catholic, Lutheran and Methodist churches and a synagogue in the area surrounding Frost Town (Texas State Historical Association 2000). Frederick Law Olmstead, passing through Houston, remarked that the majority of tradesmen and mechanics in Houston were German (Gish 2000) (see Figure 1).

Undoubtedly, the most prominent family associated with Frost Town, besides the Frost family itself, was the Schrimpf family. Johann Wilhelm Schrimpf and Johann Ernst Schrimpf immigrated to Houston from Frankfurt am Main, Germany. It is possible that the Schrimpf men were among the three hundred families that arrived in October and December 1839; certainly, they had come by the fall of 1840 since Johann Wilhelm Schrimpf is listed among the founding members of the German Society of Texas on November 29, 1840 (Muir 1969b). John W. Schrimpf served as one of two aldermen from the Second Ward in 1843 (Looscan 1915). On July 20, 1847, John W. Schrimpf purchased Lots 14 and 15 in Moody Square Number 1 from Richard Insall. The deed indicated that one of those lots was "now occupied as part of the residence of said John W. Schrimpf (Harris County, Texas 1947)."

Carl, Prince of Solms-Braunfels, as Commissioner-General of the *Adelsverein*, was a principal figure in the settlement of Germans in Texas. On July 3, 1844, Prince Carl arrived in Houston to begin a year long survey of Texas in order to establish a colony for German immigrants (Von-Maszewski 2000). John W. Schrimpf was visited by Prince Carl on October 7, 1844. And then, again, on his final trip through Houston, on Sunday, May 25, 1845, Prince Carl of Solms spent the evening at Schrimpf's home in Frost Town. Although Schrimpf had no official capacity with the *Adelsverein*, his influence with the organization may have been significant. Within a year, the influx of German immigrants to Texas and the colony in the Hill Country began a transformation of Texas and its people, a heritage that is with us even today.

In 1850, with assets estimated at approximately \$20,000 (Russell 1981), John W. Schrimpf was among the top three percent of the population of Harris County in personal wealth. His wealth and

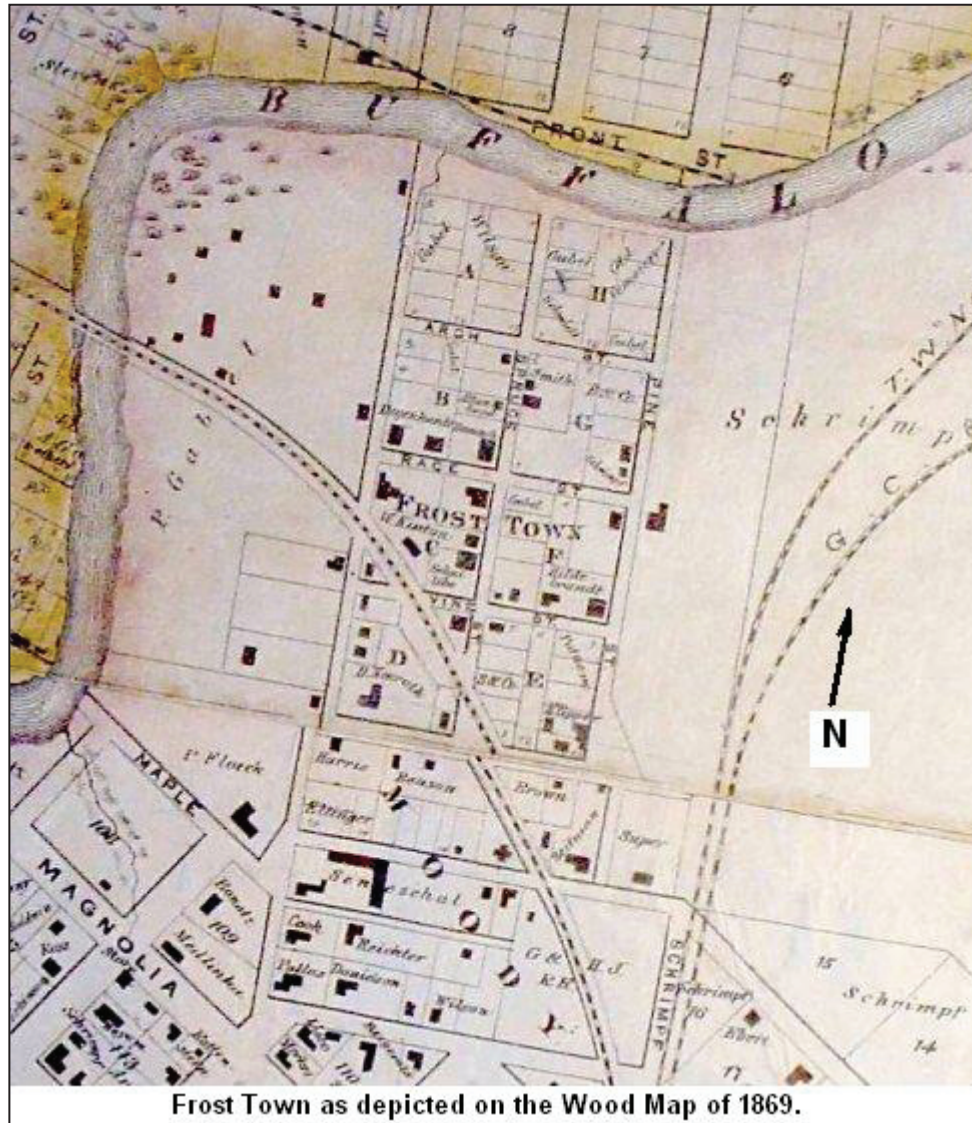


Figure 1. This portion of the Wood map of Houston from 1869 shows the Frost Town and Moody Subdivisions. Many of the original German landowners are identified with their properties.

assets compared favorably with other young men in the county whose names are more familiar to us today, including William Marsh Rice, Paul Bremond, Benjamin A. Shepherd and Thomas W. House. Schrimpf was the wealthiest German in Houston at that time.

In 1853, yellow fever reappeared in Houston with its usual devastating results. In particular, the recently arrived Settegast family was decimated by the epidemic, and all of the members of the Settegast family died except for sons William, age seven, and Julius, age five (Kaplan 1986). John W. Schrimpf took responsibility for the orphaned young boys, placed them in the home of his brother and put them

to work in the butcher market to learn a trade (*History of Texas...* 1895). Subsequently, the Settegast family went on to become one of the most prominent families in Houston.

The German community of Frost Town was a close knit group who shared common cultural backgrounds while looking to succeed in their new land. Marriages among the children of residents of the neighborhood were not uncommon. These young families then formed the second generation, which was more successful and more prosperous than the first. With prosperity came acceptance and integration into Houston's society.

One example, of many, is that of the Scholibo family. Henry and Catherine Scholibo brought their family of three teenage children from Hesse-Kassel, Germany about 1850. In 1852, Scholibo bought Lot 10 of Block C in Frost Town (Stewart Title Company n.d.) and built their home there. Son Charles became a successful baker with a store on Franklin Avenue (Phelps 1955). Daughter Anna married the boy down the street, William J. Settegast. William Settegast and his brother Julius J. Settegast grew up in the J. E. Schrimpf household on the corner of Race Street and Pine Street. Julius Settegast married Katie Floeck, the daughter of Martin Floeck (Kaplan 1986), the local brewer whose business was across the street from Frost Town's Block D.

By the end of the nineteenth century, the Scholibo and Settegast families had become well estab-

lished in Houston's business and social circles. Each family eventually settled away from Frost Town, moving to the new neighborhoods to the south and southwest of downtown. These families reflected a common pattern of acculturation that exemplifies the special role that the Frost Town community played in their lives and in the lives of many others over the decades.

The Galveston, Houston & Henderson Railroad reached the Frost Town area in 1853 (Texas State Historical Association 2000). The depot and train yards near Commerce Avenue and St. Emanuel Street made it convenient for those employed by the railroad to live nearby in homes in Frost Town. The homes in Frost Town were modest and similar to many houses of the period. A typical Frost Town residence was a white frame cottage built of cypress

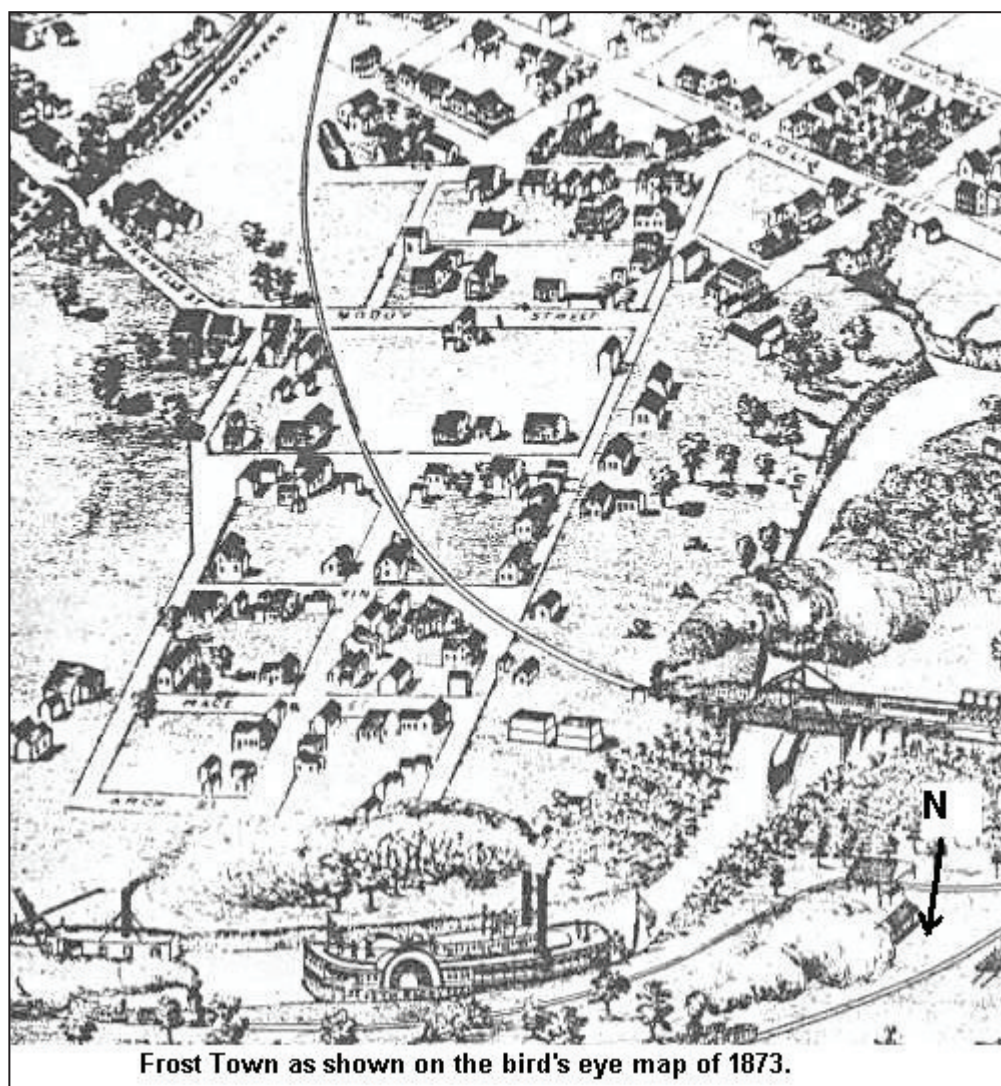


Figure 2. The Frost Town and Moody Subdivisions are depicted in the 1873 Bird's Eye Map of Houston.

as a square dog trot with three rooms on each side of a central hall and a roof sloping over the front porch. The roof had central dormer windows front and back to provide light to the loft, and there were separate buildings for the kitchen, a well house, a smokehouse, a wash house, a chicken house, a barn and a privy (Taylor 1998). The homes were small, mostly clapboard houses, with flowering shrubs, gardens and animals, such as a cow, goats and chickens, to make a self-contained domestic unit (Wilson 1982). The gable-roofed cottages conveyed an elegance in their simplicity. Although the streets of Frost Town were narrow, like alleys, and covered with boards or wooden planks, as a neighborhood, Frost Town offered a convenient blend of a rural homestead in an urban environment (see Figure 2).

Although a generation of German immigrants gave their distinct character to Frost Town, other immigrants to Texas also found a foothold in Frost Town. Many Irish immigrants lived in Frost Town, and among those were many notable citizens of Houston. Mrs. Catherine Kehoe, an immigrant from Ireland, lived in Frost Town with her husband and two sons as early as 1870. During the next decade, she operated a boarding house on Gabel Street that catered primarily to railroad workers (Houston Press 1936). John Browne, the mayor of Houston from 1892 to 1896, purchased two houses in Frost Town in 1871, living in one and renting the other (Chapman 2000). One of his renters was J. J. Sweeney who, later, became a successful jeweler and local

businessman. Sweeney's famous clock, which stood in front of his store at Main Street and Prairie Avenue from 1908 to 1928, survives today in Houston's Sweeney Clock Triangle, a small plaza at Capitol Avenue and Bagby Street (Radowick 2000).

During the 1870's, Frost Town was a community in transition. The introduction of the railroads to the area, in a larger sense, changed the course of Frost Town. The creation of a rail yard and the Galveston, Houston & Henderson Railroad, the International and Great Northern Railroad and the Texas Western Railroad terminals near Commerce Avenue and Chartres Street, southeast of Frost Town, led to the rise of an industrial site on the east side of downtown which eventually included heavy industries around the perimeter of Frost Town Subdivision such as the Bering Planing Mill, the Kuhlman's Wood Yard and the Kuhlman's Hay and Feed Warehouse, the Hartwell Iron Works, the Meyers Spalti Manufacturing Company, the Citizens Electric Company (later Houston Light and Power Company), the National Biscuit Company, and other businesses (see Figure 3).

After the Civil War, former slaves migrated to Houston from the countryside. The emancipated blacks settled in areas around the city, especially in the Third Ward, in Freedman's Town on the outskirts of the Fourth Ward, and in the Frost Town area of the Second Ward. These lower income blacks were able to take advantage of the availability of housing in

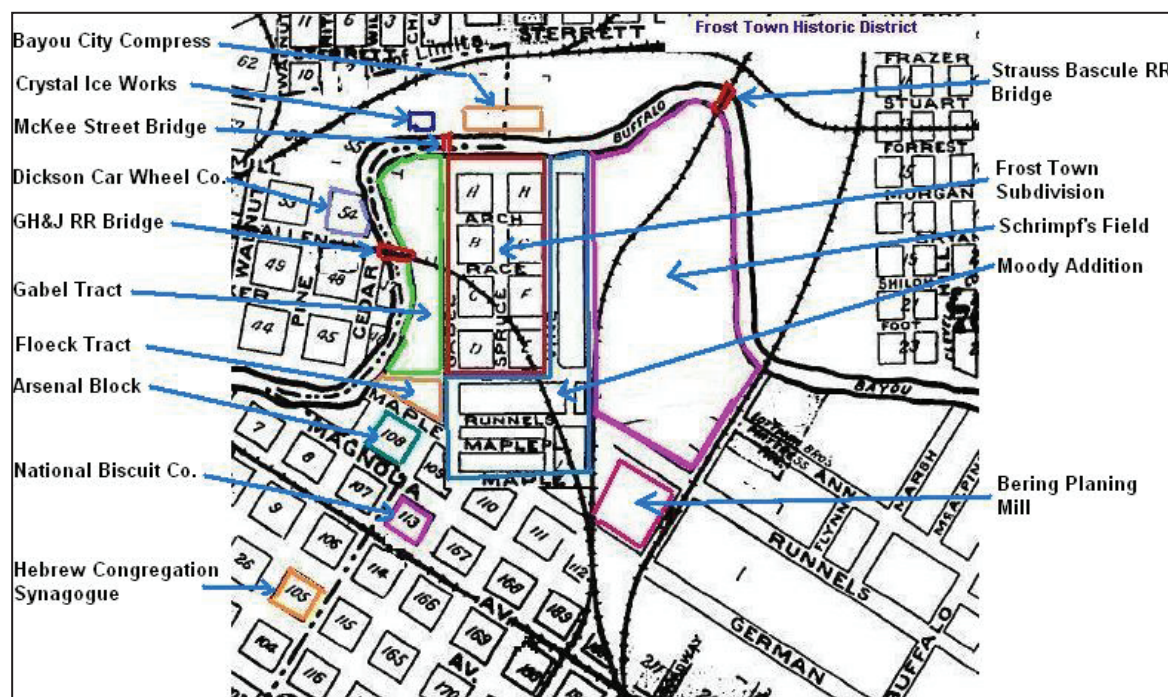


Figure 3. The Frost Town area includes several historic sites from the 19th and early 20th centuries.

Frost Town, and by 1900, the once predominantly white subdivision had become racially mixed.

The steel truss swing bridge, constructed over Buffalo Bayou at Gabel Street in 1904 (City of Houston 1931), opened access to McKee Street and the industries on the north side of the bayou to workers living in Frost Town. This increased proximity to places of work enhanced the appeal of the area for the unskilled workers. In the first decade of the twentieth century, Mexican immigrants began to move into Frost Town while the Anglo-European ("white" as categorized by the U. S. Census Bureau) residents moved to other areas of town. The black population also increased significantly during this period. The changing patterns of settlement continued throughout the first quarter of the twentieth century as Mexicans immigrated to Houston to fill the demand for workers in the emerging industries in the City. The white population of Frost Town declined sharply while the black population remained in the majority. By 1930, the distribution of families and single adults in the Frost Town Subdivision was 65.8% black, 10% white and 24.2% Mexican (ProQuest Information and Learning Company 2005).

The two decades from the 1930's to the 1950's was a time for the final generation of residents to live in Frost Town as a community. Along Spruce Street and the cross streets of Race Street and Bramble Street, a close knit group of Mexican families lived in the neighborhood which was equally mixed between Mexican and black families. At this time, many children played, went to school and grew up in the shadow of the downtown business center while the fathers worked to support the families and the mothers managed the meager resources and simply furnished homes.

The Rusk School on McKee Street and Maple Avenue (Vara 2004), located on the tract that had been the home and the brewery of the Martin Floeck family during the 1800's, was only a few blocks from the homes in Frost Town and was easily accessible by the children (Clark 1986a). Many of the Mexican children in Frost Town and the surrounding area attended the school, and it became known as "the Mexican school," reflecting the tri-ethnic segregation of school children that was common at that time. The Texas Constitution of 1876 called for separate schools for "white" and "colored" children, but when large numbers of Mexican immigrants began coming to Texas and Houston, in particular, at the turn of the century, the segregation of Mexican children was enforced more by the patterns of settlement into neighborhoods like Frost Town in addition to the customs of the local school districts, than by any law. The matter was finally resolved in 1973 as the Houston Independent School District complied with court

ordered plans for the desegregation of all students (Houston History 2005).

Frost Town was known to those who lived there, from the 1920's and 1930's to the 1950's, as "El Barrio del Alacran," the neighborhood of the scorpion (Vara 2004). The Alacran moniker appears to be a variation from the "shrimp" of Schrimpf Street (Farris 2004) which made a long arching curve away from Frost Town toward Buffalo Bayou along the path of the Galveston, Colorado and Santa Fe Railroad tracks (Bell & Howell Information and Learning 1924). The transformation of the image from curling tail of the benign shrimp to the more sinister image of the scorpion may reflect the frustration and dissidence of some elements of the community.

Between 1930 and 1950, Frost Town was increasingly isolated as a residential community because of business and industrial development in the surrounding area. The Houston Light and Power Company plant on Gable Street expanded to the north side of the GH&H railroad tracks for the construction of its cooling tower complex. The north half of the Moody Square One lost twenty-two dwellings to the Humble Oil and Refining Company Warehouse and Pipe Yard by 1951 (Bell & Howell Information and Learning 1924a). Industrial development encircled the community and industrial traffic along the widened McKee Street and the new McKee Street bridge shifted the residential entrance to Frost Town to the corner of Rains Street and Bramble Street.

The post-World War II economic boom led civic planners to envision automotive links across Buffalo Bayou from the northeast side of town. Elysian Street was connected by an elevated roadway through the Frost Town Subdivision to Crawford Avenue. U. S. Highway 59 was constructed over Schrimpf's Field and joined with the new highway route east of Jensen Drive on the north side of the bayou (City of Houston n.d.). These highway projects complemented the Clayton Homes urban renewal project of 1952 that replaced the slums of Schrimpf Alley (Snyder 1998). The two proposed highway projects brought the end of Frost Town as a residential neighborhood, and those who lived in Frost Town began relocating in the late 1940's and early 1950's. Bulldozers clearing the area for the construction of U. S. Highway 59 took their toll on the last remaining gable-roofed cottages in Frost Town (see Figure 4). In 1990, there were only six wood frame homes standing in Frost Town. Only one was left by 1995, and all were gone by 1999 (Farris 2004).

From its beginning as the fifteen acre homestead of Jonathan Benson Frost, a volunteer from Tennessee in the army during the war for Texas indepen-

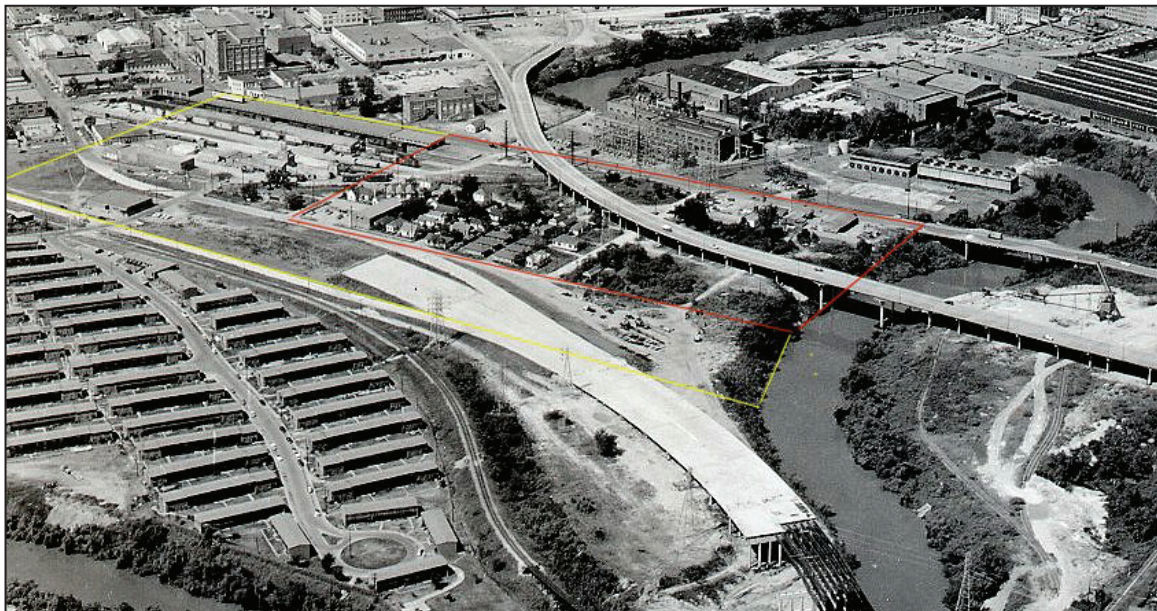


Figure 4. The construction of two roadways, the Elysian Viaduct and the US 59 bridge, resulted in the demise of Frost Town in the mid-1950's. Photo courtesy of TxDOT.

dence, the Frost Town Subdivision was tied to the fortunes and the story of the town of Houston. After the victory at San Jacinto, Frost returned to his home in Tennessee and returned to the newly established capital of the Republic of Texas with his extended family and household to the tract of land less than a mile east of town where he established his home and blacksmith shop.

After Jonathan Frost's untimely death in late 1837, his brother Samuel Miles Frost platted the family land into a subdivision of eight blocks of twelve lots each, similar to the pattern in which the Allen brothers had laid out the town of Houston. The Frost Town Subdivision was one of several early subdivisions that were platted by landowners and speculators in the early years of Houston in order to capitalize on the influx of settlers and immigrants to the town during the first years of the Republic. By the end of 1838, a number of new subdivisions arose to accommodate the population growth of Houston, including the Frost Town Subdivision, the Moody Addition, a fifteen acre tract adjoining the Frost tract, and Beauchamp Springs, a fifty-four acre tract acquired by Thomas Beauchamp on White Oak Bayou north of town. Of these early subdivisions, only Frost Town remains today as a distinct entity. While the other early subdivisions have been assimilated into other surveys or subsequent plats of the city, only Frost Town retains its original footprint on the street maps of Houston and in the plats of the Harris County.

As a community, Frost Town has played a significant role in the social and cultural history of Hous-

ton, providing a place of acceptance into the city for immigrants and a means for them to assimilate into the mainstream of the local society. From the Germans who came during the 1840's and 1850's, to the Irish and Eastern Europeans later in the nineteenth century, to the emancipated blacks of the post-Civil War period, to the Mexican immigrants of the early twentieth century, Frost Town provided affordable housing and a supportive community to enable its residents to live, work and prosper. Each of these groups was able to gain a foothold in their adopted homeland and, within a generation, to assimilate into the local community.

The expansion of commerce and industrialization in Houston often affects residential neighborhoods, and Frost Town was no exception. The subdivision was adversely affected in three different eras by the incursion of transportation systems that passed through the tract. In the 1860's, the tracks of the Galveston and Houston Junction Railroad were laid through the Block C, D and E of Frost Town, separating the lower part of the community from the northern portion. During the late nineteenth century, the expansion of the Port of Houston at the foot of Main Street required the dredging and channelization of Buffalo Bayou which resulted in the loss of several lots in Blocks A and H to the waters of the bayou, as much of the bank was lined with timber and iron false work in preparation for new docks along the bayou. The final blow to Frost Town came in the 1950's with the advent of the automobile as a primary means of transportation into the downtown area. The Elysian Viaduct was constructed down the

center of the Frost Town Subdivision, resulting in the end of Frost Town as a residential community.

In 1994, Harris County acquired several lots in Frost Town for a park and green space. In cooperation with Art and Environmental Architecture, Inc., a non-profit organization that acquired the remaining Frost Town lots for public gardens and historic site, the county has preserved a part of the Frost Town Subdivision as a county park, commonly known as James Bute Park. Citizens can walk the paved pathway through the former neighborhood and contemplate the significance of the community that had served the needs of so many Houston residents for over 120 years.

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