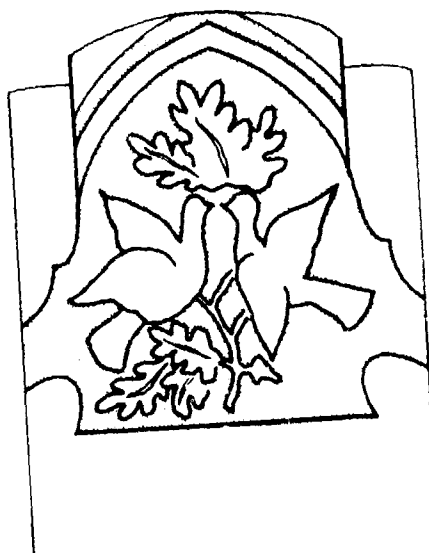
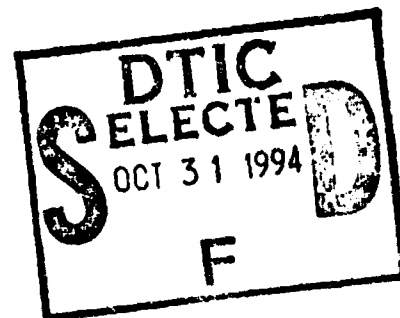


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AN ARCHAEOLOGICAL AND BIOARCHAEOLOGICAL PERSPECTIVE:
The Tucker (41DT104) and Sinclair (41DT105) Cemeteries
of Delta County, Texas

by
Susan A. Lebo



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Institute of Applied Sciences
University of North Texas
1988



US Army Corps
of Engineers
Fort Worth District

**AN ARCHAEOLOGICAL AND BIOARCHAEOLOGICAL PERSPECTIVE:
THE TUCKER (41DT104) AND SINCLAIR (41DT105) CEMETERIES
OF DELTA COUNTY, TEXAS**

by

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ABSTRACT

The relocation of the Tucker Cemetery marked the first joint effort to integrate professional archaeologists, bioarchaeologists, and their research goals with the goals and personnel of the Burial Relocation Division of the U. S. Army Corps of Engineers, and a private relocation contractor. Between October 7 and October 11, 1986, archaeologists from the Institute of Applied Sciences, North Texas State University (IAS-NTSU), a physical anthropologist from the Department of Anthropology, University of Arkansas (UA), personnel from Billner Brothers Inc., and representatives from the U.S. Army Corps of Engineers, Fort Worth District (CE, Ft. Worth) relocated all burials from the Tucker Cemetery (41DT104) in Delta County, Texas.

Sixteen burials including ten unmarked graves were located, mapped, exposed, scientifically studied, and removed for reinterment at the nearby Oaklawn Cemetery. Considerable cooperative effort, organization, and planning were necessary to accomplish this task. The excavation, recording, and scientific procedures utilized during this process are presented in this report in order to encourage and aid in the planning of similar cooperative projects in the future. Problem areas including time and budget constraints, as well as diverse research interests and needs are discussed in detail.

Initial investigative work was also accomplished at the Sinclair Cemetery in Delta County, Texas during September, 1986. Research efforts focused on recovering archival and oral informant information verifying the location, age, and the current condition of this reported cemetery. In addition our interests were directed towards identifying the familial and ethnic background of the individuals interred there. A preliminary field reconnaissance was conducted by several archaeologists from the Institute of Applied Sciences, North Texas State University (IAS), representatives of the U. S. Army Corps of Engineers (CE), Fort Worth and Dallas Districts, and a local informant, Mr. Wilbur John Banks. Following this survey and initial archival and oral research, the probable location of the Sinclair Cemetery was recorded, mapped, and a backhoe was used to blade the site and expose the grave outlines below the plowzone. This cemetery provides a unique opportunity to examine a small, historic family cemetery comprised of unmarked graves.

Reflecting on the experience gained during the interdisciplinary relocation of the Tucker Cemetery, a set of suggested techniques are extracted for future relocations of historic cemeteries. Considerable scientific information can be recovered from these coordinated interdisciplinary efforts which would otherwise be lost forever.

MANAGEMENT SUMMARY

Cooper Lake project, on the South Sulphur River, was authorized by Act of Congress approved 3 August 1955 (Public Law 218, Chapter 501, 84th Congress, 1st Session). The location of the dam for Cooper Lake is in northeast Texas at the confluence of South Sulphur River and Doctors Creek in Delta and Hopkins Counties. The site is at mile 23.2 on South Sulphur River, approximately 85 miles upstream from Texarkana Dam and about 4 miles southeast, by road, from Cooper, Texas, said town lying approximately 70 air miles northeast of Dallas. The Cooper Lake project consists of a multi-purpose reservoir, covering about 32,400 acres with channel and levee improvements both upstream and downstream from the lake. It will contain storage space for flood control, municipal and industrial water supplies, water quality control, and sediment reserve. Recreation facilities are included in the plan for development.

Cooper Lake, as planned, will provide a reservoir with a normal pool elevation at 440 feet m.s.l. and an impoundment of flood waters up to elevation 446.2 feet m.s.l. with "freeboard" up to 451.2 feet m.s.l. for surcharge erosion and/or wave action. It was determined that any cemetery lying within project bounds and having a ground surface elevation below 451.2 feet m.s.l. should be relocated and visitation and burial rights extinguished. Survey investigations showed three of the four cemeteries within the limits of Cooper Lake Project were below the 451.2-foot criterion and consequently were to be relocated.

Relocation of cemeteries to be adversely impacted by construction and operation of Cooper Lake, Delta and Hopkins Counties, Texas, was initiated in the fall of 1986. Tucker Cemetery, located in the embankment area approximately four miles southeast of Cooper, Texas, was recorded and the relocation monitored. Another historic cemetery, Sinclair Cemetery, is within the project area and was believed to be located approximately four miles south of Cooper. Its exact location had to be determined through archival and subsurface exploration and data gathered on its inhabitants.

Task 1 (Tucker Cemetery)

Information was gathered on Tucker Cemetery from local informants, and archival research performed to identify historic data pertinent to the cemetery, to date its use, to identify the community(ies) using it, and to verify information supplied by the informants. The cemetery was thoroughly mapped, photographed, and recorded including its boundaries, grave locations, tombstones and inscriptions, rubbings of significant tombstones, and other pertinent data.

Both a human osteologist and an historical archaeologist were present during the actual relocations to gather data about the cemetery and graves, such as orientation, spatial arrangement, and, when possible, historical information such as grave goods, coffin details, and osteological information, including pathologies, age, physical characteristics, and other pertinent information that would add to knowledge of historical settlements in the Cooper area. This work did not interfere with or delay the relocation contractor's work.

Of major significance is the fact that the relocation of the Tucker Cemetery marked the first joint effort to integrate professional archaeologists, bioarchaeologists, and their research goals with the goals and personnel of the Burial Relocation Division of the U.S. Army Corps of Engineers and a private relocation contractor. Between October 7 and October 11, 1986, archaeologists from the Institute of Applied Sciences, University of North Texas (IAS, UNT), a physical anthropologist from the Department of Anthropology, University of Arkansas, personnel from Billner Brothers Inc., and representatives from the U.S. Army Corps of Engineers, Fort Worth District, (CE), relocated all burials from the Tucker Cemetery (41DT104) in Delta County, Texas. Sixteen burials, including ten unmarked graves, were located, mapped, exposed, studied, and removed for reinterment at the nearby Oaklawn Cemetery.

The major weakness of the osteological investigation was in inability to identify positively the majority of the Tucker burials. Identification depends upon both the quantity and quality of the observations derived from the skeletal remains. The accuracy of the observations was hindered by: (1) fragmentation of the skeletal remains during excavation, (2) the incomplete recovery of the skeletal remains from the grave fill, (3) the restrictive time allotted for obtaining osteological observations, (4) the inability properly to clean the skeletal material prior to observation and (5) the inability to view all the skeletal remains of one individual simultaneously. Identification was also inhibited by (6) the standard osteological sexing criteria which frequently classified the material from an historically identified male as female. A review of the osteological analyses of four other historic Texas cemeteries indicates that the problem of classifying male sexual morphology as female is not unique to the Tucker project in Texas.

The second weakness found during the biohistorical reconstruction was the limited number of historic inferences that could be made from the skeletal remains because of the methods of collecting information. The osteological methodology was streamlined to fit the scope of work. There are more sophisticated methods that have proven to be of great value.

Task 2 (Sinclair Cemetery)

Local informants who have knowledge of the cemetery were contacted, the cemetery location visited to verify location, general boundaries established, and information about individual graves and other data obtained that would facilitate investigations and archival research. A survey of the immediate environs to locate tombstones or other possible locations of the cemetery was performed. Archival research was conducted to identify the cemetery, date its use, the community(ies) using it, and verify information supplied by local informants.

The probable cemetery location (41DT105) was investigated using heavy machinery to clear any necessary trees and overburden in order to verify the presence of the cemetery, map, photograph, and record locations of graves and the extent of the cemetery boundaries. The schedule of relocations is not yet established.

This work was conducted in accordance with and in partial fulfillment of the Corps of Engineers' (CE) obligation under the National Historical Preservation Act of 1966, as amended (PL-89-665), the Archaeological and Historical Preservation Act of 1974, as amended (PL-93-291), the National Environmental Policy Act of 1969 (PL-90-190), and Executive Order No. 11593, "Protection and Enhancement of the Cultural Environment."

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ACKNOWLEDGEMENTS

The removal of the Tucker Cemetery involved the cooperation and assistance of several agencies and professionals. Special thanks go to Karen Scott (CE, Ft. Worth District) for recognizing the importance of incorporating archaeology and bioarchaeology in cemetery relocations, and pursuing the fusion of these studies with existing U. S. Army Corps relocation goals and procedures. In addition, Karen Scott and Daniel Prikryl (CE), and Dr. C. Reid Ferring (Principal Investigator, IAS) should be commended for their patience, direction, and valuable support during the planning and field phases of the project.

The archaeology field crew included the field director, Susan A. Lebo (IAS), physical anthropologist, Barbara A. Burnett (Anthropology, UA), and Sylvia J. Kooren, Bonnie Yates, and Leonard Allen (IAS) who admirably worked under considerable time constraints and adverse weather to map, photograph, and document all cultural and bioarchaeological remains. We would also like to extend our thanks to the relocation crew, including Jerry Scroggins (CE) who supervised the relocation and reinterment phases, and Bill and Jim Billner of Billner Brothers Inc. and their crew for their hard work in hand excavating during inclement weather and in compact, clayey soils.

Special thanks go to family members and local informants who provided valuable historical information about the area, and the Tucker Cemetery in particular. Also, we wish to thank Dr. Jerome C. Rose (Anthropology, UA) for his patience and guidance on the bioarchaeology, Dr. Jane Treat (ORSP, UA) and her staff for typing the original draft of the bioarchaeology tables, Jim Farley, Scott Johnson, and James Harcourt (Anthropology, UA) for their assistance on the bioarchaeology, and Jack Stewart (Anthropology, UA) and Bonnie Yates for their editorial comments. Special thanks also go to Stephen A. Lohse for editing the report and producing the published product, Carin Horn, Oliver Brian Ham and Pamella Carmichael for their excellent maps and illustrations that greatly enhance the text. Without the assistance and patience of all of these individuals this report would not have been possible.

PART ONE: INTRODUCTION AND HISTORICAL OVERVIEW OF THE PROJECT AREA

INTRODUCTION

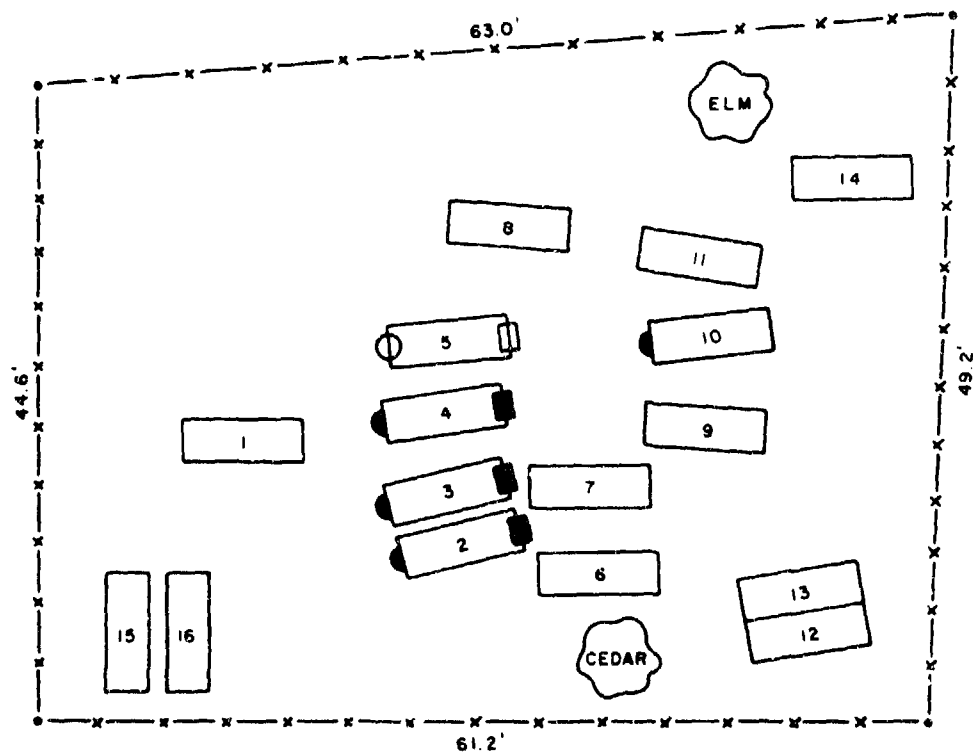
Susan A. Lebo

The Tucker Cemetery (41DT104) was a small family graveyard that was established by the Solomon Tucker family of Delta County, Texas. A total of 16 graves dating between ca. 1880 and 1942, and including three unknown graves, were reported for the cemetery by family members during the Tucker Cemetery Relocation meetings held by the CE. An initial reconnaissance conducted by the CE, and summarized in the Cooper Lake and Channels, Design Memorandum 6C Cemetery Relocation Plan - Tucker Cemetery, indicated that the cemetery is located directly on the dam site and would need to be moved before clearing or construction work began in this area of the proposed reservoir.

An archaeological reconnaissance was conducted by personnel from the Institute of Applied Sciences, University of North Texas (IAS), under Contract DACW63-85-D-0066, D.O. Number 11, Task 1 with the CE in September, 1986. This work focused on an on-site inspection of the cemetery location, size, layout, and current condition or integrity, and was augmented by a map showing the existing cemetery layout (see Figure 1) prepared by the CE. The cemetery was recorded as measuring approximately 61.2' to 63.0' east-west by 44.6' to 49.2' north-south, and was found to contain four graves marked by head and footstones, and 12 unmarked. A barbed wire fence surrounded the graveyard which was badly overgrown and in disrepair. On-site reconnaissance indicated that the cemetery remained relatively unchanged, and no evidence of recent vandalism or the removal of grave markers was recorded. However, the numbered wooden stakes which had been placed at the head(?) of each of the reported 16 graves had been pulled up and lay strewn about within the cemetery limits.

Photographs were taken to record the general condition of the cemetery, as well as all cultural remains including head and footstones, grave goods brought by family members such as ceramic and glass vases with flowers, remains of bleached mussel shell and brick headstones(?). Grave rubbings were made of each face or elevation of all head and footstones. The cemetery was then mapped using a transit to record the site limits, marked graves, native and non-native ornamental vegetation, and all cultural remains visible on the ground surface.

In deference to the descendants of the individuals interred at the Tucker Cemetery, photographs presented in this report have been limited to those black and white photographs necessary to sufficiently convey scientific information about the cultural nature of the cemetery and individuals interred there, as



TUCKER CEMETERY, Delta County Texas

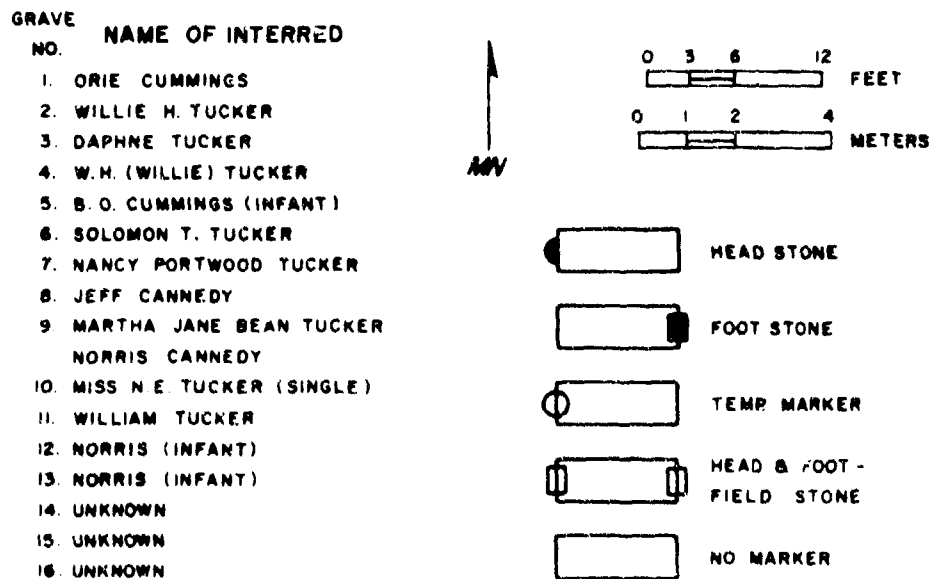


Figure 1. Map showing the existing layout of the Tucker Cemetery before relocation in October, 1986.

outlined in the Scope of Work for Bioarchaeological Investigations at Tucker Cemetery, Texas. All photographs are on file with other records for the project at the CE, Fort Worth District.

Oral interviews were obtained from several family members and local individuals who provided valuable information on the local history, including the Tucker, Dawson, Liberty Grove and Sinclair cemeteries. Edited transcripts of these interviews are also on file with the CE, Fort Worth District. Archival research was conducted at the Delta County Courthouse, Lamar County Courthouse, Dallas Public Library, Delta County Public Library, and the Delta County Historical Society, and focused on recovering historical information on the families that lived in the area, land ownership, economic development of the county, social organizations and institutions including churches, schools, and cemeteries. Census, deed/title, marriage, birth and death, and probate records were examined. Cemetery records compiled by Mr. Douglas Albright of the Delta County Historical Society also provided considerable information which supplemented other archival and oral research.

The relocation of the Tucker Cemetery was conducted as a relocation project rather than an archaeological project, and involved the efforts and expertise of four agencies, including: (1) Billner Brothers Co., Inc., (2) CE, Ft. Worth District, (3) IAS-UNT, and (4) the Dept. of Anthropology-UA. The relocation work was accomplished by Billner Brothers Co., Inc, and was monitored by Jerry Spraggins of the CE. The archaeologists and physical anthropologists were present during the relocations in order to record historical and biological data about the cemetery as well as specific graves and individuals, but were not involved in the actual relocations.

Jerry Spraggins served as the cemetery relocation inspector of the U. S. Army Corps of Engineers and was responsible for monitoring the disinterring, transferring, and reintering of all human and cultural remains from the Tucker Cemetery to the Oaklawn Cemetery. He was the liaison among the different agencies to ensure that each conducted their contractual obligations in a timely and professional manner.

The Tucker Cemetery was relocated in four days, and included the removal and reinterment of burial 10 on October 7, burials 1, 2, 3, 4, and 5 on October 9, 9, 11, 12, 13, and 14 on October 10, and burials 6, 7, and 8 on October 11. Due to bad weather, no work was done on October 8. Trenching for graves 14, 15, and 16 was also conducted on October 11. Excavation was accomplished between 8 o'clock and 2 o'clock, with sealing of the coffins, transportation to the new cemetery, and reburial being accomplished between 2 o'clock and dark. This schedule provided an average of 30-60 minutes per burial for recovery, recording,

and analysis once the coffin was exposed. This time was also affected by the number of burials open at the same time, with the time available for examination and documentation decreasing dramatically as the number of open burials increased. The first burial opened each day received the longest period of study, while the last one of the day received the shortest.

Since the participation of archaeologists and bioarchaeologists in the relocation of historic cemeteries has not been employed previously by the CE, and because this approach is still relatively recent among other government agencies, the procedures utilized at the Tucker Cemetery (41DT104) are presented in detail by agency. It is hoped that this information, in conjunction with data obtained from similar projects will be helpful in developing policy guidelines for additional interdisciplinary and interagency cemetery relocation projects in the future.

ARCHAEOLOGICAL BACKGROUND

The Tucker Cemetery Relocations Project provided an excellent research opportunity for documenting the archaeological and bioarchaeological record of a historic Anglo cemetery as it was relocated by the U. S. Army Corps of Engineers before it was impacted by the Cooper Dam construction. As mentioned earlier, the approach utilized on this project is relatively recent among government agencies and represented the first efforts to coordinate the efforts of the CE Burial Relocations Division with those of archaeologists and bioarchaeologists.

The policy and procedural guidelines developed for this project provided a strong foundation for establishing the feasibility and desirability of conducting future inter-agency, multidisciplinary relocation projects. Three major approaches are: (1) traditional cemetery relocations (e.g., Ray Roberts cemeteries), (2) archaeological cemetery relocations, and (3) joint government-archaeological cemetery relocations.

Traditional Cemetery Relocations

Until the Tucker Cemetery Relocation Project, all historic cemeteries in danger of adverse impacts resulting from CE construction projects have been relocated by the Burial Relocations Divisions. Marked graves were excavated, and all cultural and biological remains were recovered and relocated to an existing, maintained cemetery. Unmarked graves were located by mechanized excavation and were recovered and relocated.

Archaeological Cemetery Relocations

Archaeological relocations of nineteenth and early twentieth century historic cemeteries are relatively recent in Texas and have included the Laredo Cemetery (41WB22) in Webb County (McReynolds 1981), and the Morgan Chapel Cemetery (41BP200) in Bastrop County (Taylor et al. 1986).

The Laredo Cemetery was encountered during a construction project and was partially excavated. A total of 36 graves were located, 8 were completely removed, 14 were partially removed, and 14 were not removed. Archival, oral, archaeological, and bioarchaeological research was conducted within the time and budget available. The cemetery dated from the late nineteenth century to the 1920s and was legally moved in the 1920s. However, current data indicate that possibly only a few graves were relocated at that time.

The Morgan Chapel Cemetery was relocated before anticipated lignite mining area would adversely impact the cemetery. A total of 8 marked and 12 unmarked graves were identified and relocated. Archival, oral, archaeological and bioarchaeological research was conducted. The cemetery dated from 1891 to 1937 (Taylor et al. 1986).

Mechanized excavation, including scraping was utilized to locate and aid in recovering unmarked graves at the Morgan Chapel Cemetery. This approach was also utilized at the Ferris Cemetery in Dallas, Dallas County (Bruseth and Lebo 1986). This small graveyard dated between 1847 and ca. 1906 and was originally established by the Warren A. Ferris family. The cemetery was located, and projections were made for the size of the graveyard and the number and alignment of graves within the site based on the graves exposed in several scraped areas.

Joint Government-Archaeological Cemetery Relocations

Few joint cemetery relocation projects have been conducted to date. Within Texas, this approach has been applied by the U. S. Bureau of Reclamation at five historic cemeteries at Choke Canyon in Live Oak and McMullen counties (Fox 1984), which were relocated as part of the Choke Canyon Reservoir Project in 1981. A total of 34 graves were located, recorded and relocated. The Johnston Cemetery (41LK73) contained one grave dated ca. 1890, the Morris/Taylor Cemetery (41MC6) contained two adult males who died as a result of a feud in 1869, and the Morgan Cemetery (41MC4) contained five graves dated ca. 1870. The Yarbrough Bend Cemetery (41MC18) included six graves from the 1880 to 1900 period, and the Byrne Cemetery (41MC66) contained 20 graves associated with the Yarbrough Bend community and spanned in age from ca. 1858 to 1880.

A second joint government-archaeology relocation project was conducted by the U. S. Bureau of Reclamation in the McGee Creek Reservoir in 1983 (Ferguson 1983). Two cemeteries were relocated: the Steavson/Steves Cemetery, containing four graves, and the Wilson/Shields Cemetery (34AT239) containing seven graves. Both cemeteries dated from the turn-of-the century and included possible Black, Choctaw and Indian-black burials.

ENVIRONMENTAL SETTING

The South Sulphur River forms the southern border between Delta and Hopkins counties, and this area is characterized as an ecotonal zone in the Texan biotic province (Blair 1950). Terrace and upland areas exhibit affinity with the oak-hickory forest, while the riparian areas are more closely associated with the blackland prairie. Two major vegetational zones occur in this region corresponding with the major soil types. The riparian zone occurs along the Middle and South Sulphur Rivers and their tributaries and are comprised of clay soils of the Kaufman series. The vegetation is predominately upper-story deciduous trees, and includes oak, hickory, elm, bois d'arc, and locust. The savannah-grassland zones occur on the remnant Pleistocene terraces of the Middle and South Sulphur Rivers. They are characterized by clay loam to sandy loam soils. The vegetation varies from open areas with dense grass cover to dense upper-story tree cover and little ground cover (Doehner et al. 1978:30; Hyatt et al. 1974:1).

HISTORICAL BACKGROUND

The project area is situated southeast of Cooper, Texas, between Big Creek on the north, and the South Sulphur River on the south (Figure 2). Early Anglo cemeteries in Lamar, Delta, and Hopkins counties were established when land was given for a cemetery following the death of a loved one. Some remained small family plots associated with a farmstead, while others became community cemeteries. According to Price (1954:7), several cemeteries were established near Charleston, which is east of Cooper, between the 1850s and 1860s. Two became community cemeteries, and two remained family graveyards.

The Charleston Cemetery was begun when C. F. McGuyer buried his first wife, Mary Ann Golithan, there in 1859 and later gave the land for a cemetery. During the period prior to 1895 several negroes were buried in the central part of the eastern side of this cemetery.

The Union Grove Cemetery was started when the wife of George Helm was buried there in the early 1850s. He later gave this land for a cemetery.

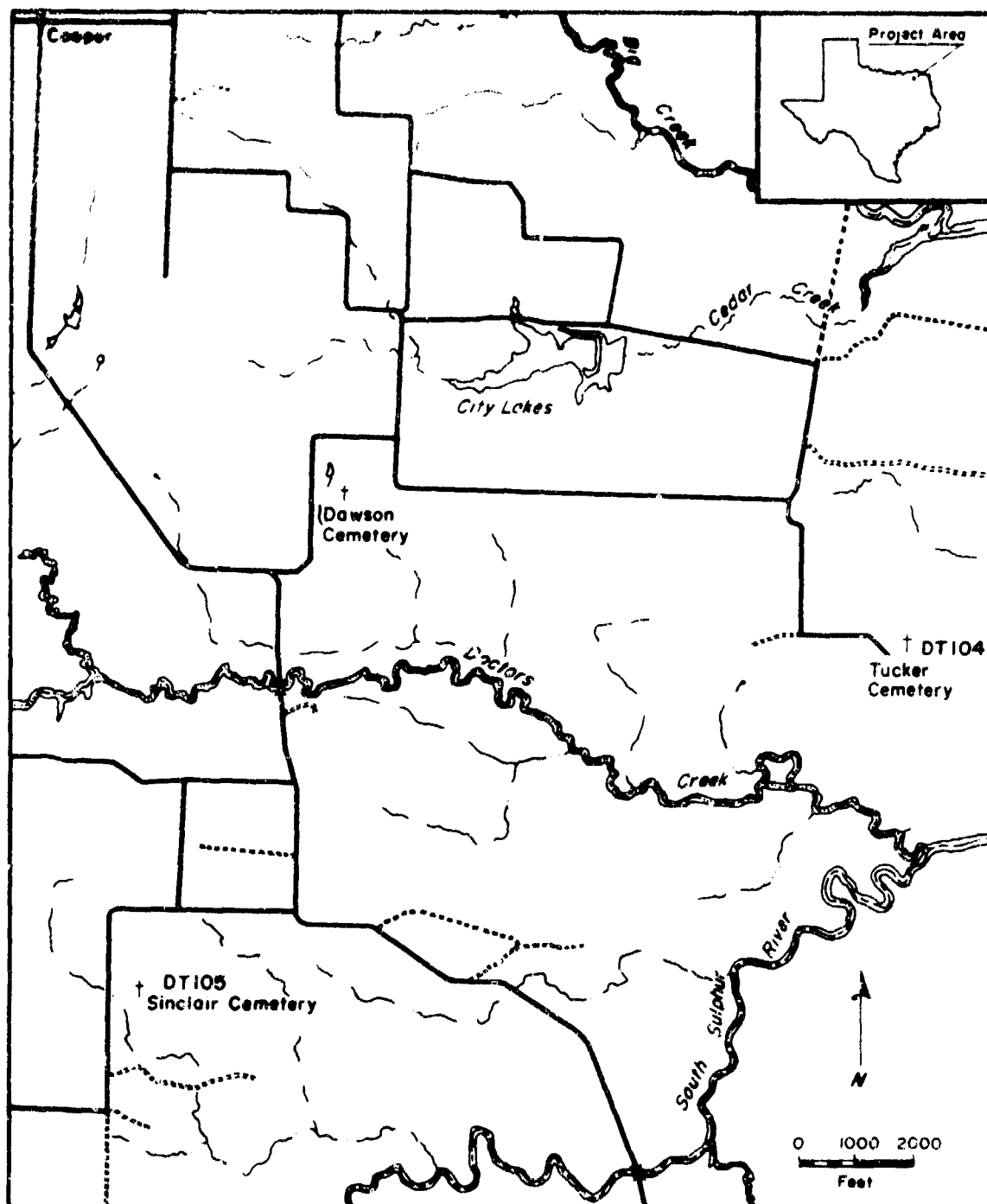


Figure 2. Map showing the location of the project area between Big Creek and the South Sulphur River in Delta County.

There are other small places of burial in this area that were evidently used prior to the establishment of either of the cemeteries mentioned above. Several graves are to be found just north of the present home of T. J. Watkins. Another group is just west of the Kinnamon home in the Sharptown area. These are reported to be members of the Duke family who lived in this area in the early 1850s. Also, the small burial area near the early Elmore home already mentioned above (Price 1954:7).

This pattern also occurred in the project area. Liberty Grove and Dawson became community cemeteries, while the Tucker, and most likely also the Sinclair, remained family cemeteries. Liberty Grove was established in 1867, and Dawson was established about the same time and contains about 134 graves (Austin Brantley interview 1986). The land for the Tucker Cemetery was given by Solomon Tucker in ca. 1880 and by John Sinclair(?) for the Sinclair Cemetery after 1867. Other historic cemeteries located nearby that were associated with families in the project area provided information about traditional southern cemeteries in Delta County and included Hickory Grove and Brush Mound.

Early County Development

According to Doehner et al. (1978:13-14), early attempts by Anglos to colonize East Texas centered around Nacogdoches, but until 1842, these efforts were unsuccessful. The earliest surveys in the area were located along the South Sulphur River and included an 1835 Mexican Land Grant issued to Louick Kikes for land northeast of present day Sulphur Springs. He was issued a second patent for the land by the Republic of Texas in 1838. Efforts by Arthur Wavell and Ben Milan to settle 400 families in the area between the Sulphur River and the Red River also failed. Land speculation increased in the 1850s. The Randolph Scott survey, which includes the Tucker Cemetery (41DT104), was surveyed in 1852. The Alexander Sinclair survey dates to 1860.

Hopkins County was created in 1846 from portions of Red River and Nacogdoches counties, and by 1856, six rural communities had been established. These included Black Jack Grove, Gold Hill, Pleasant Hill, Tarrant, White Oak, and Cumby. Delta County was created in 1870 from portions of Hopkins and Lamar counties (Doehner et al. 1978:14). Early communities dating between 1840 and 1880 included Cedar Creek, Cooper, Granny's Neck, Liberty Grove, Hickory Grove, Post Oak, Craig-Tranquil, Brushy Mound, and Patio, among others (Figure 3).

Four of these communities are situated near the Sinclair and Tucker cemeteries, and are of particular interest here: Cedar Creek, Granny's Neck, Liberty Grove, and Brushy Mound. Cedar Creek was three miles southeast of Cooper and was named for the cedar forests that occurred in the area, but was originally

called Daisy Mission. According to Austin Brantley (interview 1986), a small dying girl named Daisy made a wish that a school be built. All of the local men contributed money on her behalf and a school was built there in the 1840s. It was a log pen structure with a mudcat chimney and sod chinking. It was used until 1890 when a new school was built and remained standing until 1900. Among the early settlers that sent children to the school were the Dawson, Wright, Chapman, and Taylor families. John Banks (interview 1986) also recalled the same story and indicated that it was the first school building in Delta, then Lamar County, and that the school was also attended by the Sinclair children. Daisy Mission was situated across the road from the house currently owned by Austin Brantley (Figure 4). He acquired the one-acre school lot when he moved into the house, but has since sold that acre (Austin Brantley, interview 1986).

According to John Banks (personal communication, 1986), the first cotton gin and grist mill, established in the 1870s, were located in Cedar Grove/Daisy Mission (Figure 4), the gin producing a bale of cotton a day. The grist mill wheel is now in the Old Cooper Cemetery. The mill was owned by William Taylor, also often called Texas Jack. The Cedar Creek brickyard was also located in this area (Figure 4) and was owned and operated by Richard and William Taylor between 1880 and 1911.

Granny's Neck was located 5 miles southeast of Cooper and was once also called Pecan Grove Community. It was a settlement comprised primarily of saloons on a peninsula or neck of high ground in the floodplain of the South Sulphur River (Cooper Review 1972). According to folklore, an elderly widow, her son, and a slave squatted on a strip of land between Doctor's Creek and the South Sulphur River. The widow, also called, "Old Lady Sinclair" or "Granny Sinclair" was reportedly Alexander Sinclair's mother (John Banks interview 1986). She settled on the Old Bohnam to Jefferson Road and operated a road house, and Andy Campbell had a saloon on the other side of the South Sulphur River. These two establishments were connected by a toll bridge called DeSpain's Bridge, which was built on the Bohnam to Jefferson Road, across the South Sulphur in 1845, and in 1865 it was replaced by the Harper's Toll Bridge.

Records research on "Granny Sinclair" did not reveal any conclusive documentation of her identity, when she arrived, and the exact location of her dwelling and road house. The 1850 Lamar County Census indicated that a Charles St. Clair family resided in the Granny's Neck area. They were listed in household 223, and included Charles, a 65-year old farmer from South Carolina, his wife, Mary, son, Alexander, and two daughters, Amy(?), and Sarah. His property was listed at \$160. They were not listed in the 1860 Hopkins County Census, but their son Alexander was recorded in the Charleston Post Office District. He appeared as the head of

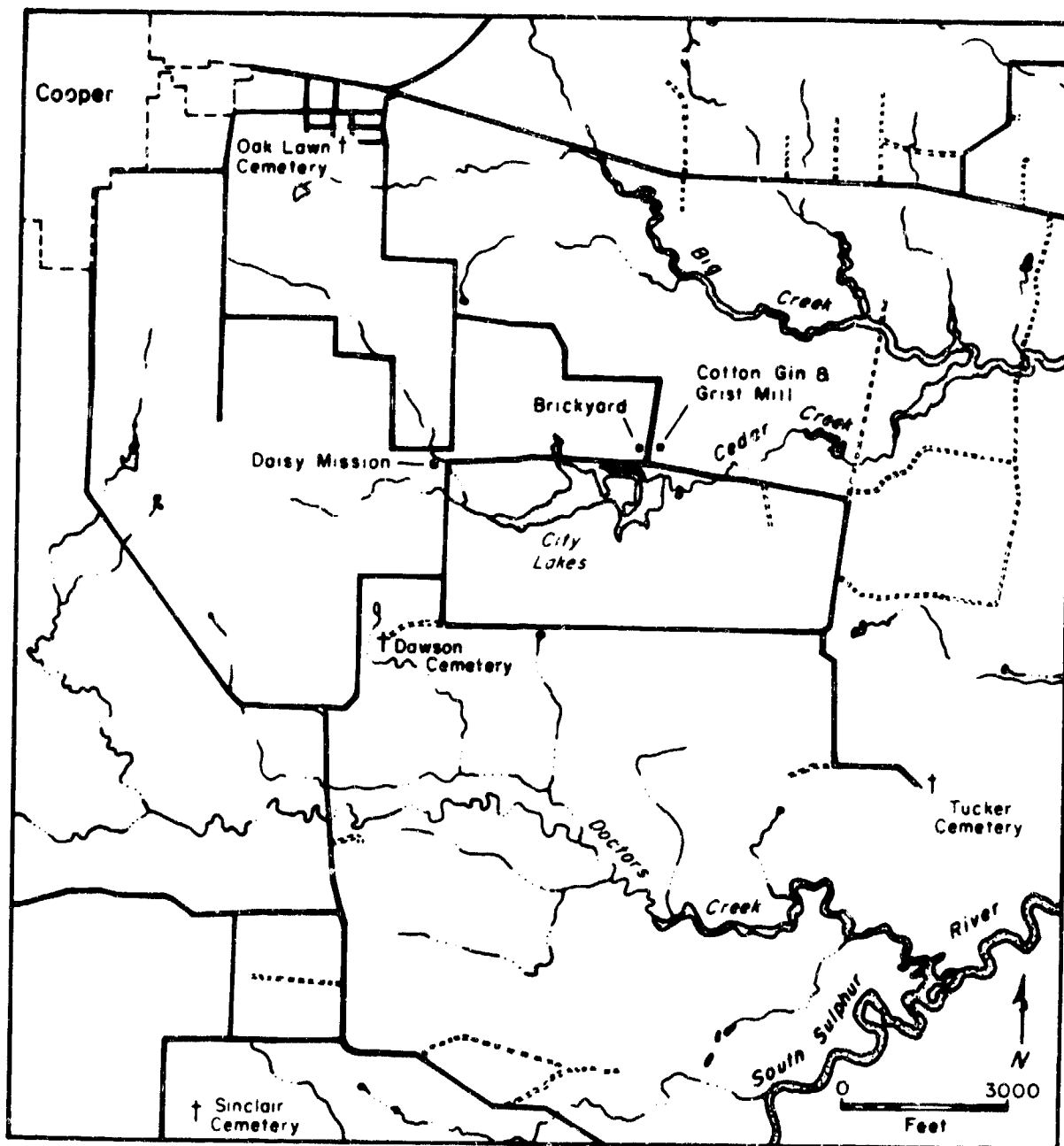


Figure 4. Map showing the location of the Tucker and Sinclair cemeteries and early historic locations within the project area.

the household along with his wife (recorded in his neighbor's household), three children, and two domestics (Table 1).

Alexander Sinclair's mother was reported to have had at least one slave and to have been buried along with her husband, and slave, under four oak trees that marked the west boundary of their property (John Banks interview 1986). This property was situated east of the Sinclair Cemetery (41DT105), and corresponds to the Alexander Sinclair survey (Abstract 346) granted to Sinclair in 1860 (Book A:130).

Liberty Grove was established in the 1850s and was named after a grove of trees. It was located three miles southwest of Cooper, and among the early families recorded in Liberty Grove were the Nidevers, Ewings, Hanners, Sissells, Hendersons, and the St. Clairs (Sinclairs). Also the Jones, Blount, and McAlister families settled there. In 1854, Judge Nidever gave land for a log schoolhouse with split log benches (Patteson 1935:183-4). In 1867, he gave additional land for a cemetery, following the death of a son.

The Nidever family is listed in the 1850 Lamar County Census as household 227 and included Naomi Nidever (41; farmer) and nine children (see Table 1). Naomi is listed as the head of the household suggesting that her husband had died. Her maiden name was Sinclair. Additional research is necessary in order to determine if she is directly related to Alexander Sinclair. Based on her age, and the age of Alexander's parents, she could be an older sister of Alexander's.

Other families that settled in the Liberty Grove area and intermarried included: Ewing-DeSpain, Ewing-Nidever, Nidever-Jones, Jones-Blount, Nidever-Wheat, among others. Members of all of these families are buried in the Liberty Grove Cemetery. The Nidever family plot is just inside the cemetery gate (Ina Blount interview 1986), and represent some of the oldest graves in the cemetery. However, because many of the graves do not have markers, it was not possible to identify if Naomi Sinclair Nidever was buried there. Her son Charles Sinclair Nidever was buried in the Liberty Grove Cemetery in 1887, and his wife, Emily Ewing Nidever who was originally buried in Amarillo, Texas, was reburied at Liberty Grove in 1912 (Ewing 1970:59).

Brushy Mound was also established in the 1840s or 1850s, and was the location of an early cemetery. According to G. Douglas Albright, Director of the Delta County Historical Society (personal communication 1986), Brushy Creek cemetery contains some of the earliest markers in the county. Brushy Mound was situated northeast of Cooper.

Table 1. Census Data for the Sinclair Family

Census	Household Number	Name of Individual	Age/Sex	Comments
1850	223	Charles St.Clair	65/m	Farmer
		Mary	64/f	
		Alexander	23/m	
		Amy?	24/f	
		Sarah A.	3/f	
1860	1003	Alexander Sinclair	33/m	Farmer
		wife (see Household 1115)	1115)	
		John F.	7/m	
		Missouri A.	5/f	
		Mary E.	2/f	
		Mary A.	77/f	Domestic
		Elizabeth Clanton	15/f	Servant
	1115	Jacob Nidever	25/m	Waggoner
		Julia	21/f	
		California	4/f	
		Hetty (or Hettie)	2/f	
		Mary A. Sinclair	27/f	Domestic
1870		Alexander Sinclair	42/m	Farmer
		Mary A.	35/f	Keeping House
		Mary E.	12/f	
		Travis A.	6/m	
		James L.	1/m	
1880	100	Nettie Sinclair	25/f	
		Charles	8/m	Son
		George Nichols	17	Farmer
		Blanche Boren	16	Sister
	101	Alexander Sinclair	53/m	Farmer
		Mary A.	47/f	Wife
		Travis	17/m	Son, Farmer
		James	10/m	Son, Farmer
		Fayette Cummings	22/m	Black farmer
		Jenny	19/f	Black laborer
		Eva	4/f	Daughter

Economic Development

Cotton farming was the major industry in Lamar and Hopkins counties during the 1840-1870 period, but the production rate was low in comparison with other counties in Texas. Several factors may account for this low production rate, including the lack of a large labor force. The slave population of Hopkins County was 12.8% in 1860, which was well below the state average of 22.7%. In addition, the South Sulphur River did not provide a year-round navigation route for transporting cash crops to major ports, and the Anglo population that had migrated to Hopkins County and settled there during this period were from non-cotton producing states (Doehner et al. 1978:14). The major navigation routes for transporting cotton to port cities were the Red River, the Brazos, the Sabine, and to a lesser extent, the Trinity River. Cotton ports included Galveston, Houston, Matagorda, Aransas, and Shreveport (White 1964:152). Cotton from the northeastern counties traveled primarily down the Red River to Shreveport or Jefferson or overland by wagon.

The first cotton gin was established in Cooper in 1870 and four steam mills were located in Sulphur Springs (Doehner et al. 1978:14-15). As mentioned above, a cotton gin and grist mill were established in the 1870s in Cedar Grove. The Cedar Creek brickyard was also located in this area (see Figure 4) and was owned and operated by Richard and William Taylor between 1880 and 1911. Overland transportation routes also improved during the 1870-1900 period and included the first railroad line called the Louisiana Railway and Navigation Company which ran from Jefferson to Sulphur Springs and Greenville (Doehner et al. 1978:15). This line followed the major Bohnam to Jefferson wagon route that had been established in the 1840s. A second line connected Sulphur Springs to towns in Arkansas in 1887 and was called the St. Louis, Arkansas, and Texas Railroad. According to White (1967:346),

railroads furnished Texas cotton farmers transportation for their crop and simultaneously brought them products they could not produce. By the year 1880 the Texas cotton frontier extended along a line from the Red River in Wichita County southwest to Jones and Taylor Counties, and south through Coleman, McCulloch, Mason, Kerr, Bandera, and Uvalde Counties to the Nueces River, which it followed to the Gulf of Mexico. During the 1880s the frontier pushed another hundred miles westward and in 1888 the first bale of cotton ever ginned west of Abilene was sold at Sweetwater.

As the Texas cotton industry expanded after the Civil War and the plantation system collapsed, commercial cotton ginning came into its own, and tenant and sharecropping systems became the chief cotton producers (White 1967:346). In 1880 the

Blackland Prairie area produced 35% of the cotton in Texas, and by 1899 it was the dominant cotton producing region (Boehm 1975:21). Three ginning companies were chartered in Texas in the 1880s and included the Paris, Texas Compress Company in Lamar County, the Clarksville Ginning and Hulling Company, and the Hamilton, Texas Mill and Gin Company (White 1967:351). Cotton continued to be the major industry in Delta and Lamar counties into the twentieth century, but after the 1930s, the economy of Hopkins County became more diversified; a dairy industry was developed, and cotton production decreased (Doehner et al. 1978:15).

Corn was also a major industry in northeastern Texas during the nineteenth century, and in 1860, Lamar County was listed among the top five grain milling counties in the state (Dugas 1955:154). Grain milling was the leading source of gross income in 1870, and the number of mills had tripled since 1860, but only grossed one-third as much (Dugas 1955:154). In addition, the cultivation of corn exhibited a southwest migration and included Gillespie, Bexar, Gonzales, Collin and Hunt counties in 1870. In 1880, grain milling continued to be the major industry in the state, with the primary grain counties located in the Blackland Prairie (Dugas 1955:173). The lumber industry was also important in the northeastern counties, and in Lamar County it centered on furniture making.

The importance of the cotton industry in Delta County is also supported by a comparison of the value of goods manufactured in Texas in 1880 (Dugas 1955:180) which indicated that Hopkins County produced over \$100,000 worth of goods, Lamar over \$300,000, while Delta County produced less than \$100,000 (Figure 5).

Deed/Title Histories and Geneologies for the Tucker and Sinclair Cemeteries

The Tucker Cemetery (41DT104) is located on the Randolph Scott survey granted by the State of Texas to R. Scott in 1852 (Table 2). It is situated near the center of the survey. Solomon Tucker (burial 6) acquired all 436 acres of the survey in 1867. Following his death in the late 1880s or 1890s, the survey was subdivided among his heirs, and remained in their ownership until the early 1900s. A complete chain of title has not been traced for the survey, so we do not know at this time when the land containing the cemetery was transferred by the Tucker-Cumming families to non-family ownership.

Oral informant information indicates that the original Tucker farmstead was located west of the cemetery (D. Albright, personal communication 1986) and may be associated with site 41DT87. A later Tucker farmstead was established in the early

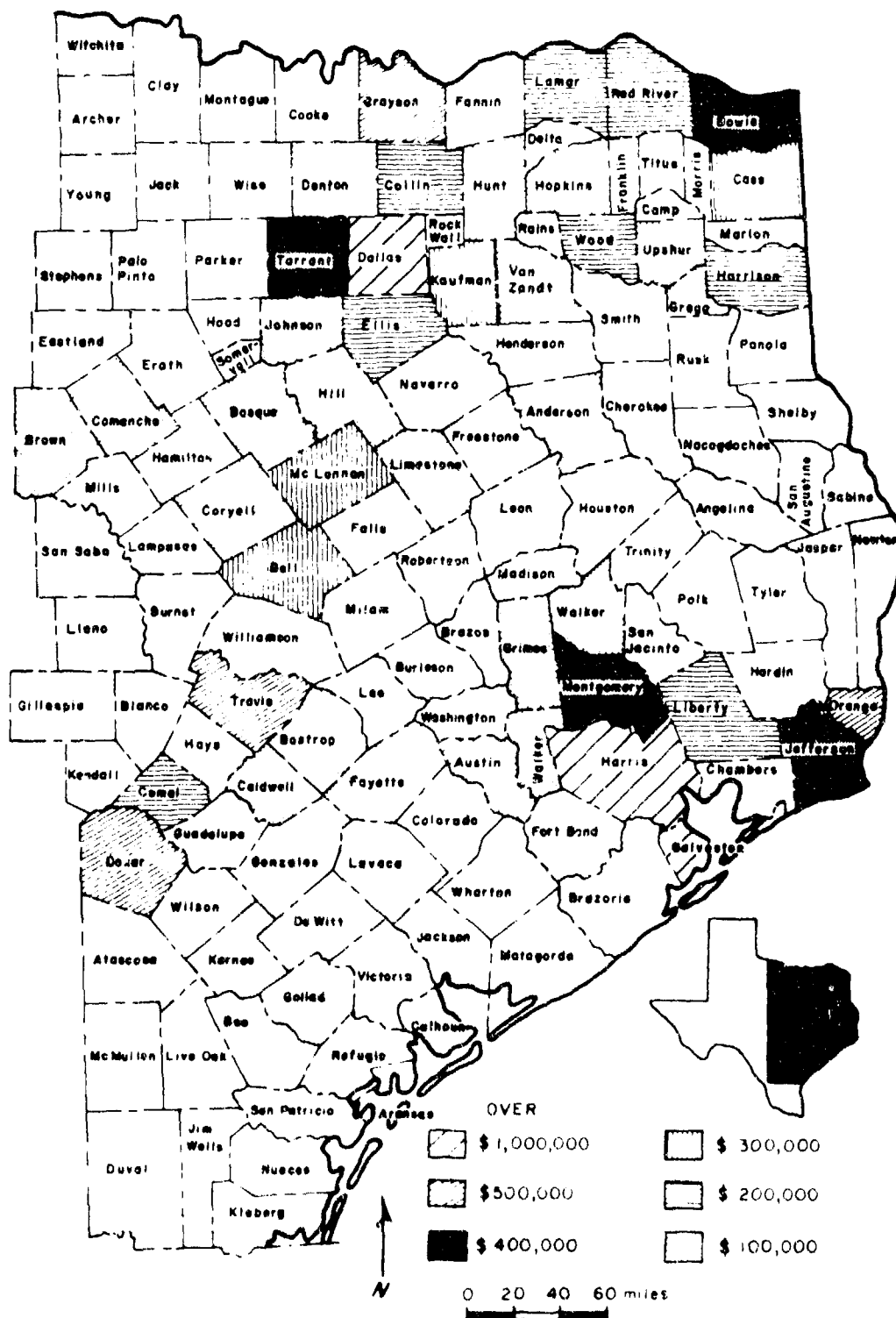


Figure 5. Map showing the value of goods manufactured in Texas by county, 1880 (from Dugas 1955).

Table 2. Land Tract History for the
Randolph Scott Survey (A-325)

DATE	ACRES	GRANTOR	GRANTEE	BOOK
1852	436	State of Texas	Randolph Scott	
1867	436	J. Randolph Scott	Solomon Tucker	H3:5;H2:58
1898	40	W. H. & N. E. Tucker (se corner of abstract)	W. B. Grant	1:214
1899	100	W. H. Tucker (divided S. Tucker estate)	N. E. Tucker	2:593
1900	100.3	N. E. Tucker (divided S. Tucker estate)	W. H. Tucker	2:219
1900	47	W. H. & N. E. Tucker (ne portion of abstract)	J. A. Grant	3:423
1939	100	Scottish Am. Mortgage Co.	Weldon Thomas	79:281-3
?	195.5	?	L. A. Leverett	
?	.13 (includes Tucker Cemetery)		L. R. Cavanaugh	

twentieth century on land south of the cemetery, and may be associated with site 41DT96. Additional courthouse research in conjunction with archaeological testing at these sites would obtain a more comprehensive chain of title for these properties, and to verify the identification of the occupants and period of occupation represented in the material culture remains for both farmsteads.

The Tucker family first appeared in the Hopkins County census in 1870 for the Charleston Post Office (Table 3) and included Tucker's wife, two children, and two laborers. In 1880, the household had changed greatly. His son, William Tucker (burial 11) is no longer shown, but his wife, and thus probably his widow is listed. In addition, a niece of Solomon Tucker (daughter of wife's sister) and a black laborer are also recorded. In 1900, the household was headed by William H. Tucker, Solomon Tucker's grandson, and included his wife, children, and an orphaned? girl or domestic. The Cannedy household which included Martha J. Bean Tucker Norris Cannedy who was a daughter-in-law of Solomon Tucker, and their children, was recorded next door to the Tuckers. It is possible that this household represents the second "Tucker" household and is associated with site 41DT96.

The birth, marriage, and death dates (Table 4) of the Tucker, Tucker-Cumming and Tucker-Cannedy family members buried in the Tucker Cemetery (41DT104) and their spouses were correlated with the census records for 1880 and 1900 (Table 5) and indicated that these families lived close to each other, and in some instances, in adjoining farmsteads.

The Sinclair Cemetery (41DT105) is located on the John F. Sinclair survey granted by the State of Texas to John Sinclair in 1896 (Table 6). It is situated in the northwestern corner of the survey. All but 10 acres of the original survey were acquired by the Lamar County School District in ca. 1912, and by C. O. Thomas in 1925. While the chain of title for this abstract is incomplete at this time, it appears that the Sinclair Cemetery is situated on a 3.5 acre piece of the 10 acres that was not acquired by the Lamar County School District. This land was owned by the Moore family in the early twentieth century, and according to D. Albright (personal communication 1986) a cemetery was located on the Moore property, and contained a small number of slab markers. This acreage was acquired by C. O. Thomas in the 1920s or 1930s and was farmed between 1938 and 1940 (C. Ode Thomas interview 1986).

Current information indicated that the Thomas farmstead was east of the cemetery, with the cemetery occurring between the dwelling and the road. The cemetery was situated approximately 30' east of the west property line and fence, in the northwest corner of the farmstead (John Banks interview 1986). The site

Table 3. Census Data for the Tucker-Cannedy Families

Census	Household Number	Names of Individuals	Age/Sex	Comments
1870		Solomon Tucker	53/m	Farmer
		Nancy	49/f	Keeping House
		Bettie	26/f	At home
		William	28/m	Farmer
		James Nolan	60/m	Farm laborer from Ireland
1880	141	Solomon Tucker	55/m	Farmer
		Nancy	62/f	Wife
		Martha J. Bean Tucker Norris	28/f	Daughter-in-law
		William Tucker	6/f	Grandson
		Nancy Tucker	4/f	Granddaughter
		Alice Portwood	22/f	Niece
		Robert Birmingham	45/m	Black farmer
	148	J. M. Griffith	56/m	Farmer
		Mary	38/f	
		Joseph M.	16/m	
		Mary J.	9/f	
		Sarah	7/f	
		Nancy	5/f	
		Walter	3/m	
		Fannie (Fanny)	1/f	
1900		William H. Tucker	26/m	
		Nancy E. Griffith Tucker	25/f	Wife
		Cuba	5/f	
		William	2/m	
		Daphne	1/f	
		Lizzie Langston	14/f	
		Martha J. Cannedy nee Bean Tucker Norris Cannedy	39/f	
		Earleus Cannedy	15/m	Son
		Therma H.	13/m	Son
		Vedalia M.	11/f	Daughter
		Thurston B.	8/m	Son

Table 4. Birth, Death and Marriage Data for
Individuals and Their Spouses Interred in Tucker Cemetery

BURIAL Name/Spouse/Marriage	Birth	Death
1 B. Orie Cumming Cuba Tucker 10-20-1915 (BK 7:265)	2-24-89	2-15-42 (BK 8:160)
2 Willie H. Tucker	12-25-1900	7-31-01 (Marker)
3 Daphne Tucker	3-13-99	8-10-99 (Marker)
4 William H. Tucker Nancy E. Griffith-1894 (BK-3:117)	10-18-74	1-7-01 (Marker)
5 B.O. Cumming (infant)	9-8-1934	9-8-1934 (BK 7:83)
6 Solomon Tucker Nancy Portwood Mrs. Mary E. Norman 3-14-86 (BK 1:516)	1825 (Census)	10-1-88 (Informant)
7 Nancy Portwood Tucker Solomon Tucker	-1818 (Census)	-1883 (Informant)
8 James J. Cannedy Martha J. Bean Tucker Norris 5-18-1902 (BK 4:380)	12-15-47	-1909 (Informant)
9 Martha J. Bean Tucker Norris Cannedy William Tucker Wade Norris 5-12-78 (BK 1:211) James J. Cannedy 5-18-1902 (Birth Record BK 4:380)	-1852 (Census)	
10 Miss Nancy E. Tucker	11-17-75	12-28-01 (Marker)
11 William Tucker Martha J. Bean		pre-1880 (Census)
12 Norris infant (child of Wade Norris and Martha J. Bean Tucker Norris)		
13 Norris infant (child of Wade Norris and Martha J. Bean Tucker Norris)		

Table 5. Census Data for the Project Area, Including
Granny's Neck, Showing the Distribution of Families

CENSUS	House Number	Name of Family	Cemetery
1850	223	Charles St. Clair	Sinclair?
	224	John Nidever	Liberty Grove
	225	John W. Ash	
	226	John Nidever	Liberty Grove
	227	Naomi Nidever (nee Sinclair)	Liberty Grove
	228	Benjamin Simmons	
	229	Catherine Simmons	
	230	Grider	
	231	Simmons	
	232	Bean	
	233	Webb	
1880	99	Heron	
	100	N. Nidever (nee Sinclair)	Liberty Grove
	101	A. Sinclair	Sinclair?
	102	G. W. Harper (keeper of Harper Toll Bridge)	
	103	W. Wheat	Liberty Grove
	104	Burker	
	105	Saller	
	106	Garrard	
	107	Allard	
	108	J. Dawson	Dawson
	136	J. C. Wright	Liberty Grove
	137	T. Stewart	
	138	W. H. Kennedy	Dawson
	139	R. Pollard	
	140	J. Bean	
	141	S. Tucker	Tucker
	142	A. Taylor	Liberty Grove, Dawson
	143	W. Taylor	Liberty Grove, Dawson
	144	E. Taylor	Liberty Grove, Dawson
	145	J. Harris	
	146	D. Strother	
	147	T. Erwin	
	148	J. M. Griffith	Dawson
	149	A. Dawson	Dawson
	150	J. Nidever	Liberty Grove
1900	95	T. Dawson	Dawson
	96	J. Griffith	Dawson
	97	J. Jackson	
	98	T. Faulkner	
	99	J. Cavanaugh	Dawson
	100	B. Duncan	
	101	W. Tucker	Tucker
	102	M. Cannedy	Tucker

Table 6. Land Tract History for the John F. Sinclair Survey (A-425)

DATE	ACRES	GRANTOR	GRANTEE	BOOK
1890	115	J. F. Sinclair & Nettie Sinclair & S. M. Millhollen(1)	R.R. Stewart	P:145
1896	120.65	State of Texas	John F. Sinclair	X:50
1912	1.5	Lamar Co. School District	Frank Rich	22:101
1913	65	M. H. Braddock	Lamar Co. School District	31:364
1913	65	Lamar Co. School District	Frank Rich	31:370
1917	3.5	Lamar Co. School District?	J. W. Moore	35:288
1917	3.5	Lamar Co. School District?	Mrs. M. J. Moore	
1925	65	Lamar Co. School(2)	C. O. Thomas	57:436

(1) acreage contains 5 tracts including quit claim to southeast tract on J.F. Sinclair survey to be conveyed for \$1378.00 and one house and lot in town of Cooper.

(2) total of 260 acres, containing part of r. DeSpain, all of J.F. Sinclair, Ewing, Nidever.

locations of this farmstead, and those of the Sinclair and Moore families have not been identified.

The Alexander Sinclair family immigrated to Texas before 1853. They were first recorded in the Granny's Neck area in the 1860 census for Hopkins County (see Table 1). The family included Alexander and his three children, and two domestics. Mrs. Sinclair was not listed, but according to the census, his neighbor Jacob Nidever was listed as residing with Mrs. Nidever, two daughters, as well as a female domestic, Mary A. Sinclair (27). Mary is listed as Alexander Sinclair's wife on succeeding census records and may have been recorded incorrectly on the 1860 census. The 1870 census for the Charleston Post Office in Hopkins County included the Alexander Sinclair family (see Table 1).

Two of Alexander's children recorded in the 1860 census did not appear in the 1870 record: John F., who was seventeen and had probably left home to start his own family, and Missouri A. who died in 1867 at the age of eleven. Missouri Sinclair's grave has been recorded by Douglas Albright (Director of the Delta County Historical Society) in the southwest section of Brushy Creek Cemetery. No domestic help were recorded living with the family in 1870.

The Alexander Sinclair family was also recorded in the 1880 census for Precinct 1 in Delta County. However, the family did not appear on the 1900 or 1910 census records. By 1880, only two sons were listed as still living at home and included Travis A. and James L. Sinclair. John F. Sinclair married Mrs. P. A. Williams (nee Sinclair) on December 31, 1886, and was recorded living on an adjacent farmstead in 1880. However, the census record for that year was incomplete or in error and listed only Nettie (Netty) Sinclair and her son, Charlie, aged 8. No marriage record was located for Mary E. Sinclair, and it is unknown at this time if she was still living, or residing in Delta County in 1880.

Because no official records of births and deaths were made in Texas during the last quarter of the nineteenth century, no information was available on names of Alexander and Mary A. Sinclairs' grandchildren (children of John F., Mary E., Travis A., and James L), or which family members died, and their date of death. The absence of official records during this period reflects several changes in the State of Texas policy for recording vital statistics.

In 1873 the State Legislature passed an act to "provide for the registration of births" which authorized and ordered county courts to register and record births. A new constitution was drafted in 1875, which became effective in 1876 and contained a provision to maintain vital statistics (Section 32, Article 16). However, on August 21, 1876, a new act was passed that repealed

the May 3, 1873 law (General Laws of the State of Texas, 15th Legislature, Chapter CLIV; Gammel's Laws of Texas 8:1109). Although no official reason was stated, some viewed the recording of births [and deaths] as an "invasion of privacy." This law was not repealed until 1903 when the Department of Public Health and Vital Statistics was created (General Laws of Texas, 28th Legislature, Section 2, Chapter LXXXV).

While the absence of birth and death records has prevented us from being able to identify the names of individuals interred at the Sinclair Cemetery, our oral informant and archaeological research have provided additional information on the nature of this cemetery. While it is not known at this time when the cemetery was established, the earliest grave most probably dates after 1870. This date is suggested by the burial of Alexander and Mary A. Sinclair's daughter, Missouri A. Sinclair in the older Brushy Creek Cemetery located east of Cooper, Texas. Her marker is among some of the oldest Anglo markers recorded in Delta County (G. Douglas Albright, n.d.).

A manuscript containing a listing of individuals interred in known Anglo and Black cemeteries in Delta County was compiled by G. Douglas Albright (Director of the Delta County Historical Society) and is on file at the Delta County Public Library. This manuscript was examined and indicated that with the exception of Missouri A. Sinclair, members of Alexander Sinclair's family were not buried in any documented cemetery in Delta County. No documentation has been compiled for the Sinclair Cemetery prior to this study.

Based on the census, marriage, and deed/title data, it appears that members of the Sinclair and adjoining neighbor families were most probably buried in this cemetery between 1870 and 1900. It was during this period that John F. Sinclair appears to have settled on the J. F. Sinclair survey, although it was not patented to him until 1896 (Book X:50). In addition, the absence of his name in the listing for his father's house (Alexander Sinclair) in the 1870 census, and the recording of his separate household on a neighboring property in 1880, indicated that he had settled on the J. F. Sinclair survey (Abstract 425) around 1870.

**PART TWO: ARCHAEOLOGY AND BIOARCHAEOLOGY AT THE TUCKER
CEMETERY (41DT104)**

RESEARCH DESIGN

Susan A. Lebo and Barbara A. Burnett

The Tucker Cemetery (41DT104) relocation project was accomplished under the direction of the CE and through the implementation of three different Scope of Work documents. These documents included: (1) Cooper Lake and Channels, Design Memorandum No. 6C (Revised), Cemetery Relocation Plan, Tucker Cemetery, (2) Scope of Work, Historic Cemeteries Assessment, Cooper Lake, D.O. #11, Contract DACW63-85-D-0066, Task 1 and (3) Bioarchaeological Investigations at Tucker Cemetery, Texas (a subcontract under D.O. #11, Contract DACW63-85-D-0066). The routine CE relocation specifications were outlined in document 1, the archaeology in 2, and the bioarchaeology in 3. The specifications and methodology utilized in the implementation of these documents are presented below.

Relocation Crew

The relocation contract was conducted by Billner Brothers, Inc. and a crew of excavators which averaged between two and six workers per day. The relocation specifications required the following tasks: (1) removal of all known or identified graves, (2) probe or trench across the cemetery site in order to identify, and subsequently remove all unknown graves that are encountered, and (3) reinter all recovered graves at the Oakland Cemetery. All remains from these burials were to be reinterred at the new cemetery within 12 hours of when the coffin was exposed. The procedures developed to accomplish these tasks were as follows: (1) hand excavate all graves once the coffin had been contacted, (2) remove and place into a wooden box by grave all remains including burial goods, clothing, personal items, and human remains, (3) remove and transfer to the new cemetery (Oaklawn) all existing markers, and re-erect them, (4) backfill all reinterred graves to surrounding ground level, grade and seed with grass and place new markers on all previously unmarked or unknown graves, and (5) backfill and grade the Tucker Cemetery.

Stipulations were made for exposing and removing each grave, including the following: (1) each excavation unit (including backhoe trenches) must be dug to the necessary depth and dimensions to properly remove all remains, measuring no less than 3' by 4' in size, and 6' in depth, (2) if these dimensions are met and no remains are found in the grave, then no less than 1/2 cubic foot of soil from the bottom of the excavation must be recovered and reinterred as the last remains, and (3) if no grave is found, then the unit shall be backfilled.

Marked graves were removed first using hand excavated units, followed by unmarked graves, which were exposed and disinterred using a combination of hand excavated units, and backhoe trenches, followed by hand excavation. Both approaches are discussed below, followed by the excavation methodology.

Marked Graves

Utilizing the map prepared by the CE based on information provided by family members, and earlier field research (see Figure 1), 16 graves were designated as "known graves" and were scheduled for relocation. Five graves, 2, 3, 4, 5 and 10 had extant markers. Using the numbering system shown in Figure 1, wooden stakes were placed at the head of each grave and numbered to ensure that the remains from each were reentered in the appropriate grave at the reburial site. In addition, these numbers served as grave designations for all photographs and field recording for the archaeology and bioarchaeology tasks.

Excavation began with the five marked graves (2, 3, 4, 5, and 10), and one unmarked grave (1). The placement and distance between the head and footstones at 2, 3, and 4 were used to help determine the size and orientation of the grave shaft. While this information was not always accurate, it proved useful in reducing the size of the area that needed to be excavated in an effort to expose the entire grave. The headstone at grave 10 had collapsed, and the footstone was no longer in situ. As such, it was more difficult to utilize the markers from this grave to pinpoint the orientation and size of the grave shaft. A temporary metal marker was still evident for grave 5, and using information about the age of the interred individual, it was possible to localize excavation. On the other hand, grave 1 was more difficult to locate because it was unmarked. However, this grave was selected for excavation early on in an effort to assess the feasibility and cost-effectiveness of hand excavation for locating designated, but unmarked graves. Information on the relative placement and distance of grave 1 relative to grave 4 and the west barbed wire fence (see Figure 1) was utilized in judgementally placing a hand excavated trench.

After the coffin remains associated with these graves (2, 3, 4, 5, and 10) were encountered, the markers were marked and removed to prevent them from being damaged during excavation, and later, during backhoe trenching.

Unmarked Graves

All unmarked graves, with the exception of burial 1 mentioned above, were located by excavating backhoe trenches perpendicular to the grave rows. The grave shafts associated with

these burials were visible in the exposed profiles, and appeared as a mottled or mixed yellow and brown clay. The depth of each trench varied, depending on the depth of the coffin. Both burials 12 and 13 which were child graves were very shallow, occurring within 3' of the ground surface. Once the top of a coffin was encountered, further excavation was conducted by hand and included both shovel and pick excavation. Where possible, a perpendicular backhoe trench was excavated to the top of the coffin in an effort to cost-effectively remove the soil above the casket. This procedure also had the potential of providing a larger working space for exposing and removing the burial.

Five trenches were excavated, approximately 70 cm wide, (Figure 6), exposing burials 12, 13, 9, 11, 6, 7, and 8. Burials 12, 13, 9 and 11 occurred in Trench 2, and 6, 7, and 8 in Trench 5. No burials were found in Trench 3 or 4. Trench 1 was placed to locate burial 14, while Trench 3 was placed to expose burials 15 and 16. No evidence of cultural disturbance was found in either of these trenches.

Small cross-trenches were excavated by hand further to expose burials 9, 11, 6, 7, and 8. No cross-trenches were placed in burials 12 and 13 because both had largely been removed by Trench 2, and no evidence of a coffin was visible in the exposed profiles due to poor preservation.

Excavation Methodology

All human remains and casket and burial items exposed during excavation were recovered and placed in a prepared coffin. The coffin fill was not screened, and all discarded soil was heaped into backdirt piles.

Because the relocation excavators were untrained, some remains were not recovered as they were exposed. Instead, they were found as the archaeologists or bioarchaeologist sifted through the backdirt piles, or monitored the excavator, pointing out cultural or human remains. The lowest recovery rates occurred when multiple burials were opened up, and it was not possible to monitor each burial and record the remains that had been recovered. In addition, many bones were poorly preserved and fractured during recovery.

Archaeologists and Bioarchaeologists

The role of the archaeologists and bioarchaeologists was to monitor the exposure and removal of the interments and to document respectively the cultural and human remains associated with each burial as they were excavated by the relocation crew. They were there as observers rather than excavators and were

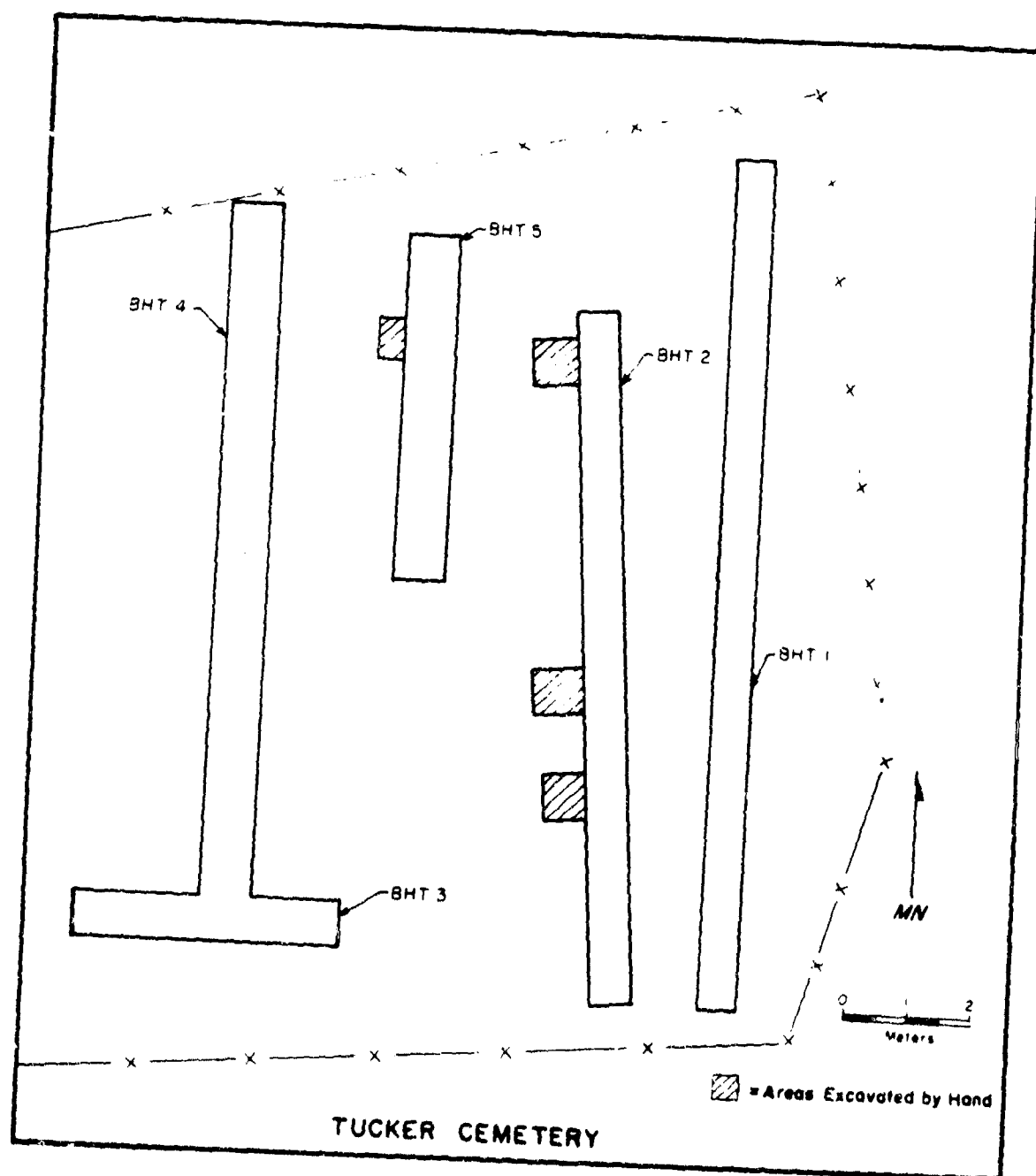


Figure 6. Map showing the five backhoe trenches excavated at Tucker Cemetery in order to locate unmarked graves.

employed to recover all data possible within the time schedule or pace established by the relocation contractor (Billner Brothers Co., Inc.), without interfering or impeding them in accomplishing their tasks. Because the relocation phase was not designed and conducted as an archaeological project, the recovery and removal of the burials was the direct concern, and the archaeological and bioarchaeological tasks were secondary. The level of data recorded was directly related to the time schedule or pace established by the relocation contractor and the excavation techniques used. As such, incomplete data were recorded for burials because of insufficient recording time, incomplete burial recovery, and/or remains were damaged during excavation and could not be reconstructed or fully identified. In an effort to optimize data recovery, the recording methodologies for both the archaeology and bioarchaeology aspects of the relocation phase were streamlined, and are presented below.

Archaeological Methodology

The major data categories chosen for collection were mortuary characteristics, including both physical and funeral aspects of the burial, and cultural remains within each burial. Above-ground evidence of mortuary customs was systematically recovered during the field reconnaissance phase for all graves. This information included placement within the cemetery, markers and marker type, ornamental vegetation associated with the burial, and above ground burial offerings. This information is presented in Figure 7.

Below-ground evidence was differentially recovered during relocation depending on the level of preservation observed for each burial, excavation strategy, and the available time frame. No mortuary information was recorded for burials 14, 15, and 16, poor data were recovered for burials 5, 11, 12 and 13, while moderate to good data were recorded for all other burials.

In an effort to maximize the amount of below-ground mortuary data recovered for each burial, a burial field form was devised (Figure 8) which was filled out by the archaeologist while monitoring the excavation. When multiple burials were open, some of this information could not be recovered directly, and the archaeologists had to rely on what the excavator noticed. In some instances this proved very informative (burial 3), while in others it did not.

This information is discussed in detail in the section on burial descriptions. The most consistent attributes recorded were burial orientation, placement, casket material and style. Information on the depth of the casket was recorded infrequently because the top of all of the coffins had collapsed, the sides were never fully exposed, and the bottom was often shoveled out

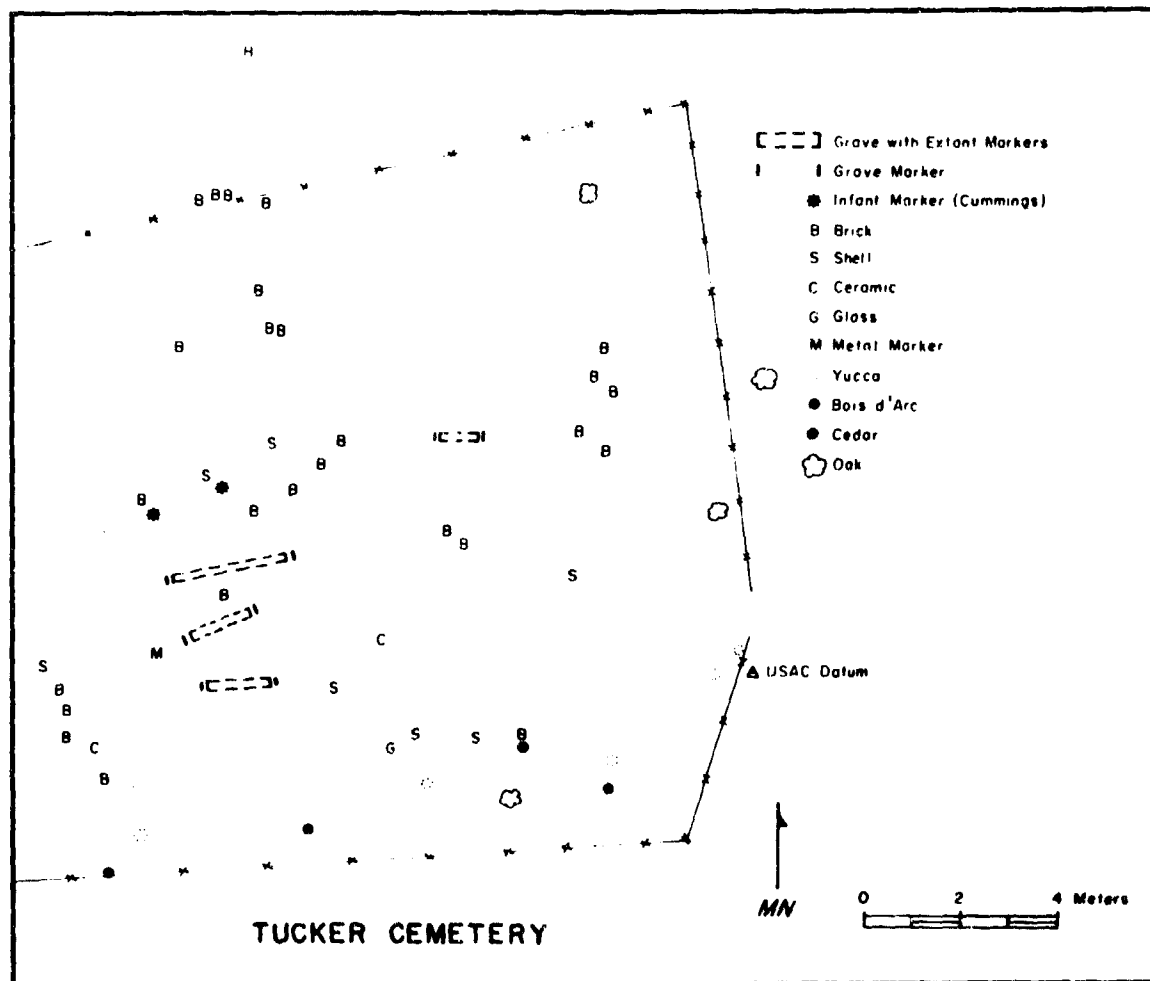


Figure 7. Map showing the location and distribution of all above-ground cultural features at the Tucker Cemetery.

BURIAL FIELD FORM

Site Name and TARL Number _____	Field Recorder _____
Grave/Skeleton Number _____	Date _____
Cultural Affiliation _____	Name of Individual _____
Number of Associated Burials _____	

Form of Disposal:	Depth of Casket:
1 primary _____	1 top _____
2 secondary _____	2 bottom _____
3 cremation _____	3 collapsed _____
4 other _____	4 none present _____
	5 unknown _____

Location:	Type of Casket:
1 inside enclosed cemetery area _____	1 wood/type _____
2 outside enclosed cemetery area _____	2 wood/glass/type _____
	3 metal/type _____
Type of Associated Tombstones:	4 other _____
1 Headstone/type & material _____	5 unknown _____
2 Footstone/type & material _____	

Number and Type of Associated Ornamental Vegetation:	Style and Casket Size:
1 tree/type _____	1 rectangular/lid shape/size _____
2 bush/type _____	2 hexagonal/lid shape/size _____
3 none _____	3 other/lid shape/size _____
	4 none _____
Associated Grave Offerings and Ornamentation:	5 unknown _____
1 glass _____	
2 ceramics _____	Casket Hardware & Decoration:
3 plastic _____	1 handle _____
4 metal _____	2 nails _____
5 brick _____	screws _____
6 shell _____	tacks _____
7 other _____	3 fasteners _____
8 none _____	4 dec. plaques _____
	5 windows _____
Body Position:	6 paint _____
1 tightly flexed _____	7 other _____
2 semiflexed _____	8 none recovered _____
3 extended _____	9 unknown _____
4 other _____	

Body Deposition:	Arm Position:
1 back _____	1 along sides _____
2 front _____	2 crossed over pelvis _____
3 left side _____	3 folded on chest _____
4 right side _____	4 hands on face _____
5 sitting _____	5 other _____
6 standing _____	6 unknown _____
7 other _____	
8 unknown _____	

Figure 8. Burial Field Form used for recording each grave at the Tucker Cemetery during the relocation phase.

before the non-archaeologist excavator was aware that he had dug through it. Several attributes were obtainable even after the grave had been removed and included the presence or absence of viewing glass associated with the coffin and other types of coffin hardware. A metal detector was used in several graves to help locate additional hardware after the burial had been removed. When possible the backdirt pile associated with each burial was sifted through an additional time after the burial was removed in an effort to find coffin and artifact remains that had not been spotted by the excavator.

All cultural remains, including the coffin wood and metal hardware were placed either in the new coffin or on trays as they were recovered from each burial. Using an Artifact Field Identification Form (Figure 9) each artifact was inventoried, recorded, and photographed using 35mm B/W film. When possible and warranted, artifacts were quickly sketched or drawn to scale. When multiple examples of a single artifact type (e.g., six identical handles) were recovered they were photographed together (if possible), and the recording time was effectively reduced by recording "see artifact #, burial #, for a complete description." This negated the necessity of fully describing duplicate artifacts recovered from the same or different burials.

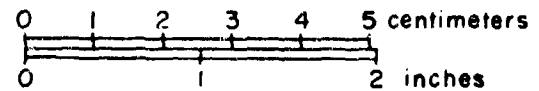
The Artifact Field Identification Form was also used as a permanent inventory and photo record of each artifact by burial. After the form was filled out, the artifact was placed on the top half and photographed, allowing us to record the complete description of the artifact and its recovery location with each field photograph. Incomplete or incorrect field identifications were amended following the relocation phase when a comparative analysis was conducted between the field photographs and inventory records and photographs, drawings, and descriptions found in other cemetery relocation reports and coffin hardware catalogues.

Bioarchaeological Methodology

The major data categories chosen for collection were skeletal and dental pathology and childhood stress. As an unfortunate consequence of the time constraints and excavation techniques, no skeleton was viewed in its entirety. The skeletons were examined in segments as they were removed rather than in full exposure with documentation before removal, which is the traditional archaeological approach. Upon recovery, the remains were placed on a labeled tray and immediately inventoried. Following this, the bones were washed and photographed. During the inventory and washing, the presence or absence of pathological lesions and skeletal anomalies were noted. The sexual morphology and age indicators were also described at this time. The teeth were inventoried, examined for caries, scored for

- Artifact placed here for photograph -

Cooper Lake Archaeological Project
Tucker Cemetery Relocation
October 1986



ARTIFACT FIELD IDENTIFICATION FORM

Site Name & Twp Number	_____	Field Recorder	_____
Grave/Skeleton Number	_____	Date	_____
Artifact Number	_____		
Location within Burial	_____	check if unknown	_____
Artifact Type	_____	Personal Items	_____
Clothing	_____	Casket Items	_____
Nonpersonal Items	_____		
Artifact Description	_____ _____ _____ _____		
Artifact Size	Length	Width	_____
Artifact Date Range	_____ _____		

Figure 9. Artifact Field Identification Form used for recording all cultural materials.

wear and the hypoplasias were measured. To save time, the observations were dictated onto a tape cassette and transcribed after the relocation was completed. This proved somewhat successful; however, in a few cases determining the body side of bone fragments and teeth was not possible.

The reliability of the bioanthropological reconstruction of a skeletal collection depends on the accuracy with which age and sex determinations are made. To determine the age at death for children several techniques can be employed. The most dependable method for aging infants and children is based on the development of dentition. Visual developmental standards for dental growth are available (Schour and Massler 1945). Subadult age at death can also be determined using the age sequence of epiphyseal appearance and union (Krogman 1962). Age determination for very young children can also be determined from long bone shaft length (especially the femur) using Ubelaker's standards (Ubelaker 1974).

The age for adults can be determined using a series of criteria and are most reliable if these techniques are used together. The Todd system of phases for the development and degeneration of the pubic symphysis with Brook's modification (Krogman 1962) and the Lovejoy seriation method of the auricular surface age changes (Lovejoy et al. 1985) are two aging techniques. Neither of these techniques are conclusive; however, a more adequate level of reliability is achieved when they are used concurrently. The standard procedures employed at the University of Arkansas Osteology Lab require seriation of these age criteria in addition to cranial suture closure and dental wear (Meindl et al. 1983). The seriation of cranial suture closure and increasing dental wear are good indicators of specific adult age ranges. However, because of time constraints, seriation for dental wear, skeletal age, and sex indicators was not always possible. Age criteria were recorded where possible to aid in the identification of the individual.

To determine the sex of an individual, a modification of the procedure followed by Ascadi and Nemeskeri (1970) was employed. Each morphological characteristic and metric sexual trait is scored on a scale ranging from -2 (hyperfeminine) to +2 (hypermale). The morphological and metric traits employed in this analysis are drawn from the osteological literature and standardized using published data derived from modern Anglo-American forensic cases (Bass 1971; Krogman 1962; Stewart 1979).

The analysis of pathological lesions was limited to the macroscopic observation of dental and skeletal lesions. The skeletal remains were examined for several major pathological categories including: trauma, infectious lesions, degenerative arthritis, neoplasms, and porotic hyperostosis. In order to

standardize the analysis of each disease category per individual, a certain proportion of the skeletal elements most likely to exhibit a particular malady had to be available for examination to determine if that particular malady was or was not present. For example, at least 30% of the leg bone shafts per individual had to be present to make an accurate observation for the presence of infectious lesions. The legs are the most likely site for skeletal infection. Each pathological lesion was described in terms of its type (resorptive, proliferative), its location and degree of involvement, and status of the lesion (active, healing, or healed).

The skeletal measurements taken were streamlined following Bass (1971) to those that yield data for stature (Trotter and Gleser 1952; Trotter 1970; Steele 1970), sexual dimorphism (Giles and Elliot 1962), and age (Ubelaker 1978). No stature or age measurements were taken because of the fragmentary nature of the skeletal remains.

The anterior dentition was examined for enamel defects. It has been demonstrated that enamel defects or hypoplasias are non-specific indicators of childhood stress. The hypoplasias are measured from the cemento-enamel junction and that measurement is then translated into chronological occurrence following the developmental chart devised by Goodman and coworkers (Goodman et al. 1980). The occurrence of the hypoplasias is calculated for each tooth in 6-month intervals. These data per individual are then collapsed so that the hypoplasias exhibited by several teeth that developed in the same 6-month interval were considered a single episode of stress.

Observations recorded from the recovered dentition included: the number of caries, the degree of attrition, the presence of abscesses and calculus deposits, agenesis, and the extent of antemortem tooth loss. The teeth were examined for caries using a new dental pick. Caries were recorded using the methodology of Moore and Corbett (1971). The wear observed on the posterior dentition was scored according to Scott's gradations of increasing wear (Scott 1979), with the maximum wear value of 40. The anterior dental attrition was scored following Smith (1984) where 8 is the maximum score. In addition, the anterior teeth were examined for shoveling, a genetic trait characteristic of North American Indians. This was done to test a report that one of the Tucker family members was of Cherokee extraction (John Banks interview 1986; Austin Brantley interview 1986).

THE TUCKER CEMETERY AND TRADITIONAL SOUTHERN FOLK CEMETERIES

Susan A. Lebo

According to Jordan (1982:14) the traditional southern folk cemetery is a "cultural conglomerate, containing contributions from each of the three main cultures--African, Amerindian, and European--responsible for the development of southern society and folkways." Among the cultural traits that have been identified with folk cemeteries throughout the South and are present at the Tucker Cemetery are (1) the use of non-sanctified ground and the occurrence of family graveyards, (2) a disorganized spatial arrangement of graves, and (3) the presence of scraped burials, grave decorations including shells, the enclosing of graveyards with fences, and the establishment of Decoration Days, and (4) specific marker styles.

Non-sanctified Ground

This trait reflects the establishment of non-churchyard cemeteries, that is, cemeteries that were not situated adjacent to churches. While, according to Jordan, this pattern was in keeping with British Protestant dissenter tradition, it represented a very practical position among many pioneer, rural families where:

few churches existed in the early years of settlement, opening the way for unsanctified burial....Even the devout could not transport their dead from isolated homesteads over poor roads and trails to distant churchyards in the heat of southern summers. The unsanctified private family cemetery was a practical frontier necessity (Jordan 1982:33).

Many rural cemeteries, throughout the South and including those in Delta County, Texas were established in this manner. For example, the Liberty Grove Cemetery was established when Judge Charles Nidever gave land for a school in 1854 and with the death of a son, for a cemetery in 1867 (Patteson 1935:184). The Tucker Cemetery was established ca. 1880, when Solomon Tucker set aside land for a graveyard at the time of his son's death or in 1883, at the time of his wife's death. This latter information has been handed down several generations within the Tucker-Cumming families (Allene Cumming interview 1986).

These burial grounds occur as non-deeded cemeteries, and many were used by several families or a small community. For example, the Ferris Cemetery in Dallas, Texas, was established ca. 1847 when Warren A. Ferris's son, Warren Jr., died. Land was set aside on the Ferris property, and both family members and neighbors were buried there during the early years, including

Elizabeth Chenault and a Chenault infant, both of whom died in 1858 from typhoid fever. Over the years, the cemetery became more and more a community graveyard and reflected the changing character of the community. It was abandoned ca. 1906 (Bruseth and Lebo 1986).

The Tucker Cemetery was also a non-deeded cemetery but appears to have remained a family cemetery throughout its use. Although several informants indicated that the unknown graves (14, 15, and 16) may have been non-family members, no grave shafts or burial remains were identified corresponding with these purported graves, and no documentary evidence was found to substantiate the interring of any non-family members at the cemetery.

Spatial Arrangement

Several patterns of spatial orientation and/or orientation of graves within traditional southern cemeteries (Jordan 1982) were evident at the Tucker Cemetery. Among these were (1) the orientation of graves east-west with the feet to the east, (2) placement of the wife to the left or north of the husband, (3) a mixture of ordered and unordered grave rows and arrangements, and (4) subdivision of the cemetery into family plots.

Orientation

According to Jordan (1982:30) graves in traditional southern cemeteries are oriented east-west with the feet to the east. This arrangement has its origins in the British Isles and the Christian belief that the deceased should be facing Jerusalem and Christ in the east when they rise from the grave on Judgement Day. Graves facing other directions often belong to "lost souls" that committed unforgivable sins, particularly suicide.

All of the graves in the Tucker Cemetery were oriented east-west. Only graves 15 and 16, which were not located, had been described as facing north-south. We were unable to determine who had originally indicated the occurrence and unusual orientation of these graves.

Burial of the Wife to the Left or North of Husband

The relative placement of husband and wife also have traditional significance in the Southern folk cemetery (Jordan 1982:30), with the man buried on the right or south, and the woman to the left, or north. This custom is also derived from the British Christian folk belief that Eve was created from the left side of Adam.

Four husband/wife pairs were represented by at least one spouse in the Tucker Cemetery and indicated that this custom was not strictly adhered to. In addition, the pattern that emerged from studying this graveyard suggested that several cultural factors had bearing on the adherence to this tradition. Among these were remarriage after the death of a spouse and the sex of the surviving spouse.

The four husband/wife pairs include: (1) Solomon Tucker and Nancy Portwood Tucker, (2) Martha J. Bean Tucker Norris Cannedy, William Tucker (first husband), Wade Norris (second) and James Jeff Cannedy (third), (3) Nancy E. Griffith Tucker and William H. Tucker, and (4) Cuba Tucker Cumming and Benjamin Orie Cumming.

Solomon and Nancy Portwood Tucker are buried in graves 6 and 7, respectively, and their placement corresponds to the expected pattern with Nancy Tucker situated to the left, or north. However this is not the case for Martha and James Cannedy. Both are buried in the cemetery in graves 8 and 9, respectively. However, they are not buried in the same row, and the burial plot located to the right or south of Martha Cannedy, the expected location for James, was left vacant.

It is unclear why they were not buried side-by-side, particularly when the vacant grave plot is situated between Martha (wife) and her two infant children, graves 12 and 13. It is also unclear why her first husband (William Tucker) who was a son of Solomon and Nancy Portwood Tucker was buried two places away from her in the Tucker Cemetery, or why her second husband, Wade Norris was not buried there with their two children.

Nancy E. Griffith Tucker also was not buried next to her husband, W. H. Tucker, or in the cemetery with all of her children. It appears that she may have been buried with her family, or that she may have remarried, and been buried with her second husband. No additional information was found indicating which scenerio occurred. Solomon Tucker's second wife, Mrs. Mary E. Norman, also may have been buried with her family or her first husband. She was not buried in the Tucker Cemetery.

Cuba Cumming lives in Paris, Texas, and space was reserved by the family for Cuba, and her children Allene and Connie next to her husband Benjamin Orie Cumming. It is unclear however, why Orie Cumming was buried with her family rather than with his.

In summary, it appears that the practice of burying husbands and wives next to each other, with the wife to the north was not always adhered to and was affected by who died first, whether the surviving spouse remarried, and which family the first deceased was buried with.

Ordered and Unordered Rows

Traditional southern folk cemeteries are often characterized by a mixture of ordered and unordered graves and grave rows. This pattern was evident at the Tucker Cemetery, and may in part, like many cemeteries, reflect the fluidity of family ties, and death dates. Four north-south grave rows were identified (see Figure 1), and included graves 1 through 13. For the purpose of discussion, these rows have been numbered 1 through 4 beginning from the east side of the cemetery. Because no evidence was found supporting the presence of graves 14 through 16, possible rows associated with these burials will not be discussed. The four documented rows provide information on the initial arrangement of graves and subsequent additions. Two patterns were evident: (1) gaps occur in each row, and (2) graves tend to cluster according to kinship ties and death dates.

The oldest grave (11) is located in the northeast portion of the cemetery as it appeared when it was relocated. If one follows the order of deaths and burials at Tucker Cemetery (see Table 4) it is apparent that new burials were not dug next to earlier ones in an effort to complete a row before beginning the next. Instead, family ties affected, but did not entirely dictate the placement of new burials. This pattern can be addressed by examining each of the four rows beginning with row 1.

Row 1: William Tucker (11), Miss. Nancy Tucker (10), Martha J. Bean Tucker Norris Cannedy (9), Norris children (12, 13)

Based on death dates and sequence of burial, graves in row 1 includes the first grave in the cemetery (11), the second (12 and 13), the eighth (10), and the ninth (9). Grave 11 belongs to William Tucker, the son of Solomon and Nancy Portwood Tucker who died before the 1880 Census. His sister Nancy is buried to his right, while his wife, Martha is buried two graves away. This may reflect in part the fact that her children from her second marriage were buried at the southern end of this row, and it was intended that she be buried next to them, with her second husband, and their father in between. It is unknown why Wade Norris was not interred in this gap.

Row 2: James J. Cannedy (8), Nancy Portwood Tucker (7), Solomon Tucker (6)

The graves in row 2 include the third, fourth and ninth burials in the cemetery. Nancy Portwood Tucker has been reported to be the first individual buried at Tucker, although this is not supported by the documentary record which indicates that Martha J. Bean Tucker was a widow in the 1880 Census. Nancy died ca. 1883, and her husband, Solomon in 1888. They were buried side-by-side as was the general custom, however it is interesting to note, that they were not buried next to their children (10 and

11), or immediately east or west of them. Instead, they were located southwest. It is important to recognize however, that they may have intended for them to be buried to the west of them, but because their graves were unmarked, they were not correctly located.

James J. Cannedy died in 1909, and he is listed as the ninth individual, with a question mark because it is unknown whether Martha died before him or was his widow. It appears that because he was not related by blood with anyone buried at Tucker Cemetery, his grave was not placed adjacent to any existing burial.

Row 3: B. O. Cumming infant (5), William H. Tucker (4), Daphne Tucker (3), Willie H. Tucker (2)

Graves in this row include the fifth, sixth, seventh, and eleventh burials in the cemetery, including one in 1899, two in 1901, and one in 1934. It is interesting to note that with the exception of the eleventh burial (grave 5) this row was used as a family plot including William H. Tucker and his two children. The plot to the left or north of William H., which customarily would have been used by his wife, was selected for the eleventh grave (Cumming infant), with this infant being located next to her grandfather. This placement reflects the burial of the Cumming infant adjacent to her closest relative, rather than by herself, forming a new row in the cemetery.

Row 1: B. O. Cumming (1)

Only one grave was located in row 1, and reflects the beginning of a new row. This grave represents the last burial at Tucker, and had necessity of relocating the cemetery not occurred, the plot north of B. O. Cumming was reserved for his wife, Cuba, and the two plots on the south for their two surviving children, Allene and Connie.

Family Plots

As the above data indicate many cultural factors, including death date, and blood and marriage ties came into play in making decisions about where specific individuals would be buried within a cemetery. For example, both the Norris children and James J. Cannedy who were only related to other individuals in the cemetery at the time of their deaths by marriage ties were buried at least one empty burial plot away. On the other hand, the Cumming infant was buried next to her closest relative. In addition, the spatial arrangement of graves reflected evidence of clustering both by death date and by blood or marriage ties. Clusters by death date included: Cluster 1, the third and fourth oldest graves in the cemetery (burials 6 and 7); Cluster 2, the

fifth, sixth, and seventh oldest graves (burials 2, 3, and 4); and Cluster 3, the second oldest graves (burials 12 and 13). Clusters by blood or marriage ties included: Cluster 1, burials 6 and 7 (husband and wife); Cluster 2, burials 2, 3, and 4 (son, daughter, father); and Cluster 3, burials 12 and 13 (infant siblings).

Patterns within small family cemeteries do not appear to have been studied to the extent of rural community cemeteries. In community graveyards, family plots or a clustering of family graves are often clearly delineated by fences, borders, or other forms of spatial boundaries. However, within family cemeteries located on a small plot of land set aside for a graveyard, the delineation of family plots is less well defined.

Scraped Burials, Grave Decorations and Fences

The removal of grass and weeds from burials by scraping or hoeing appears to have its origins in western Africa (Jordan 1982:14), where it may have been utilized as a means of reducing the risk of grass fires, as well as a means of keeping livestock from trampling and desecrating burial grounds. This trait is largely restricted to the Gulf and South Atlantic coastal plains which traditionally have had a large rural Black population. In addition, this trait appears to reflect a continuation of the swept-yard surrounding rural farm dwellings (Jordan 1982:15). This yard pattern has been documented in the Richland Creek area in Northcentral Texas (Moir and Journey 1987; Journey and Moir 1987).

Scraped graves were often heaped into mounds and provided a medium for placing and/or systematic arranging a wide variety of grave decorations, including broken ceramic vessels, glass bottles, bleached shells, bricks, and other personal belongings. The most common was bleached shells, and according to Jordan:

with remarkable consistency, shells are used a grave decoration in 48 percent of the cemeteries in the Big Thicket of Southeast Texas, 44 percent of those in the Piney Woods of Northeast Texas, and 44 percent of the Cross Timbers graveyards in North Texas (Jordan 1982:21).

Flowers, plants, and trees were often placed near graves within traditional southern folk cemeteries, and this custom appears to have its origins in the Middle East and the Mediterranean. These plants include roses, lilies, irises, crape myrtles, gardenias, azaleas, nandinas, holly, yews, magnolias, and evergreens, among others. The most common evergreens used in Texas are cedars and junipers (Jordan 1982:29).

Upkeep was aided by the erection of fences which can be found associated with the majority of southern folk cemeteries and appear to be a British tradition which was often used to keep livestock out of graveyards. This trait is reflected in fences that enclose the entire cemetery as well as smaller fences surrounding individual graves or family plots. In addition, work days were often set aside several times a year to scrape and decorate the graves. A meal was often eaten in the graveyard, and many cemeteries are equipped with permanent shelters and "picnic" tables or have space reserved for such activities.

Because the Tucker Cemetery has been abandoned and overgrown for a number of years, it was difficult to determine if it had been maintained at one time by scraping. However, according to Cuba Cumming (interview 1986), "When my grandmother [her mother] lived, she kept it clean. She lived right close to it. She kept it clean and planted flowers and she would put brick, set brick on top of the heads of the graves. I remember that. I'd be out there with her." When asked about putting shells on the graves, she replied, "yes, seemed like she did."

Both brick fragments, including a small number of half bricks and bleached shell pieces were found throughout the Tucker Cemetery, indicating that this cultural practice was adhered to by the Tucker-Cumming families. Other grave decorations were recorded and included the presence of broken ceramic plates, possibly symbolizing the "shattered life" and making a break in the chain between the living and the deceased, possibly utilitarian or ornamental and unintentionally broken (Larry Banks, CE personal communication 1988). Bottle glass also occurred. Ornamental plants were also evident in the cemetery and included primarily cedar and yuccas (see Figure 7). Bois d'arc trees occurred but probably were used as border plants along property boundaries, roads, and in lieu of fences.

A barbed wire fence surrounds the cemetery, and according to Cuba Cumming (interview 1986) it is the only fence she remembers there having been. She did not know who put the first fence up, but indicated that there had never been an iron fence associated with the cemetery or a "lichgate" or ceremonial decorative gate. We were unable to determine if the barbed wire fence ever had a gate. According to Austin Brantley (interview 1986) he put the barbed wire fence up for Cuba Cumming after her husband was buried in 1942. He did not recall an earlier fence. These data suggest that the Tucker Cemetery was not fenced for many years. This may not have been an uncommon pattern for family plots.

Marker Styles

The most common marker styles in traditional southern folk cemeteries were wooden slabs, inscribed wooden markers, unworked,

unadorned, or inscribed fieldstones, and later, shaped and/or inscribed fieldstones. According to Jordan (1982:41), the greatest concentration of surviving wooden markers is in central and northern Texas in the Blackland Prairie and the Cross Timbers. Wooden markers are still evident at Liberty Grove, Dawson, and other small cemeteries near Cooper, Texas. Wooden slab, wooden crosses, and decorative wooden markers occur, as well as several at Dawson which contained porcelain photographs. These latter markers have been removed in the last few years by vandals (John Banks personal communication 1986). Native fieldstone was also used in these cemeteries, and together these marker styles were used into the twentieth century. After 1900, single whole bricks set upright at the head and foot of graves were often used, or similar markers made of concrete. Later, many were simply inscribed with initials or personal information. Commercial grave markers were relatively uncommon until after 1880, and in many small, rural cemeteries, they were not utilized until much later.

No wooden markers or native fieldstone markers were reported for the Tucker Cemetery, and none were identified during field reconnaissance or when the cemetery was relocated. However, this negative evidence does not rule out the possibility that such markers may have been used, and have long since been removed by vandals, or that remains of wooden markers simply were not discovered without broad-scale scraping of the cemetery. None of the informants interviewed remembered seeing such markers at Tucker, although they were aware that they occurred at other cemeteries in the area.

Also no in situ brick or concrete markers were found, but information provided by Cuba Cumming (interview 1986) suggests that simple brick markers may have been associated with some of the "unmarked" graves (6 thru 11). Mrs. Cumming remembered that her grandmother [mother], "set brick on top of the heads of the graves." If so, the numerous brick fragments documented in the cemetery may represent headstones, as well as footstones.

Commercial markers were recorded associated with graves 2, 3, 4, 5, and 10, and included marble head and footstones for 2, 3, 4, and 10, and a temporary metal marker at the head of grave 5. An additional temporary metal marker fragment was found on the ground surface west of grave 3, which may have been part of the marker associated with grave 5.

All of the markers appear to have been cut marble from the same quarry, and although it was not possible to verify, they may have been made by the same individual. Together they provide considerable cultural information which will be discussed later.

With the exception of grave 3, all of the markers were associated with individuals that died in 1901. These included

Miss. N. E. Tucker (10), Willie H. Tucker (2), and William H. Tucker (4). Daphne Tucker (3) died in 1899. These data indicate that half of the William H. Tucker household died in 1901. According to the 1900 Census for Delta County (see Table 3), the household included William H., his wife, Nancy E., and their children, Cuba, William, and Daphne, and a 14 year old girl named Lizzie Langston. Willie was born after the 1900 census was taken (grave 2). No data were found indicating if Lizzie survived the hard times that hit the family in 1901.

It is unclear where Miss N. E. Tucker was living at the time of her death. She was not listed in William H. Tucker's household (her brother) in the 1900 census. In 1880 she was listed with her grandparents, Solomon and Nancy Portwood Tucker, both of whom died between 1880 and 1900. No additional information was recovered pertaining to Nancy E. Griffith.

Marker Descriptions

Each of the four markers is described separately below.

Willie H. Tucker (Grave 2)

This grave was marked by both head and footstones made of gray and white marble. The headstone is a tablet form set on a concrete base. The tablet portion measures 39.5 cm tall by 21 cm across (north-south) and 5 cm thick (east-west), and the base measures 13 cm tall, 37 cm long (north-south) and 20 cm wide (east-west). The tablet portion is inscribed and reads:

WILLIE H. TUCKER BORN DEC. 25, 1900 DIED JULY 31 1901
Sleep on sweet babe and take thy rest, God calls away when
he thinks best

A flying dove motif appears at the top of the headstone, above the personal information and the inscription, all of which occur on the west face of the marker (Figure 10). The dove faces north. The footstone is made of matching marble and measures 20 cm tall, 13 cm across (north-south), and 5 cm thick. It is inscribed:

W.H.T.

Both the head and footstones associated with this grave were still in situ, and were complete. Grave rubbings were taken of all four faces of both the head and footstones.

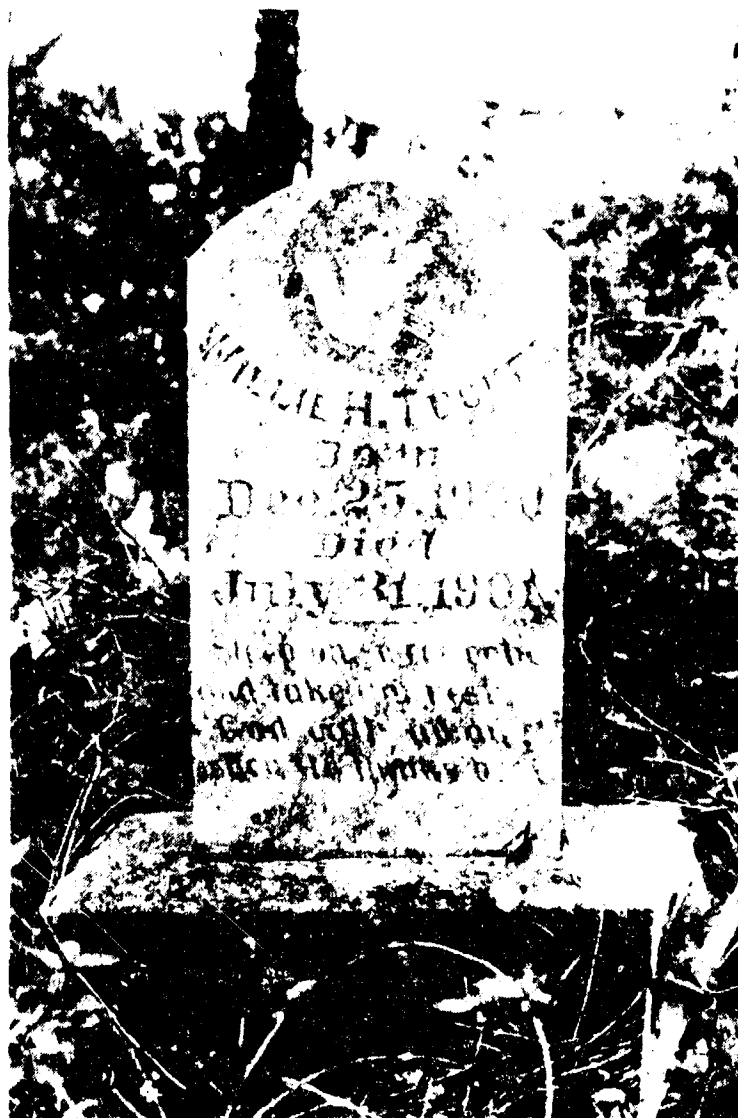


Figure 10. Headstone for Willie H. Tucker (Grave 2).

Daphne Tucker (Grave 3)

This grave was marked by both head and footstones made of gray and white marble. The headstone is a tablet form set on a concrete base. The tablet portion measures 42 cm tall by 20 cm across (north-south) and 5 cm thick (east-west), and the base measures 20 cm tall, of which only 15 cm extends above the ground, 37 cm long (north-south) and 20 cm wide (east-west). The tablet portion is inscribed and reads:

DAHPNE TUCKER BORN MAR. 13, 1899 DIED AUG. 10, 1899
Happy infant early blest/Rest in peaceful slumber rest

The motif at the top of the headstone is a resting lamb facing north. It is above the personal information and the motif, all of which occur on the west face of the marker (Figure 11). The footstone is made of matching marble and measures 27 cm above ground, 13 cm across (north-south), and 5 cm thick. It is inscribed:

D.T.

Both the head and footstones associated with this grave were still in situ, and were complete. Grave rubbings were taken of all four faces of both the head and footstones.

W. H. Tucker (Grave 4)

This grave was marked by the most elaborate headstone of the four within the cemetery (Figure 12). It is made of gray and white marble set on a concrete base, and the footstone is made of matching marble. The headstone is a cathedral shape, topped with a finial, and measures 167 cm tall from the ground surface to the base of the finial. The point within the finial measures 3 cm tall. The finial is missing but probably was a fruit motif. The main segment of the stone measures 79 cm in height by 25.5 cm and 22 cm wide. The marble base measures 35 cm tall, 35 cm north-south, and 22 cm wide, east-west. A verse appears on the west face of this base, and reads:

A loving husband, a father dear/A faithful friends lies
buried here

The concrete base is incised with vertical lines, and is pyramidal in shape. It measures 51 cm tall, 51 cm north-south, and 51 cm wide, east-west. The west face includes two flying doves with oak branches at the top of the pyramidal face and an urn of flowers at the base. Below the urn is an incised line that is continued around each side to include all four elevations of the headstone. In addition, the flower motif was continued to include both the north and south sides of the marker. A

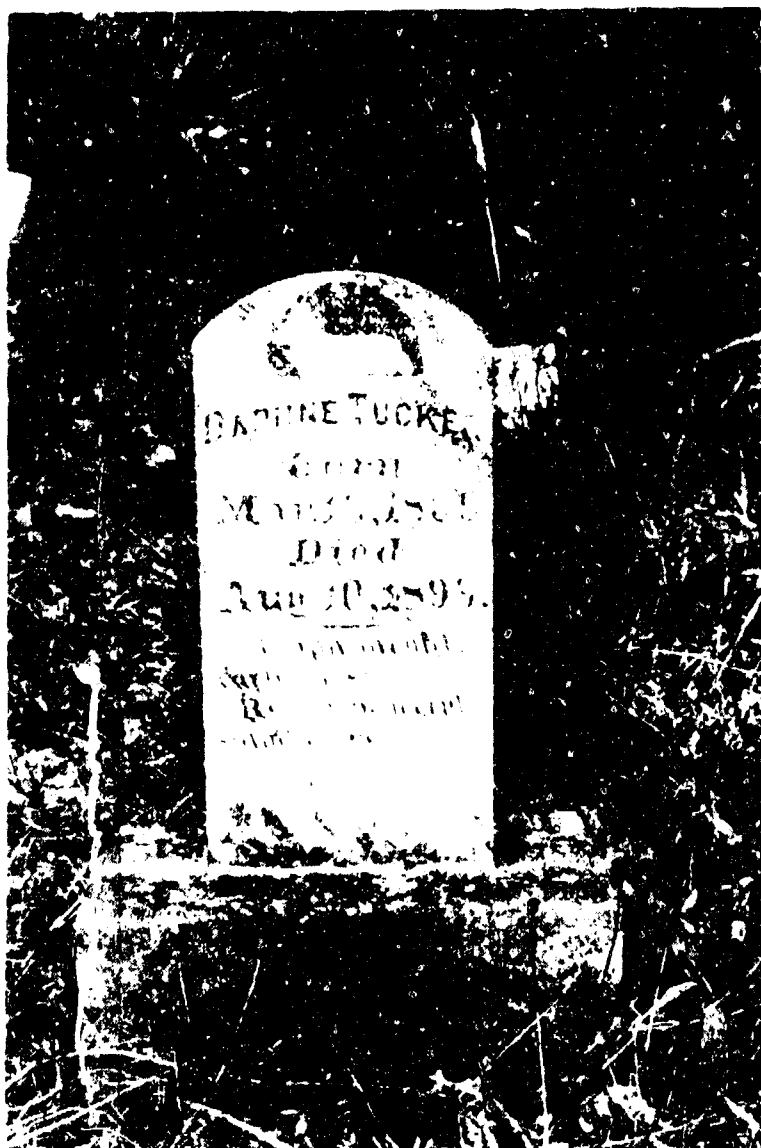


Figure 11. Headstone for Daphne Tucker (Grave 3).



Figure 12. Headstone for W.H. Tucker (Grave 4).

fleur-de-lis is present at the top of the pyramidal face on both the north and south sides. No decoration was evident on the east face, except the incised line mentioned above.

The west face is inscribed and reads:

W. H. TUCKER BORN OCT. 12, 1874 DIED JAN. 7, 1901

The footstone measures 39 cm above ground, 20 cm across (north-south), and 5.5 cm thick. It is inscribed:

W.H.T.

Both the head and footstones associated with this grave were still in situ, and were complete. Grave rubbings were taken of all four faces of both the head and footstones.

Miss N. E. Tucker (Grave 10)

This grave was marked by both head and footstones made of gray and white marble (Figure 13). The headstone is scroll shaped and is set on a concrete base. The scroll portion measures 75 cm tall by 35 cm across (north-south) and 20 cm thick (east-west). The upper pyramidal base measures 31 cm tall, 47 cm across (north-south), and 18 cm wide (east-west), and is made of matching marble. The lower pyramidal base is made of unfinished concrete (rough, non-incised) and measures 42 cm high, 66 cm north-south, and 24 cm east-west. The scroll portion of the west face of the headstone is inscribed and reads:

MISS N. E. TUCKER BORN NOV. 17, 1875 DIED DEC. 28, 1901
In that bright and glorious city we shall ever more abide

The scroll pattern is continued on the north and south sides of the marker and includes both the overall shape as well as the presence of a draped curtain motif. The heavenly city motif including a dove and sunburst covers the back or east face of the headstone.

The concrete base is inscribed on the west face and reads:

TUCKER

The footstone is made of matching gray and white marble. It was broken and was no longer in situ. The remaining height is 25 cm, but probably originally measured about 39 cm, and was the same dimensions as the one recorded for W. H. T. (grave 4). It measures 19.5 cm across, north-south and 5.5 cm thick or east-west. It is inscribed:

N.E.T.

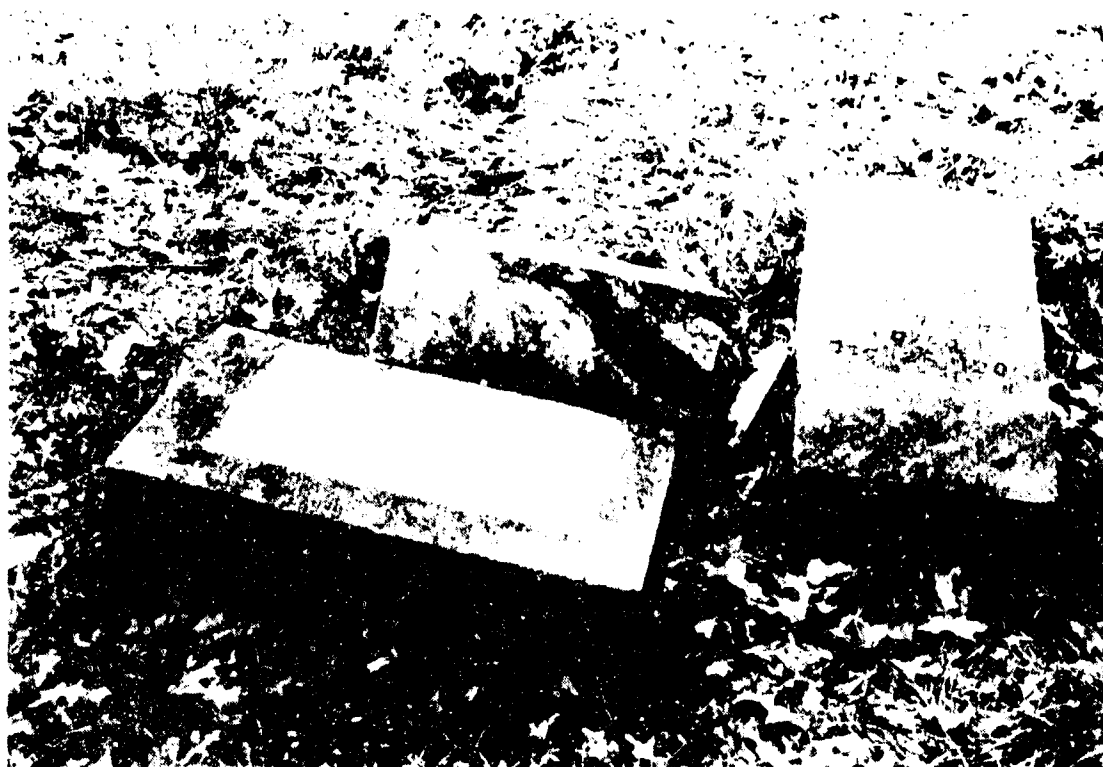


Figure 13. Headstone for Miss N.E. Tucker (Grave 10).

Although both the head and footstones associated with this grave were broken and no longer in situ, grave rubbings were taken of all four faces of both the head and footstones, which was possible only after the headstone had been moved and uprighted before being re-erected at the Oaklawn Cemetery.

Placement Pattern

Two major placement patterns were recorded for head and footstone markers in the Tucker Cemetery. The first indicated that some or all of the markers were erected some time after the individual was buried, rather than at the time of the funeral. This pattern was evident when the placement and distance between the head and footstone was used to help determine the size and orientation of the grave shaft. The markers for several graves were found to be located out of alignment with the grave shaft, or were situated directly above the coffin, rather than at the head and foot, respectively.

The headstone for grave 10 had collapsed, and the footstone was no longer in situ. Excavation indicated that the headstone was located further east than the western edge of grave, and was situated above the chest area of the individual. This pattern was also recorded for grave 4 where both the head and footstones remained in situ. A second pattern indicating an incorrect placement of the grave markers was recorded for grave 2. The grave shaft and burial were located approximately 40 cm south of the head and footstones, indicating that they were probably added at a later date, sometime after the burial mound had settled, and it was no longer possible to identify the exact location of the grave. Only grave 3 exhibited a good association between the placement of the markers and the grave shaft.

It is interesting to note that grave 3 dated to 1899, while the other three (2, 4, and 10) each dated to 1901. This suggests that they may have all been erected at the same time, and most probably some time after the family recovered from the terrible loss of the deaths of three family members.

The second pattern evident in the placement of markers in the Tucker Cemetery corresponds in the orientation of the head and footstones. Markers for three of the graves (2, 3, and 4) had the personal history and inscription on the west face or elevation of the marker. As such, these markers would be read while facing east, with the grave shaft and footstone east of the headstone. However, although the headstone for grave 10 (Miss N. E. Tucker) was no longer standing upright, based on the way it had fallen with the writing facing up and the head or top of the marker to the west, it is probable that it may originally have been erected to be read while facing west. If so, this marker would exhibit a reverse pattern to the others in the Tucker

Cemetery. This pattern is not unique, and occurs at other cemeteries in the area, including Dawson, Liberty Grove and Hickory Grove. In each of these cemeteries, both orientations occur, and although this pattern has not been quantified, it appears that headstones with the writing on the west side are more frequent than the reverse.

BURIAL DESCRIPTIONS FOR THE TUCKER POPULATION

Susan A. Lebo and Barbara A. Burnett

A detailed description of the archaeological and biological nature of each of the graves relocated from the Tucker Cemetery are presented in numerical sequence in this chapter. The numbering system, as mentioned earlier, follows the one developed during the initial reconnaissance of the cemetery by the U.S. Army Corps of Engineers, and presented in the Cooper Lake and Channels, Design Memorandum No. 6C, (Revised), Cemetery Relocation Plan, Tucker Cemetery. The format used here follows that developed by Rose and Santeford (1985:38-129).

Each burial description is divided into four sections: mortuary characteristics, cultural characteristics, proposed burial date, and biological characteristics. The methods used for recording these characteristics are discussed in detail in the relocation methodology, and are only briefly mentioned below. Emphasis is placed on factors that limited our ability to record particular characteristics, and how these affected the data base we were able to recover.

The mortuary section focuses on the physical aspects of the grave and coffin including (1) body orientation, (2) body placement, (3) hand placement, (4) coffin shape, (5) coffin dimensions, and (6) casket hardware. The greatest accuracy in data recovery was recorded for body orientation, body placement, and casket hardware. Coffin shape and dimensions were recorded where possible, but in many instances, they were approximate because the coffin had collapsed or had been partially destroyed during excavation. A seventh dimension, focusing on measuring the depth of the coffin, was not included here because it was not possible to recover this information for more than one or two graves. This low recovery rate was a result of the poor preservation of many of the coffins, with the lids having collapsed, and the nature of the excavation techniques used.

The body orientation is the compass orientation of the spine. In the absence of intact human remains (burials 2, 3, 5), orientation was recorded based on the longitudinal axis of the coffin. Body placement is the positioning of the body within the casket expressed as face down, on back, on left side, on right side, and disarticulated, among others. Hand placement is the positioning of the hands relative to the torso and includes, crossed over the chest, crossed over the pelvis, and straight down at the sides of the body, among others. Body placement and hand placement data were recorded for all individuals that we had an opportunity to view exposed in situ before they were exhumed. In some instances, these data were recoverable although part of the skeletal remains had already been partially removed and were recorded when the excavator switched from shovel to trowel

excavation, or we had an opportunity to monitor which bones were being recovered and from where as they were being removed from the ground.

The casket shape is the three-dimensional configuration of the coffin; hexagonal, octagonal and rectangular. Casket dimensions were measured in centimeters along the longitudinal and latitudinal axes. Where possible, the height of the casket was also recorded. However, unless the sides remained intact, this measurement was not possible. Determining casket shape was hampered by the excavation techniques used. The casket was not fully exposed before being removed, and in many instances, the excavation trench/unit was smaller in dimensions than the casket. When this occurred, the portions that extended into the unit walls were removed by tunneling rather than by cutting the walls back, the preferable archaeological technique. Casket hardware refers to the construction remains of the coffin and includes the coffin material (e.g., pine or cedar wood, iron sheathing) and all metal hardware (e.g., thumbscrews, escutcheons, tacks, nails, screws, hinges, handles, and caplifters). Casket hardware was recovered from all graves, although considerable variability in recovery occurred. Burials 5, 12, and 13 were badly deteriorated and did not yield sufficient data concerning casket size, shape, dimensions, construction, or hardware. All other burials yielded an incomplete, yet fairly representative sample of casket hardware. A metal detector was used in several burials to help locate coffin hardware.

The cultural characteristics section describes all clothing and personal items and non-personal burial goods. The clothing category includes cloth and clothing fasteners (e.g., buttons, hooks and eyes, suspender parts, and shoe/boot parts). Personal items include watch fobs, jewelry, eyeglasses, pocket knives, and dentures, among others. These items were generally poorly preserved or too small to be recovered by shovel excavation. The highest percentage of these items was recovered in burials that were exposed before removal or were troweled by hand. The second highest recovery rate was for burials that were removed when only one or two graves were open, allowing us greater opportunity to observe the recovery or to sift through the backdirt.

Non-personal remains refers to the burial goods placed within the coffin or grave fill that were not personal possessions of the deceased. These generally included "symbolically" broken plate fragments and bleached mussel shell (*Amblema plicata*) that were deposited on top of the grave mound and worked their way down into the soil from the surface, and were found within the upper 30 cm of the grave fill.

The proposed burial date is based on the information provided on the headstone associated with the burial, census, birth and death records, or oral informants. In addition, where

sufficient biological data were available this information was correlated with the historical record.

The biological section focuses on the physical aspects of the human burial remains including (1) skeletal inventory, (2) demographics, (3) skeletal pathology, (4), dental inventory, and (5) childhood stress. The level of data recovery varied considerably among burials, reflecting both the level of preservation and the excavation techniques used. Little information was gathered for burials 2, 3, 5, 6, 11, 12, and 13 because of poor preservation.

The skeletal inventory provides a record of all identifiable skeletal elements recovered in each burial. Sex and age indicators were recorded to determine the demographics of the skeletal remains within each grave and relationships within the Tucker Cemetery burial population. Skeletal pathology included an inventory of all developmental, degenerative, neoplastic, infectious, and traumatic evidences of injury or pathology. Where appropriate, this information was used to help age the individual or determine the cause of death. The dental inventory provides a record of all identifiable dental elements and evidence of pre-mortem tooth loss and pathology. Wear patterns and tooth shape (e.g., shoveling) were recorded where appropriate, and indices were derived for assessing childhood stress or dietary deficiencies.

BURIAL 1: Benjamin Orie Cumming b. 1871 d. 1942

MORTUARY CHARACTERISTICS

Physical Aspects

Body Orientation: E-W
Body Placement: Extended supine
Hand Placement: Crossed over pelvis

Funerary Aspects

Casket Shape: Rectangular
Casket Measurements: 200 cm by 50 cm
Casket Hardware: The lid of the casket had collapsed, but the sides and bottom remained relatively intact.

The casket was a closed metal coffin with a tongue and grooved cedar plank core. Measurement of the planking indicated that they averaged 56.0 cm in length and 9.7 cm wide. The interior appeared to be iron while the exterior was iron and lead. Over 100 pieces of this sheathing was recorded, and included a portion of a decorative plate. Two brass plated extended straightbar

handles were recovered (Figure 14a). They were connected together by a wooden rail or bar, and fragments of this bar were also found. Each side of the casket would have had one set of handles with a bar in between. Only the handles from the north side were found. Other casket hardware recovered in burial 1 were 5 wood screws, 5 nuts, 23 cast iron bracket fragments, and 2 common wire nails. The tightly woven linen or silk casket lining fabric was still attached to the interior of the coffin.

CULTURAL CHARACTERISTICS

Clothing: No clothing remains were recovered

Nonpersonal and Related Goods: No additional burial goods were found within the coffin. However, above the coffin, and within the grave fill, five handmade brick fragments, and one piece of a white whiteware (earthenware) plate were found. The brick fragments may represent remains of the bricks placed on the "heads" of the graves by Cuba Cumming's mother and have functioned as the sole headstone associated with this burial. The plate fragment was undecorated and measured 4.0 cm by 2.5 cm.

PROPOSED BURIAL DATE

The burial date for this grave is February 15, 1942 and is recorded in the death records for Delta County in Book 8:160. The metal coffin associated with burial 1 is the only one recorded in the Tucker Cemetery. B. O. Cumming was the last person reported to be interred in the cemetery.

BIOLOGICAL CHARACTERISTICS

Skeletal Inventory: The following cranial elements were present: most of the left side of the skull including fragments of the temporal, the parietal, and the frontal, a portion of the occipital crest, as well as both petrous portions and approximately 75% of the body and rami of the mandible. The postcranial skeleton was represented by incomplete femora and tibiae shafts, part of the left foot including the calcaneus, several metatarsals and phalanges, the left and right humeral shafts, several elements of the left hand, the lunate, several metacarpals and phalanges. There was also a small fragment of the acromion process of the left scapula, the majority of the left clavicle minus the sternal articular surface, the left radial shaft, a

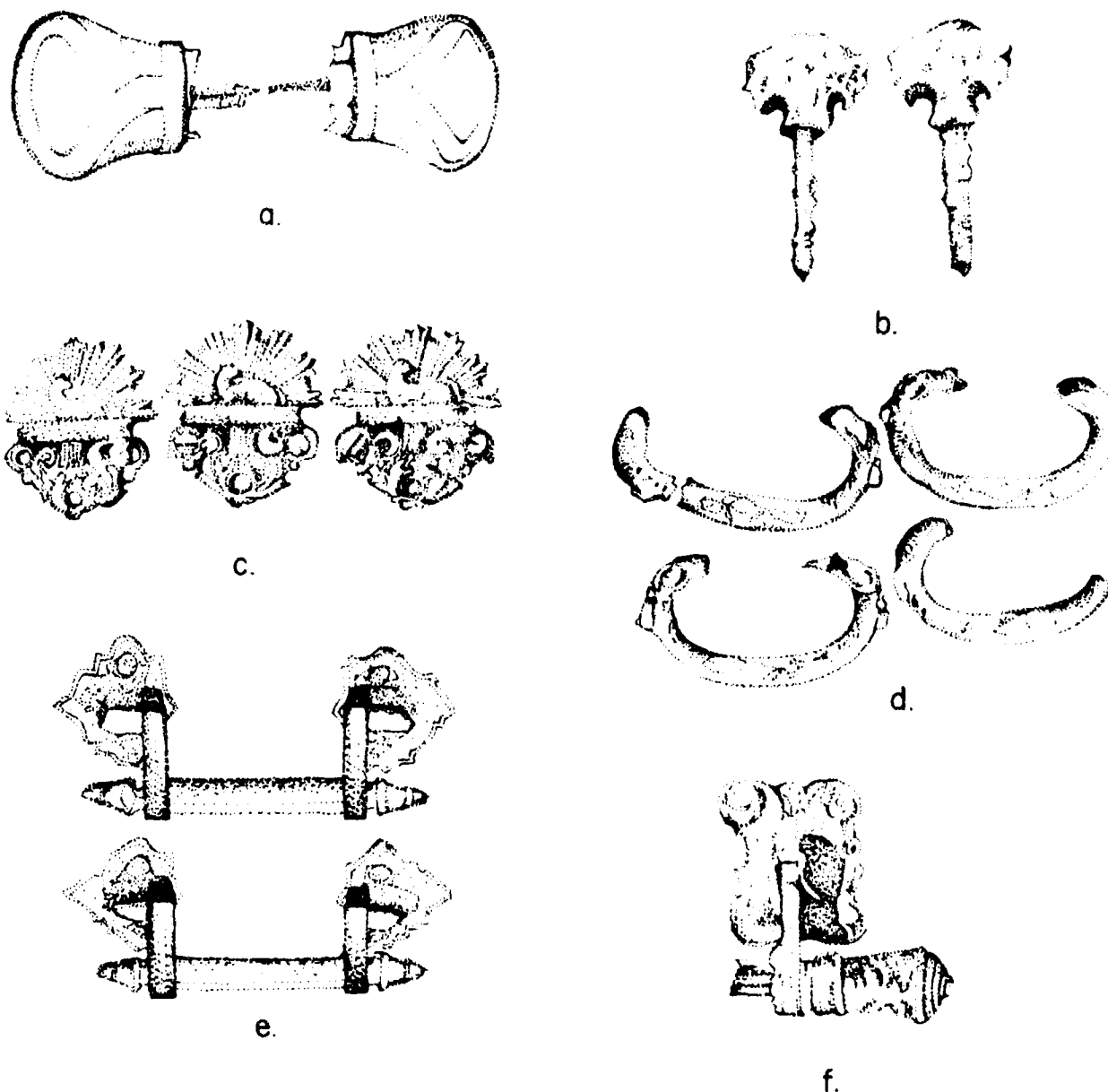


Figure 14. Coffin Hardware from Tucker Cemetery.

a-extended straight-bar handles(B1); b-thumbscrews(B-2); c-swing-bail handle lugs with resting lamb motif(B-2); d-single-lug swing-bail handles(B-2); e-swing-bail two-lug handles(B-3); f-two-lug swing short-bar handle(B-4).

fragmented body of a left rib and one cervical vertebra. The majority of the skeletal elements were burned, but with the exception of the pelvic region, the outer surfaces remained intact. The pelvic region and the majority of the vertebral column had completely disintegrated due to excessive charring and were not retrievable.

Demographics: Based on CE identified grave location, this individual is believed to be a 72 year old male. No primary skeletal age or sex indicators survived. The several ancillary age indicators that were present do not tend to refute the supposition that these remains were those of B. Orie Cumming. Both third molars were present but impacted. The sagittal suture was obliterated both ectocranially and endocranially and the other cranial sutures were not observable. Fused cranial sutures are associated with middle to old age adults (Krogman 1962). The dental wear was moderate. Comparatively, the dental wear was not pronounced for any of the Tucker Cemetery interments, and without seriation, it is not a clear indicator of age.

The several secondary sexual characteristics appeared gracile. It should be remembered that these characteristics are related to size and to soft tissue robusticity, and therefore are not a direct response to sexual growth and development. Furthermore, an individual of advanced age would likely experience some muscular atrophy and decreasing robusticity and therefore the skeleton would appear less rugged. The occipital crest and femoral linea aspera appeared underdeveloped and gracile. The humerus was also gracile. The mandible was small and the gonial angles were obtuse. While the skeletal morphology does not necessarily support the identification as B. Orie Cumming, the charred skeletal remains do indicate that this individual could have been B. Orie Cumming, as it was reported that he died in a burning auto accident.

Skeletal Pathology: A majority of the long bones were present and did not display any infectious lesions. The entire skeleton showed evidence of extreme trauma through burning. The incineration primarily involved the back and pelvic region. No fractures were observed. Unfortunately, no joint surfaces except those of one cervical vertebra were observable. The right superior articular surface and the superior surface of the body of the cervical were lipped and eroded, indicative of degenerative arthritis. There was no evidence of porotic hyperostosis or neoplasms.

Dental Inventory: Almost all of the mandibular dentition was recovered loose within the grave fill. All of the teeth were discolored, and the anterior dentition exhibited greater wear than the posterior dentition. The mandibular canines and first left premolar displayed unusual wear facets, a condition typically exhibited by a long term pipe smoker (Rose, personal communication). The wear displayed by right and left canines was scored 4 (Smith 1984). The first left mandibular premolar was scored 4 and the second left mandibular premolar was scored 3 (Smith 1984). The wear exhibited by right central and lateral mandibular incisors was scored 4 (Smith 1984). The labial surfaces of the incisors were highly polished and reflective. The wear scores for the anterior dentition are indicative of moderate attrition. All of the mandibular molars were present. The third molars were impacted, and the first and second left mandibular molars exhibited a wear score of 8 (Scott 1979). The roots of the first right mandibular molar were fused, and the wear score was 10 (Scott 1979). The second right mandibular molar did not exhibit any wear. Collectively the dental wear scores for the posterior dentition indicate light to moderate wear. There were no caries or fillings observed. Neither the canine nor the incisors exhibited the lingual ridging on the medial or distal border termed shoveling often associated with individuals of North American Indian descent. No calculus was observed. The degree of alveolar resorption and antemortem tooth loss could not be determined.

Childhood Stress: Four hypoplasias were observed on each mandibular canine. Following Goodman et al. (1980), the episodes of stress observed on the right mandibular canine occurred between 1.5-2.0 years, 2.5-3.0 years, 3.0-3.5 years, and 4.0-4.5 years. The left mandibular canine displayed hypoplasias which occurred during the following 6-month intervals: 1.5-2.0 years, 2.5-3.0 years, 3.0-3.5 years, 4.0-4.5 years, and 4.5-5.0 years. Both canines were worn; the crown length for the right canine was 8.81 mm. and for the left canine, 9.73 mm. The central mandibular incisor displayed stress episodes during the following intervals: 1.0-1.5 years, 1.5-2.0 years, and 2.5-3.0 years, and the crown length is 7.43 mm. Collectively, the hypoplastic episodes reflect a series of stressful experiences which occurred between 1.0-1.5 years, 1.5-2.0 years, 2.5-3.0 years, 3.0-3.5 years, 4.0-4.5 years, and 4.5-5.0 years. This individual survived a most stressful childhood.

Summary: While the analysis of the age and sex indicators was inconclusive, (adult, undetermined sex with gracile

characteristics) the charred condition of the skeleton does tend to support the identification of the remains as B. Orie Cumming. The childhood stress data indicate that this individual experienced a highly stressful early childhood. Conversely, the absence of any chronic skeletal pathology, other than age-related degenerative arthritis, indicates this individual enjoyed good health as an older adult.

BURIAL 2: Willie Tucker b. 12/25/1900 d. 7/31/1901

MORTUARY CHARACTERISTICS

Physical Aspects

Body Orientation: E-W
Body Placement: Unknown
Hand Placement: Unknown

Funerary Aspects

Casket Shape: Rectangular
Casket Measurements: 60 cm by 30 cm
Casket Hardware: While the skeletal remains were poorly preserved, considerable information was recovered concerning the coffin. It was rectangular in shape and was constructed of pine, with solid sides. The lid had collapsed but the remainder of the coffin was relatively intact. The casket was a closed coffin and did not contain viewing glass. The coffin hardware recovered included 4 swing-bail handles, 3 decorative hinges, 2 decorative lid thumbscrews, 3 lid thumbscrews with copper plated escutcheons, lead plating, 5 decorative studs, and 15 wire nails.

The two thumbscrews (Figure 14b) match an example shown in Hacker-Norton and Trinkley (1984: Figure 14-R) and were made of white metal. They were designed to fasten the coffin lid down, and were produced to be easily depressed into soft wood. They measured 7.5 cm in length and 3.5 cm in width across the widest point. The three thumbscrews with escutcheons attached differed in style from the two mentioned above. They were also made of white metal, but were broader and smaller in size. They were fan-shaped, and measured 6.0 cm in length, and 5.0 cm across the widest point. The attached escutcheons were copper plated and

rectangular in shape. They were similar to those shown in Hacker-Norton and Trinkley (1984: Figure 14-AA) without the scalloped edge decoration. Linear impressed decoration occurred on the two ends of the escutcheons, but not along the sides.

The three decorative hinges are identical to those shown in Hacker-Norton and Trinkley (1984:Figure 11-H) and were designed as children's lugs for swing-bail single-lug handles. These were made of cast metal and contain a resting lamb motif (Figure 14c).

Four swing-bail handles were found (Figure 14d), and correspond to the type shown in Hacker-Norton and Trinkley (1984:Figure 11-D). The handles occur as a fully rounded style, and the motif appears to vary slightly from those shown. The handles measured 7.5 cm across at the widest part, and 4.0 cm in length. According to Hacker-Norton and Trinkley (1984:8), the bail handle comes in two or three pieces which are fitted together when the handle is attached to the coffin, rather than preassembled. In addition, children's handles were usually smaller, but similar in style to those on adult coffins, with the single-lug swing-bail lamb motif predominating. These handles were generally applied two to a side. All four handles were recovered.

The five decorative studs found in burial 2 correspond to the style shown in Hacker-Norton and Trinkley (1984:Figure 13-E through J). These studs were made of thin stamped metal in the shape of a diamond and were designed to be pressed into a soft wood lid. Although sold in sets of six, it is unknown how many were used on each coffin (Hacker-Norton and Trinkley 1984:30). A total of 15 wire nails were recorded and included 12 complete examples in the following sizes: 1 at 3.8 cm, 5 at 4.0 cm, 2 at 6.0 cm, 1 at 6.3 cm, and 6 at 6.5 cm.

CULTURAL CHARACTERISTICS

Clothing: None recovered

Nonpersonal and Related Goods: No burial goods were found within the coffin. However, four fragments of Amblema plicata (mussel shell) were recovered within the upper 20 cm of the grave fill and had probably worked their way down into the soil from the burial mound surface.

The largest fragment measured 5 cm by 3 cm.

PROPOSED BURIAL DATE

The burial date recorded on the headstone for burial 2 is 1899.

BIOLOGICAL CHARACTERISTICS

The individual was represented by approximately 2.0 cm of an unidentified long bone shaft. While it is impossible to verify age, the small diameter of the diaphysis indicates a very young child, possibly Willie Tucker. There was nothing remarkable to observe.

BURIAL 3: Daphne Tucker b. 3/13/1899 d. 8/10/1899

MORTUARY CHARACTERISTICS

Physical Aspects

Body Orientation: E-W
Body Placement: Unknown
Hand Placement: Unknown

Funerary Aspects

Casket Shape: Rectangular

Casket Measurements: 60.1 cm by 30.5 cm

Casket Hardware: The casket was constructed of pine and was painted white. The lid had collapsed, but the remainder of the casket was intact. Viewing glass covered 3/4 of the top of the casket and was cathedral shaped. Among the casket hardware recovered were 4 handles with 4 iron screws each, 6 thumbscrews and decorative studs, 22 wire nails, 2 wood screws, 1 tack, as well as the casket wood, and the casket lining.

The viewing glass was contacted in situ and measured 43.0 cm in length and 16.5 cm at the widest dimension across. Pieces of the cloth lining of the casket and a woven baby blanket were attached to the glass along with portions of the wooden coffin.

The four handles found associated with burial 3 were unique (Figure 14e), and did not match any

of the handles recovered from other graves in the Tucker Cemetery. They were swing-bail two-lug handles, rather than the single-lug type generally found on children's coffins. They had a geometric design and were made of white metal. Each handle measured 14.0 cm long and 6.5 cm across the greatest width in each direction. Two handles occurred on each side of the coffin, and were attached with four iron screws.

The thumbscrews and decoration studs in burial 3 matched the ones recovered in burial 10, and were similar in style, but not identical to examples recovered from the A. L. Calhoun Collection (Hacker-Norton and Trinkley 1984: Figure 14-A, 14-IE).

The nails and screws from burial 3 included the following sizes: 1 at 1.5 cm, 3 at 1.8 cm, 3 at 2.0 cm, 2 at 2.3 cm, 4 at 2.5 cm, 1 at 3.0 cm, 3 at 4.0 cm, 1 at 4.8 cm, 1 at 5.0 cm, 1 at 6.5 cm, 2 fragments; 1 screw at 3.8 cm, and 1 screw at 4.0 cm.

CULTURAL CHARACTERISTICS

Clothing: Fragments of a white baby blanket were found, some of which was adhering to the viewing glass.

Nonpersonal and Related Goods: No burial goods were found within the coffin. However, two fragments of Amblema plicata (mussel shell) were recovered within the upper few centimeters of the grave fill, and had probably worked their way down into the soil from the burial mound surface. The smaller fragment measured 5 cm by 3.5 cm and the larger measured 7.0 cm by 3.5 cm.

PROPOSED BURIAL DATE

The burial date recorded on the headstone for burial 3 is 1901.

BIOLOGICAL CHARACTERISTICS

The remains included a piece of a small rib and a broken long bone diaphysis shaped like a humerus. The small diameter and size of the diaphysis indicates that this individual was a very young child; possibly Daphne Tucker.

BURIAL 4: William H. Tucker b. 10/18/1874 d. 1/7/1901

MORTUARY CHARACTERISTICS

Physical Aspects

Body Orientation: E-W
Body Placement: Extended supine
Hand Placement: Over pelvis

Funerary Aspects

Casket Shape: Rectangular
Casket Measurements: 175 cm by 42 cm

Casket Hardware: The casket was made of pine boards with view glass over the upper torso. No measurement was possible for the size of the viewing glass because of time constraints and the fragmented nature of the glass. The casket hardware recovered in burial 4 included 6 side handles, 2 thumbscrews and escutcheons, 11 wire nails, and one hook eye screw.

The side handles were a two-lug swing short-bar handle style (Figure 14f) which would have been sold in sets of four or six (Hacker-Norton and Trinkley 1984:16). They occurred in pairs, with a straightbar fastened directly to the arm which has a swivel attachment to the lug. This handle style comes assembled and ready to attach to the coffin (Hacker-Norton and Trinkley 1984:10). Three handles would have been attached to each side, resulting in 6 straightbars and 12 handle lugs. The straightbars on the casket associated with burial 4 were wood, which was still visible inside the handle lugs. This wood may have been sheathed in metal, but no evidence of this sheathing remained.

The side handle lugs were made of white metal, and measured 8.5 cm across the wider dimension, and 8.0 cm across the narrower. They exhibited a floral and geometric pattern, and were similar, but not identical to handles found in the A. L. Calhoun Collection (Hacker-Norton and Trinkley 1984).

Two thumbscrews and escutcheons were found which matched ones recovered in burial 10. They were made of white metal, with copper nails or tacks. The escutcheons measured 8.7 cm by 2.2 cm

and were found in the fill near the pelvic region.

A single hook eye screw was found that measured 2.8 cm in length. Its function is unclear.

The wire nails recovered included 1 broken and 10 complete nails which included the following sizes: 1 at 3.2 cm, 1 at 3.7 cm, 2 at 4.0 cm, 1 at 4.1 cm, 2 at 4.4 cm, 1 at 4.5 cm, 1 at 4.6 cm, and 1 at 4.7 cm.

CULTURAL CHARACTERISTICS

Clothing: Clothing remains associated with burial 4 included 1 porcelain shirt stay, 4 jean buttons, 2 snaps, fabric fragment, 2 watch parts, and shoe/boot leather fragments.

The shirt stay was complete and measured 1.2 cm in diameter. It would have been used to tack down the collar of a dress shirt. It was recovered in the region of the upper torso.

The jean buttons were originally brass plated, and the maker's marks were no longer visible. All four buttons were recovered from the mid-torso region, and measured 1.7 cm in diameter. They were all identical. The two clothing snaps were copper plated and measured 1.5 cm in diameter. They were found in the mid-to-upper torso region, and based on both their recovery location and size, were probably from a shirt or jacket.

The clothing fabric recovered in burial 4 was in poor condition making the identification of the article of clothing it was from difficult. Based on the coarseness of the fabric and its recovery in the pelvic region, it was probably remains of his trousers. Within a portion of the fabric in what appeared to be pocket, was a brass plated watch fob that measured 6.8 cm in length, 1.5 cm at one end, and 2.3 cm at the other. A copper-plated pin which was probably attached to the other end of the watch fob that was designed to fasten the watch chain to the clothing was also recovered in the torso region. It measured 2.5 cm long and .5 cm wide. It is unknown why no watch was found; it is extremely unlikely that it was lost in excavation.

A number of shoe/boot leather fragments were also recovered, including some with eyelet holes still visible. The majority of these remains were from the

right shoe/boot, although both were represented.

Nonpersonal and Related Goods: No additional remains were found within the coffin or the grave fill.

PROPOSED BURIAL DATE

The burial date recorded on the headstone for burial 4 is 1901.

BIOLOGICAL CHARACTERISTICS

Skeletal Inventory: The only cranial bone recovered was a portion of the right malar. The postcranial skeleton was represented by fragments of both innominates including pieces of the right and left acetabulum (rim and lunate surfaces), the apices of the sacroiliac auricular surfaces, a fragment of the inferior demiface of the right auricular surface adjoining the right greater sciatic notch, part of the right ischium, and a part of the right iliac crest. Portions of the upper extremities that were excavated included the majority of the left radial and ulnar shafts, the right humeral diaphysis, and the distal joint surfaces of both humeri. The remains of the lower limbs included the right and left femoral shafts, a portion of a femoral head (side?), part of the right tibial shaft, and several elements of the left foot: the calcaneus, navicular, the first toe metatarsal and proximal phalanx.

Demographics: Based on grave location, the skeletal remains are thought to represent a 27-year-old male. The area of the auricular apices had the following characteristics: the apex was slightly raised, the surface was granular and slightly striated. The inferior demiface was granular with transverse organization. No billows were observed. These characteristics indicate an age range of 25-35 years (Lovejoy et al. 1985). The epiphyseal rings were not fused to the centrum of the lumbar vertebrae indicating an age range of 17-25 years (Krogman 1962). The iliac crest displayed complete union indicating an age over 20 years (Suchey et al. 1984). Collectively, these data indicate an age range of 20-30 years, which is in accordance with William H. Tucker's age.

The sexual indicators, however, were not as clear. The only primary sexual characteristic present was a partial greater sciatic notch which was wide, and was scored a -1 (Acsadi and Nemeskeri 1970). However, Stewart (1979) presents evidence indicating that the

greater sciatic notch by itself is a poor sexual discriminator in adults. The posterosuperior margin of the iliac articular surface is slightly elevated, while this is predominately a feminine characteristic it is also occasionally seen on males. The linea aspera is gracile and the A-P midshaft diameter of the femur is 2.5 cm and scored -1. However, the majority of the males in this cemetery tended to have underdeveloped linea aspera. The sex is rated undetermined, with gracile characteristics.

Skeletal Pathology: The skeletal remains included most of the long bones, and no infection or trauma was observed. Most of the long bone articular surfaces were missing, except the distal humeri and the head of a femur. These joint surfaces were intact, and no degeneration was observed. The right acetabulum did, however, exhibit degenerative changes: the rim was lipped, the lunate surface displayed irregular ossification, and there was a small lytic lesion within the acetabular fossa. Additionally, both superior and inferior surfaces of the two observable lumbar vertebrae were eroded and displayed slight pitting. These characteristics are commonly associated with degenerative arthritis. Degenerative arthritis is attributed either to the cumulative effects of advancing age or physically stressful labor. Clearly this individual was not old, and therefore must have endured some form of repetitive physical labor that prematurely aged those load-bearing joint surfaces.

Dental Inventory: The dentition was represented by the first right mandibular molar, a mandibular canine (side?), and one maxillary and one mandibular premolar. The wear scores for both premolars was 4 (Smith 1984), and for the canine it was 2, and for the molar, the wear was scored 16 (Scott 1979). This is slight to moderate wear. There was one carie, and no calculus or shoveling observed. Alveolar resorption and antemortem tooth loss could not be observed.

Childhood Stress: The hypoplasias observed on the mandibular canine fall within the following 6-month intervals: 2.0-2.5 years, and 3.5-4.0 years. The crown length of the mandibular canine was 10.11 mm.

Summary: While the age characteristics indicate a young adult, the sex was undetermined with gracile characteristics. The pathology data indicate this individual did not suffer from any chronic skeletal diseases, but did perform some form of labor that was mechanically stressful. The hypoplasia data indicate

childhood stress; but with data available from only one tooth, no further interpretation can be drawn. It is not clear from the skeletal analysis if these remains are those of William H. Tucker.

BURIAL 5: B. O. Cumming Infant b. 9/9/34 d. 9/9/34 (Stillborn)

MORTUARY CHARACTERISTICS

Physical Aspects

Body Orientation: E-W
Body Placement: Unknown
Hand Placement: Unknown

Funerary Aspects

Casket Shape: Rectangular
Casket Measurements: 80 cm by 30 cm

Casket Hardware: The lid of the pine casket had collapsed. Portions of the casket were recovered, along with two unidentifiable iron coffin fastener fragments. They measured 3.0 cm by 2.05 cm.

CULTURAL CHARACTERISTICS

Clothing: No clothing remains were found.

Nonpersonal and Related Goods: No additional burial goods were found within the coffin or the grave fill.

PROPOSED BURIAL DATE

The burial date recorded for burial 5 is 1934. This burial could not be dated on the basis of the meager coffin hardware recovered.

BIOLOGICAL CHARACTERISTICS

Skeletal Inventory: No skeletal remains were recovered.

Demographics: Unknown

Skeletal Pathology: Not applicable

Dental Inventory: Not applicable

Childhood Stress: Not applicable

BURIAL 6: Solomon Tucker b. 1825? d. 1888

MORTUARY CHARACTERISTICS

Physical Aspects

Body Orientation: E-W
Body Placement: Extended supine
Hand Placement: Unknown

Funerary Aspects

Casket Shape: Octagonal?
Casket Measurements: Unable to measure

Casket Hardware: The casket was constructed of cedar planking and appeared to be octagonal in form. It is not known whether or not it had a flat lid or a beveled lid. Viewing glass was recovered from above the upper torso. Casket lining fabric was found throughout the interior of the coffin. Casket hardware recovered within burial 6 included 5 white metal casket handles and 2 casket thumbscrews and 2 escutcheons.

The casket handles from burial 6 were unique within the cemetery (Figure 15e). They were swing-bail handles and the lugs were still attached. They measured 14.5 cm by 7 cm and were made of white metal over a brass core. A floral decoration occurred on both the handles and lugs. One handle was damaged during excavation and was recovered in six fragments. These handles were similar but not identical to examples shown in Hacker-Norton and Trinkley (1984:Figure 10).

The casket thumbscrews and escutcheons recovered in burial 6 were partially broken, but complete, and measured 4.0 cm by 3.5 cm.

CULTURAL CHARACTERISTICS

Clothing: Several clothing remnants were found in burial 6 and included fabric from the individual's trousers and upper garments. The trousers appeared to be made of a tightly woven fabric, possibly cotton. The upper garments included cotton, wool and leather materials. Four copper- or brass-plated suspender fastener pieces were found and included portions from both the right and left sides of the upper torso and suspenders. Pieced back together, their dimensions were 4 cm long and 3.5 cm wide. No decoration was visible. A small number of leather shoe/boot fragments were found in the lower torso area. No stitching or eyelet holes were evident on any of the pieces. A pair of eyeglasses or spectacles were found in the upper torso region. They

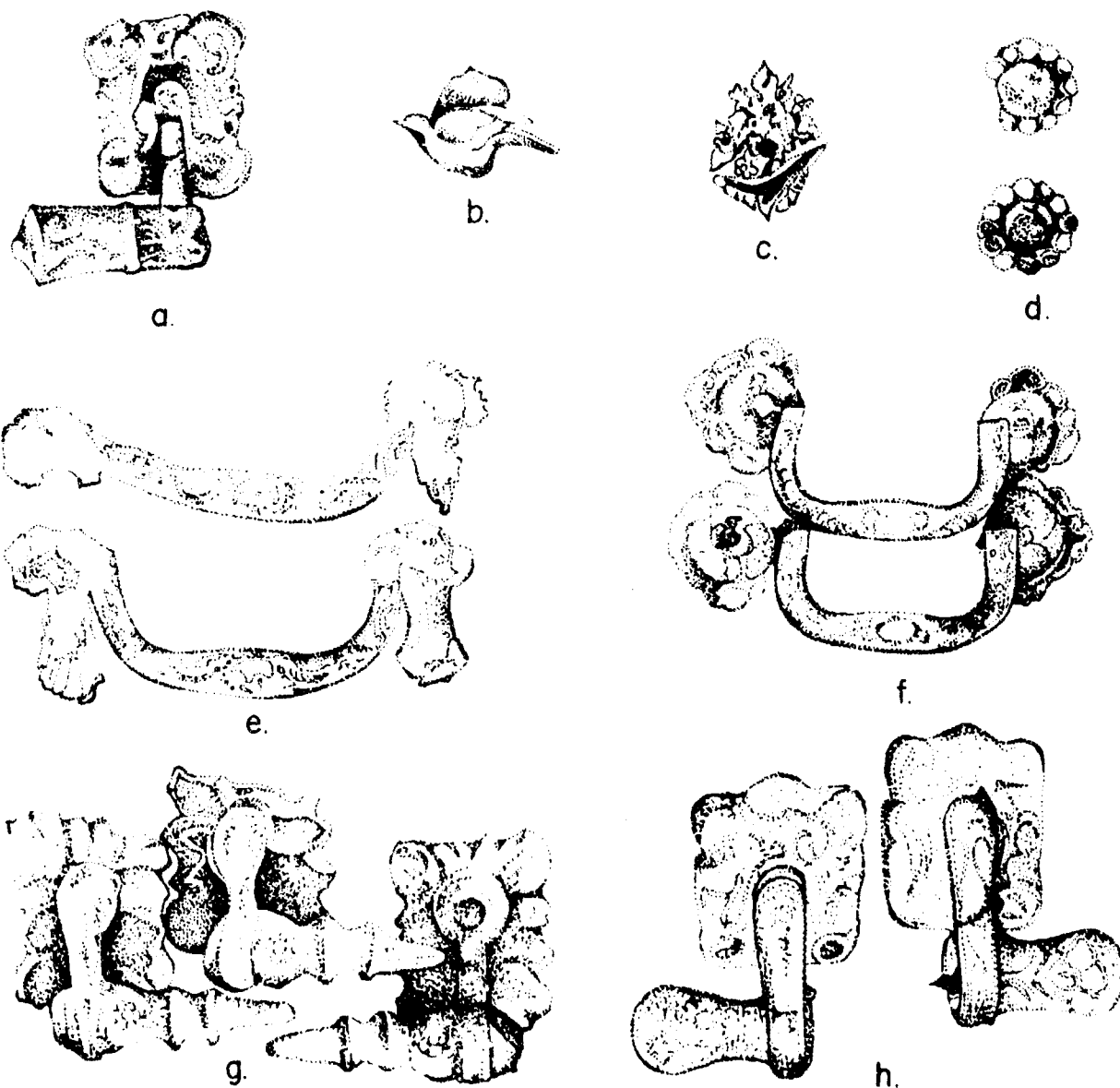


Figure 15. Coffin Hardware from Tucker Cemetery.

a-two-lug swing short-bar handles(B-8); b-dove caplifter(B-10); c-lily caplifter(B-8); d-rosette caplifters(B-11); e-two-lug swing short-bar handles(B-6); f-two-lug swing-bail handles(B-9); g-two-lug swing short-bar handles(B-7); h-two-lug swing bar handles(B-11).

were octagonal (8-sided) in shape with green lenses and copper/brass-plated rims. They were found in a leather case or pocket and measured 9 cm across and 2.5 cm in height. The glass was two lenses thick.

Among the personal possessions found in burial 6 was a small pocket knife which had been placed inside a leather case or pouch(?). The knife had a wood exterior and one to two blades (number uncertain). It measured 4.5 cm in length and 2 cm wide. It was located in a pocket in the upper torso region.

Also found was an upper plate set of dentures which were located in a chest pocket along with the pocket knife and glasses described above. They were in a leather case or pocket and measured 5 cm by 5 cm. They were constructed of hard rubber. See the biological characteristics section below for a description of the teeth represented.

Nonpersonal and Related Goods: No additional burial goods were found in the coffin or grave fill.

PROPOSED BURIAL DATE

The burial date recorded for burial 6 is 1888.

BIOLOGICAL CHARACTERISTICS

Skeletal Inventory: The remains of this individual consisted of 18 fragments representing a femur, tibia, and fibula. The preservation was poor, the outer bony surface of five of the fragments had completely exfoliated, and the siding of the bones was impossible. Two fragments of an ulna were recovered. The skull was represented by a small piece of a sphenoid.

Demographics: The size of the fragments of the long bones indicate that this individual was an adult. The linea aspera was well defined bilaterally and was scored +1 or male. However, a sexual determination could not be made with this limited amount of data.

Skeletal Pathology: A partial femur shaft, approximately 24.0 cm long with the cortex intact showed a small area of remodeling, but a diagnosis was not possible. No additional information could be obtained on the skeletal pathology of this individual.

Dental Inventory: A set of upper dentures was recovered. The presence of dentures indicates that this individual had poor dental health. The denture arcade contained

spaces for the left maxillary canine and both maxillary first molars. Apparently, this individual still retained those teeth at the time he/she was fitted for dentures.

Childhood Stress: Unknown

Summary: While the age characteristics indicated an older adult, the sex was undetermined. The pathology data indicate that this individual had worn surfaces, but additional information could not be obtained. The dental data indicated poor dental health, and the presence of a set of upper dentures. Too few remains were preserved to identify if this individual is Solomon Tucker. Interesting to note here is the lack of ear rings or nose ring which, according to informants, were worn by Solomon Tucker.

BURIAL 7: Nancy Portwood Tucker b. 1818? d. 1883

MORTUARY CHARACTERISTICS

Physical Aspects

Body Orientation: E-W

Body Placement: Extended supine

Hand Placement: Unknown

Funerary Aspects

Casket Shape: Octagonal?

Casket Measurements: Unable to measure

Casket Hardware: The casket for burial 7 was unique within the Tucker sample and was constructed with a pine bottom and cedar sides and lid. The bottom of the coffin was painted black. Among the casket hardware found in burial 7 were 12 side handles, 12 thumbscrews and escutcheons, 4 casket hinges, casket lining material, viewing glass, and miscellaneous nails and screws.

All 12 of the two-lug swing short-bar handles were recovered. They were made of cast white metal and measured 10 cm on the longer dimension and 8 cm on the shorter (Figure 15g). They were decorated with a floral pattern and were held in place with two iron screws each. They were similar, but not identical to examples shown in

Hacker-Norton and Trinkley (1984:Figures 5-7).

A total of 12 thumbscrews and escutcheons were represented in the assemblage from burial 7 and were similar in style, but not identical to examples shown in Hacker-Norton and Trinkley (1984:Figure 14).

The viewing glass was not recovered intact, and time did not permit us to reassemble it sufficiently for reconstructing its original size or shape.

The miscellaneous nail assemblage included one machine cut nail at 3.8 cm, one broken iron screw, and one complete screw at 4.5 cm. Other screws were found associated with the casket hinges and casket handles.

CULTURAL CHARACTERISTICS

Clothing: Among the clothing and personal items recovered in burial 7 were the remnants of a woven wig, a hair comb, a wedding ring, hook and eye clothing fasteners, remains of a watch and watch fob, and cloth fragments from the individual's garments.

The woven wig was found still in place, and was attached to the skull. It was poorly preserved, and without an opportunity to conduct chemical tests, it was not possible to accurately identify the material used. Associated with this wig was a celluloid? or tortoise shell comb. It measured 9 cm by 8 cm, with a maker's mark (Comb Co Goodyear).

A gold band ring which may have been Nancy Portwood Tucker's wedding ring was found in association with the left hand and finger bones. The ring was plain, without a setting and appeared to be solid rather than gold plated. It was not possible to conduct any chemical tests to verify this field identification. The measured diameter was 15.6 mm.

A watch fob/chain was recovered from the upper torso region of burial 7. It was connected to the bodice of the dress or blouse and included numerous chain link fragments, a clasp, and the fob portion that fastened to the watch itself. In addition, a small black glass charm was attached the watch chain and was also recovered. The chain and the setting for the glass charm were made of copper or brass. Again, it was not possible to clean and chemically test these materials.

A number of small pieces of the upper garments were identified, with some exhibiting stitching. In addition, four eye and two hook fasteners were found, and several were still attached to the fabric.

Nonpersonal and Related Goods: No additional burial goods were found in the coffin or grave fill.

PROPOSED BURIAL DATE

The burial date for burial 7 is 1883.

BIOLOGICAL CHARACTERISTICS

Skeletal Inventory: The cranial remains consisted of a large fragment of the occipital, both temporal bones including the mastoids, a fragment of both parietals, both malars, and part of the left supra-orbital border and orbit. The postcranial inventory includes the following: the glenoid cavity of the left scapula, a piece of the right humeral shaft, portions of both humeral heads, a fragment of an ulna, a metacarpal and several hand phalanges, part of the ischial tuberosity, two pieces of the rim and lunate surface of the right acetabulum, a portion of the right greater sciatic notch, part of a femoral condyle, a broken femoral shaft, a right patella, and a foot phalanx.

Demographics: No primary age indicators survived. The lamboidal suture was obliterated endocranially and almost gone ectocranially, and the sagittal suture was obliterated endocranially. These data suggest middle to old age (Krogman 1962). Moderate dental attrition was exhibited and was the most pronounced of all dentitions observed within the cemetery sample. This may not necessarily indicate that this individual was the oldest person buried here although increasing attrition is often associated with increasing age. The more pronounced dental wear in the Tucker skeletal series was exhibited with the earliest internments and may indicate the earlier generations of the Tucker family were eating coarser food. The dental wear of the first maxillary molar and the second maxillary molars was scored 20 and 14 respectively (Scott 1979). These scores indicate light to moderate wear. The data suggest this individual was at least approaching middle age.

The sexual morphology was feminine. The greater sciatic notch was scored a -1, the left and right mastoids were scored -1 and -2 respectively, the malars

were gracile, the zygomatic arch was scored a -1, the supra-orbital margin was scored 0, and the linea aspera was delineated laterally and was scored -1. The biological evidence, which suggested this individual was probably a female, is corroborated by the recovered grave goods. A hair comb and remnants of a hair piece were found attached to the occipital. Additionally, a woman's wedding band, 15.6 mm in diameter was recovered encircling a phalanx.

Skeletal Pathology: The remnants of the long bone shafts did not exhibit any infectious or traumatic lesions; however, there was not enough skeletal material to make an accurate assessment. The right acetabulum was slightly lipped and the lunate surface showed evidence of erosion indicative of minor degenerative arthritis which is age progressive. The other joint surfaces did not exhibit degenerative changes. The inner orbital surface and the appropriate cranial fragments did not display the characteristic lesions associated with anemia. No neoplasms were observed.

Dental Inventory: The dental remains included the first and second left maxillary molars and two maxillary canines. The molar attrition is reported above. The wear scores for the maxillary canines is 5 or moderate (Smith 1984). Two interproximal caries were on the adjacent surfaces of each molar.

Childhood Stress: Hypoplasia data could only be collected from one canine as the enamel of the other canine was etched and the original enamel surface was obscured. A stress episode observed occurred between 4.0-4.5 years. The crown height for the canine was 8.80 mm. These data are limited and no interpretation is possible.

Summary: While the grave goods and skeletal morphology indicate a female, the age indicators are inconclusive but suggest an adult approaching middle age. There was nothing to suggest the skeletal remains were not those of Nancy Portwood Tucker.

BURIAL 8: James J. Cannedy b. 1847 d. 1909

MORTUARY CHARACTERISTICS

Physical Aspects

Body Orientation: E-W

Body Placement: Extended supine

Hand Placement: Unknown

Funerary Aspects

Casket Shape: Unknown

Casket Measurements: Unknown; casket was badly deteriorated

Casket Hardware: The coffin from burial 8 was made of pine, and based on the absence of viewing glass, it is probable that it was a closed casket. In addition, caplifters were found associated with this burial. Among the casket hardware recovered were 12 side handles, a decorative plate, 3 caplifters, 1 thumbscrew, and portions of the coffin lining.

The handles were two-lug swing short-bar handles held with iron screws (Figure 15a). They were made of white metal with a geometric design. They are similar, but not identical to examples shown in Hacker-Norton and Trinkley (1984:Figure 5-8). Evidence of a wood straightbar was still visible within the core of some of the handles.

A decorative metal coffin plate was found at the foot of the casket which read: AT REST. It measured 20 cm long and 12 cm wide, with a decorative scroll pattern around the edges. According to Hacker-Norton and Trinkley (1984:11), the metal plate is "attached to the lid of the coffin, usually in the center over the thoracic or pelvic area. These may be factory engraved or stamped with common inscriptions such as Rest in Peace, At Rest, Mother, or Our Darling. Alternatively, they may be custom engraved by the funeral director at an additional cost."

Two caplifters were recovered that were in the form of open winged doves (Figure 15b). The measured 4.5 cm by 3.9 cm and were made of white metal. They were used to open the coffin for viewing. One of the caplifters was partially broken during excavation. A similar caplifter was found associated with burial 10. It is interesting to note that the coffin in burial 8 however, did not have viewing glass. A third caplifter was found in burial 8 that was in the form of a lily (Figure 15c). It measured 5.0 cm by 3.5 cm. It is not known how often more than one style of caplifter was utilized for the same coffin.

A single thumbscrew was found that measured 7.0 cm by 3.5 cm. It was similar in style to one shown in Figure 14-R in Hacker-Norton and Trinkley (1984).

A number of casket lining fragments were also recovered within the coffin remains of burial 8.

CULTURAL CHARACTERISTICS

Clothing: The only clothing remains recovered in burial 8 was a single, complete porcelain shirt stay. It measured 1.2 cm in diameter and was used to tack down the collar of a dress shirt.

Nonpersonal and Related Goods: No additional burial goods were found in the coffin or grave fill.

PROPOSED BURIAL DATE

The burial date recorded for burial 8 is ca. 1883.

BIOLOGICAL CHARACTERISTICS

Skeletal Inventory: The cranium was represented by a partial frontal, pieces of parietal, and part of the occipital and left temporal. Fragments of the mandible included part of the chin and body. The postcranial skeleton included shafts of both femora, pieces of the radial shaft, and a few unidentifiable long bone fragments.

Demographics: The coronal and the sagittal sutures were obliterated endocranially and fused and partially obliterated ectocranially indicating middle to old age (Krogman 1962). The molar wear was moderate (20; Scott 1979), but again, when compared to the rest of the cemetery sample the wear was pronounced (20; Scott 1979). These data suggest that this individual was an adult with middle age indicators. The sexual morphology indicated a possible male. The linea aspera was defined bilaterally, though not well developed and was scored 0. The chin was thick and defined bilaterally and was scored +1. The external occipital protuberance was very robust and scored +2.

Skeletal Pathology: Approximately 30% of the long bones were represented and the preservation was poor. No infectious or traumatic lesions were observed. No joint surfaces were available, thus the presence or absence of arthritic degeneration could not be

observed. The cranial fragments did not exhibit the characteristic lesions which are commonly associated with porotic hyperostosis. No neoplasms were observed.

Dental Inventory: A maxillary molar, a maxillary right premolar, and both maxillary canines were recovered. The Smith (1984) wear scores for the premolar and canines were as follows: 4, 5, and 5. The teeth were worn at an angle. The wear scores indicate moderate dental attrition. Two caries were observed: one interproximal carie on the cemento-enamel junction of the maxillary right premolar and another interproximal carie was on the maxillary canine. Alveolar resorption could not be observed. No shoveling or calculus deposits were observed.

Childhood Stress: The hypoplasia data for one maxillary canine indicated the occurrence of stress episodes during 3.0-3.5 years, 4.0-4.5 years, 4.5-5.0 years. The other maxillary canine exhibited two hypoplasias. The first occurred during 3.0-3.5 years, and the second occurred between 4.0-4.5 years. Collectively, these data indicate that this individual experienced stress episodes during 3.0-3.5 years, 4.0-4.5 years, and 4.5-5.0 years. Four of the hypoplasias on the two teeth occurred during 3.0-3.5 years, indicating a peak in the sequence of childhood stress.

Summary: The sex and age indicators tend to support the identification of this burial as J. J. Cannedy. The pathology data are incomplete, but as an adult, this individual apparently did not experience trauma or infectious lesions. The hypoplasia data indicate a stressful childhood that peaked between 3.0-3.5 years.

BURIAL 9: Martha J. Bean Tucker Norris Cannedy b. ca. 1852 d. ?

MORTUARY CHARACTERISTICS

Physical Aspects

Body Orientation: E-W

Body Placement: Extended supine

Hand Placement: Crossed over pelvis

Funerary Aspects

Casket Shape: Unknown; no casket found.

Casket Measurements: Unknown; no casket found.

Casket Hardware: Although no coffin was found, information was recovered that provided data on the casket type. No viewing glass occurred in burial 9, indicating that the coffin was a closed-casket. Remnants of the casket lining were recovered along with 4 snaps that were used to fasten the lining to the interior of the coffin. These snaps measured 1.7 cm in diameter. A small piece of black ribbon(?) was found near the head of the casket. It measured 5.6 cm and 1.8 cm. It may have been attached to the coffin lining, or have been part of a garment. Its function is unclear.

Three swing-bail two-lug handles were recovered that were made of cast white metal (Figure 15f). They had a geometric design, and each was held in place by four iron screws. They measured 17.0 cm by 7.8 cm. The remaining three handles were not found.

A total of four white metal coffin screws measuring 2.0 cm long and 1.5 cm in diameter were found. The heads were knob shaped, and the screws were used to fasten the lid shut.

A total of 36 machine cut coffin nails were also found and included 7 whole and 29 fragments. They were recovered from throughout the coffin matrix.

CULTURAL CHARACTERISTICS

Clothing: Two clothing related items were recovered in burial 9: garment fabric from the upper torso region and two porcelain shirt buttons. The buttons were a plain, four-hole variety, and measured 1.1 cm in diameter.

Nonpersonal and Related Goods: No additional burial goods were found in the coffin. Several undecorated white whiteware plate and *Amblema plicata* (mussel shell) fragments were found in the grave fill. These items were probably placed on the burial mound and worked their way down into the soil over time. They were recovered near the ground surface rather than directly above the coffin.

PROPOSED BURIAL DATE

The burial date recorded for burial 9 is ca. 1900-1910. The coffin hardware documented for burial 9 corresponds to styles recorded for the A. L. Calhoun Collection from Clio, Marlboro County, South Carolina which dates between 1894 and 1926 (Hacker-Norton and Trinkley 1984:2).

BIOLOGICAL CHARACTERISTICS

Skeletal Inventory: The cranial fragments that were recovered included: a small portion of the right temporal, part of the superior occipital and posterior parietal, part of the right mastoid, part of the right greater wing of the sphenoid, and both petrous portions. Only the right side of the postcranial skeleton was recovered. The inventory consisted of fragments of the femoral head and neck, a portion of the femoral and tibial shafts, a portion of a femoral condyle, a small fragment of the acetabulum, and several unidentified lumps of trabecular bone. The preservation was generally bad. Both long bone shafts exhibited extensive damage from shoveling.

Demographics: While the age of Martha Cannedy is unknown, it is suspected that with three marriages she was at least approaching middle age. There were no skeletal age indicators recovered. The presence of a third molar indicates an age of at least over 17 years. The molar wear was light to moderate. The sexual morphology consists of the linea aspera which was rounded and delineated laterally; a female characteristic (-1). The age and sex of this individual is undetermined due to the lack of skeletal indicators.

Skeletal Pathology: Trauma, skeletal infection, or arthritis could not be observed because of the poor preservation and the highly fragmented nature of the skeletal remains. The appropriate cranial fragments did not display the characteristic lesions commonly associated with porotic hyperostosis.

Dental Inventory: The recovered dentition included: the first, second and third right maxillary molars (Scott 1984: scores 18, 8, 4 respectively), the first and second right maxillary premolars (Smith 1984: scores 4 and 3), the right maxillary canine and the left central incisor (Scott 1984: score 4). The dental wear was light to moderate. Two interproximal caries were present on the adjacent surfaces between the first and second molars. The central incisor exhibited a groove

worn on the midsection of the lingual surface. Apparently, this individual habitually pulled some kind of fibrous material such as a thread across that surface. No shoveling or calculus was observed. Alveolar resorption could not be observed.

Childhood Stress: The maxillary canine exhibited hypoplasias that occurred during the following intervals: 3.5-4.0 years and 4.5-5.0 years. The crown height was 8.54 mm. The left central incisor exhibited one hypoplasia which occurred during 2.5-3.0 years. The crown height was 9.15 mm. These data indicated that this individual experienced stressful episodes between 2.5-3.0 years, 3.5-4.0 years, and 4.5-5.0 years.

Summary: The analysis of the age and sex indicators was inconclusive. This individual was determined to be an adult of unspecified age. The sex was undetermined with female characteristics. The pathological data was also inconclusive due to the poor preservation of the skeletal remains. The enamel hypoplasia data indicate a highly stressed childhood.

BURIAL 10: Miss N. E. Tucker b. 1875 d. 1901

MORTUARY CHARACTERISTICS

Physical Aspects

Body Orientation: E-W

Body Placement: Extended supine

Hand Placement: Unknown

Funerary Aspects

Casket Shape: Rectangular/Octagonal?

Casket Measurements: Unable to measure

Casket Hardware: The coffin was constructed similar to burial 7 (Nancy Portwood Tucker), with a pine bottom and cedar sides and lid. Viewing glass was recovered, and when first encountered, appeared to relatively in situ. It formed a half-circle in shape and measured 50.0 cm long (relative to the axis of the torso) and 35.0 cm across. It exposed the entire upper torso. Portions of wood and fabric were attached to fragments of the view glass. Additional casket hardware recovered included, 1 unidentifiable casket hinge? fragment

that measured 2.5 cm by 2.0 cm, casket lining, and an unidentifiable iron casket bracket with an iron screw, and measured 3.0 cm by 1.5 cm in size. Also found were two dove caplifters, two studs?, eight handles, two thumbscrews, four thumbscrews with escutcheons and two lily caplifters.

The two caplifters found were in the form of open winged doves (Figure 15b). They measured 4.5 cm by 3.9 cm and were made of white metal. They were used to open the coffin for viewing. It is interesting to note that this coffin also had viewing glass. A second pair of caplifters occurred that were in the shape of lilies and measured 5.0 cm by 3.5 cm.

Two thumbscrews were found that measured 7.0 cm by 3.5 cm, and were similar in style to one shown in Figure 14-R in Hacker-Norton and Trinkley (1984). Four other thumbscrews which differed in style were also found and were still attached to the escutcheons associated with them. The use of several styles of thumbscrews or caplifters on a single coffin has been noted for other burials in the Tucker sample, and suggests that some of these caskets may have been prepared with what hardware was available rather than adherence to using a single style throughout, or that several styles were commonly used on a single casket.

Two possible studs were found that measured 1.0 cm in height and 1.0 cm in diameter, with three screws or prongs that projected into the casket wood.

The eight handles recovered were made of cast white metal with a lead base (cf. Figure 15a). They were a two-lug swing short-bar style with evidence of the wood straightbar still remaining. They were fastened to the casket with 2 iron screws each, and most of the screws were still in place. The handles measured 8.0 cm by 8.0 cm and were similar in style, but not identical to examples shown in Figures 5 through 8 in Hacker-Norton and Trinkley (1984).

CULTURAL CHARACTERISTICS

Clothing: The clothing remains associated with burial 10 included cloth fragments, three snaps, and a wig and haircomb set. The cloth could not be identified

according to material or clothing garment type. The snaps were copper or brass plated with a floral decoration. They measured 1 cm in diameter.

Burial 10 was identified as Miss N. E. Tucker (headstone) and the presence of an elaborate hair wig did not refute this. We were unable because of time and field restraints to test the wig in order to determine the type of material used. The wig appeared to be a full wig rather than a hair piece and was attached to the individual's own hair by means of a tortoise shell comb. The comb measured 22.0 cm in length, and 3.5 cm in height. A cloth backing into which the wig was woven was attached to the comb by means of six tiny holes, equally spaced 3 cm apart, along the length of the comb. A small aqua glass bead was imbedded into the comb at the center of its length.

Nonpersonal and Related Goods: No additional burial goods were found in the coffin. Six repousse white whiteware vase fragments and one Amblema plicata (mussel shell) were found in the grave fill. These items were probably placed on the burial mound and worked their way down into the soil over time. They were recovered near the ground surface rather than directly above the coffin.

PROPOSED BURIAL DATE

The burial date recorded for burial 10 is 1901.

BIOLOGICAL CHARACTERISTICS

Skeletal Inventory: The skeletal material representing this individual was poorly preserved. The cranial fragments included: part of the occipital, fragments of the parietal, left orbit, and a small piece of the mandible. Elements of the postcranial skeleton included: the second cervical vertebra, a partial thoracic vertebra, fragments of the acromion process of a scapula, a fragment of the right humeral head, the capitulum of the right distal humerus, portions of the right and left humeral diaphyses, and pieces of the right radial and ulnar shafts. Fragments of the pelvis included a piece of the right greater sciatic notch and part of the left acetabulum. The elements of the lower limbs included: a partial femoral head, the shafts of the right femur and tibia and left fibula, and a foot phalanx.

There were two skeletal abnormalities observed. The occipital protuberance exhibited an odd tear shaped boney projection. The etiology is unknown. The right

humerus was more robust than the left possibly indicating right handedness (Stewart 1979).

Demographics: This individual is thought to represent by grave location a female that died a month after her twenty-sixth birthday. The biological age indicators were inconclusive. The length and robusticity of the diaphyses and cranial fragments indicate this individual was an adult. The presence of an erupted third molar indicates an age of at least 17 years. The molar wear was light.

The sexual morphology was feminine. The greater sciatic notch was scored -2. The linea aspera was gracile and was scored -1. The supraorbital margin had a rounded edge (+1) while the supraciliary arch was non-existent (-2).

Skeletal Pathology: Approximately 50% of the long bones were present. No traumatic or infectious lesions were observed. There were too few joint surfaces (less than 50%) for an accurate observation of arthritic changes. The cranial fragments did not display the bony lesions commonly associated with porotic hyperostosis. No neoplasms were observed.

Dental Inventory: Four molars were recovered: the second left maxillary molar (Scott 1984: score 12), and the first, second and third left mandibular molars (Scott 1984: scores 14, 12, 8, respectively). The medial molar cusps were scooped out through wear. The first right mandibular maxillary premolar and mandibular premolar were recovered. Unfortunately, the wear and sides were not recorded. The anterior dentition was represented by the left lateral maxillary incisor, a maxillary canine, and mandibular canine and all these teeth exhibited a wear score of 2 (Smith 1984). There was no calculus or shoveling present. Alveolar resorption could not be observed.

Childhood Stress: The maxillary canine exhibited hypoplasias that occurred during: 2.5-3.0 years, 3.5-4.0 years, and 4.5-5.0 years. The mandibular canine exhibited one stress episode that took place between 4.5-5.0 years. The maxillary lateral incisor exhibited two stress episodes between 1.5-2.0 years, and 3.0-3.5 years. Collectively, these data indicate that this individual was exposed to an annual cycle of stress which occurred between 1.5-2.0 years, 2.5-3.0 years, 3.5-4.0 years, and 4.5-5.0 years.

Summary: The remains of this adult could be those of Miss

Nancy Tucker. The sexual morphology indicates a probable female and a hairpiece was found attached to the cranial fragments. The age indicators were inconclusive and indicate an adult of unspecified age. This individual survived a very stressful childhood. While the pathological data were inconclusive, there were no infectious or traumatic lesions observed.

BURIAL 11: William Tucker b. ? d. pre-1880?

MORTUARY CHARACTERISTICS

Physical Aspects

Body Orientation: E-W

Body Placement: Unknown

Hand Placement: Unknown

Funerary Aspects

Casket Shape: Unknown; possibly rectangular

Casket Measurements: Unknown

Casket Hardware: The coffin associated with burial 11 was made of pine and did not contain viewing glass, indicating a closed-casket. The coffin was painted white. Among the casket hardware recovered were 10 white metal handles, 2 white caplifters, 1 wood screw (4.1 cm in length), 1 iron latch, and a portion of a straight wooden bar. The iron latch was very fragmentary, and its placement and exact function are unknown.

The handles were a two-lug swing short-bar type and were similar to those found associated with burial 10, except they had thicker handles and more ornate floral decoration (Figure 15h). They measured 10 cm by 8 cm with a handle diameter of 2.8 cm. Two of the original 12 handles were not recovered.

Two caplifters were found in burial 11 and were poorly represented among the other burials, reflecting their use for lifting the top panels of the coffin for viewing (Figure 15d). As most of the other caskets documented in the cemetery contained viewing glass, this pattern is not unexpected.

One of the wooden bars that extended between each pair of lug handles was recovered. It was made of pine and measured 9 cm in length and 1.4 cm in diameter. It was incomplete and may have been covered by a metal sheathing at one time.

CULTURAL CHARACTERISTICS

Clothing: No clothing remains were recovered

Nonpersonal and Related Goods: No additional burial goods were found within the coffin or in the grave fill.

PROPOSED BURIAL DATE

The burial date for grave 11 is unknown. Based on the absence of William Tucker in the 1880 Census and recording of his wife and children living with her father during that year, it is suggested that he died before this census was recorded.

BIOLOGICAL CHARACTERISTICS

Skeletal Inventory: There was very little skeletal material recovered from this grave. The cranial fragments included pieces of the occipitals and parietals.

Demographics: The lamboidal suture was not fused; however, the sagittal suture was fused endocranially. The cranial fragments were very thick (up to 1.5 cm); but, there was no external pitting or expansion of the diaploe. The etiology of the thickened cranial fragments is unknown. A small fragment of the femoral linea aspera was present. The ridge was delineated on both sides and appeared to be male.

Skeletal Pathology: Unknown

Dental Inventory: Not recovered

Childhood Stress: Unknown

Summary: Due to the paucity of skeletal material recovered from this grave the age and sex of this adult was undetermined.

BURIAL 12: Unknown

MORTUARY CHARACTERISTICS

Physical Aspects

Body Orientation: E-W

Body Placement: Unknown

Hand Placement: Unknown

Funerary Aspects

Casket Shape: Unknown; casket was not recovered.

Casket Measurements: Unknown.

Casket Hardware: A single cut nail fragment was recovered.

CULTURAL CHARACTERISTICS

Clothing: No clothing remains were recovered.

Nonpersonal and Related Goods: No burial goods were found within the grave fill, although brick and shell fragments were noted on the surface.

PROPOSED BURIAL DATE

The burial date for grave 12 is unknown. Based on information that this individual was an infant of Martha J. Bean Norris and Wade Norris it is suggested that burial 12 dates between 1878 and 1882. According to the marriage records for Delta County, Martha J. Bean Norris remarried in 1882 to James J. Cannedy.

BIOLOGICAL CHARACTERISTICS

Skeletal Inventory: No skeletal remains were recovered.

Demographics: Unknown

Skeletal Pathology: Unknown

Dental Inventory: Unknown

Childhood Stress: Unknown

BURIAL 13: Unknown

MORTUARY CHARACTERISTICS

Physical Aspects

Body Orientation: E-W

Body Placement: Unknown

Hand Placement: Unknown

Funerary Aspects

Casket Shape: Unknown; casket was not recovered.

Casket Measurements: Unknown

Casket Hardware: A single cut nail fragment was recovered.

CULTURAL CHARACTERISTICS

Clothing: No clothing remains were recovered

Nonpersonal and Related Goods: No burial goods were found within the grave fill, although brick and shell fragments were noted on the surface

PROPOSED BURIAL DATE

The burial date for grave 13 is unknown. Based on information that this individual was an infant of Martha J. Bean Norris and Wade Norris it is suggested that burial 13 dates between 1878 and 1882. According to the marriage records for Delta County, Martha J. Bean Norris remarried in 1882 to James J. Cannedy.

BIOLOGICAL CHARACTERISTICS

Skeletal Inventory: No skeletal remains were recovered.

Demographics: Unknown

Skeletal Pathology: Unknown

Dental Inventory: Unknown

Childhood Stress: Unknown

BURIAL 14: Unknown

No evidence of a grave shaft, coffin, or human remains were identified or recovered.

BURIAL 15: Unknown

No evidence of a grave shaft, coffin, or human remains were identified or recovered.

BURIAL 16: Unknown

No evidence of a grave shaft, coffin, or human remains were identified or recovered.

A HISTORICAL PERSPECTIVE OF THE BURIAL, FUNERAL, AND BIOANTHROPOLOGICAL PATTERNS OF THE TUCKER CEMETERY POPULATION

The burial data presented in the previous section yielded considerable information about the burial and funeral customs of the Tucker family and the bioarchaeological history of the Tucker Cemetery population. These data were compared with patterns identified for other historical cemeteries in Texas in an effort to obtain a better understanding of traditional southern cemetery folkways and the adaptive efficiency of the rural populations represented in small, family graveyards.

TRADITIONAL BURIAL AND FUNERAL CUSTOMS

Susan A. Lebo

According to Fox (1984:47), the custom of burials in small family plots began towards the end of the eighteenth century. The modern cemetery configuration with designated lots, first appeared in the early nineteenth century (Deetz 1977:90; Fox 1984:47). Many traditional family cemeteries survived into the twentieth century in rural areas that were slow to adopt popular lifeways. As the rural landscape (e.g., farming techniques, productivity, farm size, emigration) changed during the early-to-mid-twentieth century, many multi-generation family graveyards were abandoned and allowed to deteriorate and disappear.

The Tucker Cemetery represents a vestige of these traditional nineteenth century rural graveyards. While relatively few of these cemeteries have been examined to date (Ferguson 1983; Fox 1984; McReynolds 1981), collectively they have yielded a wealth of information and questions about cemetery folk customs. By examining this data base, it is possible to place the Tucker Cemetery sample in historical and cultural perspective.

Changes in burial or funeral customs will be examined using data recovered during the relocation process at Tucker Cemetery and from studies conducted at other nineteenth century cemeteries in Texas. The use of coffins, coffin styles, materials, and hardware, as well as the funeral industry, underwent major changes between 1800 and 1920. In addition, preparation of the dead for burial, including the use of shrouds, dressing the individual, and the inclusion of burial goods within the coffin, exhibited evidence of change during this period.

Coffins

According to Fox (1984:50), it is not known when coffins

were first used in Texas. Based on eighteenth century burials excavated in the San Antonio area, coffins were not used in Spanish times. They were present in the early nineteenth century and primarily were in the form of hexagonal coffins, with the widest dimension at the shoulders and tapered toward the head and foot. Rectangular caskets represent a custom that began around 1850 (Blakely and Beck 1982:188; Jones 1967:75) and gradually replaced hexagonal coffins (Fox 1984:48) and octagonally shaped caskets. As such, a trend occurred from no caskets to hexagonal, to octagonal, to rectangular. Metal coffins, or wood coffins with metal linings were available in the 1890s and increased in popularity in urban areas during the early twentieth century.

Only two octagonal coffins were recorded in the Tucker sample. They represent the earliest burials within the cemetery, dating between ca. 1870 and 1890. Burial 11 fell within this time period, but because of poor preservation, it was not possible to determine if the coffin may have been octagonal. Burials 12 and 13 were too badly deteriorated to determine coffin type. All of the burials dated after 1890 contained rectangular coffins. These data indicate that while rectangular coffins were available for at least 20 years before the first burial at the Tucker Cemetery, the octagonal style was still in use in the 1880s. A single metal coffin was recorded for the Tucker sample, and was associated with burial 1 dated 1942. The remaining seven burials that dated between 1890 and 1942 had all wooden coffins; no evidence was found for metal linings. Again, this pattern indicated that a considerable time lag occurred between when metal coffins were first manufactured, and when they were available and utilized by rural populations.

Pine was the most prevalent material used for making coffins, which in part reflected the most available tree species. However, imported wood was sometimes used (Fox 1984:51), particularly in areas where appropriate materials were not native. McReynolds (1981:86-87) documented the use of imported pine, cedar, and spruce for the Laredo Cemetery (41WB22), Webb County, Texas, where the native vegetation was primarily thorny brush. However, she also noted that it was highly probable that while the wood was imported, the coffins were locally produced. This was supported by the construction of made-to-fit coffins that were tailored in size in direct proportion to the interred individual (McReynolds 1981:87-88). Made-to-fit coffins were recorded for the Morgan Chapel Cemetery (41BP200), Bastrop County, Texas (Taylor, et al. 1986:44).

According to Fox (1984:50), "traditionally in most small communities a coffin was made to fit the individual when one was needed." While manufactured coffins became available after the Civil War, rural families in some areas of the South continued to purchase (commission) coffins made by a local carpenter or cabinetmaker until 1915 (Taylor, et al. 1986:43). According to

Hacker-Norton and Trinkley (1984:6), "the period from 1875 through 1900 was marked by the growth of professional and trade associations of the funeral industry and by 1900 a number of states were regulating burial practices (Habenstein and Lamers 1975:449)....In spite of this, general merchandisers continued to sell coffins and hardware, especially in the rural areas of the Southeast, buying their wares from the factory or from jobbers." In addition (Hacker-Norton and Trinkley 1984:7) note that, "...regulatory practices of the funeral industry were not successful until the further economic development of the rural south took place," which did not occur until sometime after 1920.

The Tucker Cemetery sample also appeared to exhibit the use of made-to-fit coffins. However, because of the excavation techniques used, this information was not recoverable for all burials. Burials 7 and 10 were exposed before removal and very little space was evident between the human remains and the coffin sides. The extremely small sample size precludes making any statements about the variability evident in coffin dimensions for both the infant and adult populations.

No data have been found to date for the popularity span of made-to-fit coffins for rural communities in Delta County. However, the maintenance of many traditional lifeways among farm families into the 1940s and 1950s lends support to the suggestion that manufactured coffins were not popular until the early-to-mid-twentieth century.

Pine coffins were recorded for burials 2, 3, 4, 5, 8, and 11, indicating that pine was the major material used in the Tucker sample between pre-1880 (burial 11) and 1934. Only two burials dating within this time span were made of pine and cedar and included burials 7 and 10. Burial 7 dated to the 1880 period, while burial 10 dated 1901. The coffin in burial 6 was made entirely of cedar and was unique in the Tucker sample. It dated 1888, and together with burials 7 and 10, these individuals received the most expensive caskets. The casket for burial 1 (1942) was made of cedar covered with metal sheathing. Because the cemetery was abandoned after 1942, and only two burials dated after 1909, it is not possible to assess when cedar coffin replaced pine in this area of Texas. The use of pine in the casket for the B. O. Cumming infant buried in 1934 indicated the pine was used into the early twentieth century. In addition, pine may have continued to be utilized longer for infant and childrens' burials than for adults. However, because of the small sample size for the Tucker Cemetery, it was not possible to assess this.

Patents for coffins with viewing glass were filed 1860 and 1900 (Blakely and Beck 1982:188; Kline and Kline n.d.), and were more expensive than plain caskets, reflecting status. Viewing glass was uncommon and was reported for only eight

burials at the Morgan Chapel Cemetery (Taylor, et al. 1986), one at the Laredo Cemetery (McReynolds 1981), and only seven at Cedar Grove Cemetery (3LA97), in Lafayette County, Arkansas (Rose 1985). Five burials in the Tucker sample contained evidence of viewing glass remains (burials 3, 4, 6, 7, and 10).

It is unclear whether glass fronts were merely decorative or served as a sealer in the absence of embalming (Taylor, et al. 1986:45). However, their relatively low frequency suggests that they were more stylistic than functional. If so, they may be a good indicator of status. This possibility is indicated by the presence of viewing glass in burials 6, 7, and 10. These burials exhibited several high expense attributes, including the use of cedar rather than merely pine, the inclusion of burial goods, the presence of full wigs and hair combs in 7 and 10, as well as jewelry and personal grooming items (eyeglasses, rings, watches) in 6 and 7, and a marble head and footstone for burial 10.

Metal coffin hardware also appears to exhibit considerable variability over time. Tight date brackets are not possible because of the lag between when new styles were available and when they were purchased by rural populations. In addition, merchants supplying many rural communities stocked styles that were no longer manufactured and had been replaced by new styles in urban areas. According to Hacker-Norton and Trinkley (1984:48), "we would expect that the hardware being sold in 1900 [in rural areas] might easily have been manufactured in the 1880s."

General trends in coffin hardware styles were noted by Hacker-Norton and Trinkley (1984), and include the following:

Handles: exhibited a shift from swing-bail to the two-lug short-bar around ca. 1880. By 1912 the extension handles were increasing in popularity.

Studs: available from the mid-nineteenth century through the mid-twentieth century. However, at the turn-of-the-century they were no longer accepted by the funeral industry.

Escutcheons: available from the mid-nineteenth century.

Screws and tacks: available as early as 1865, but disappear between 1877 and 1920.

Caplifters: available by 1877.

Hinges: available by 1865 but are no longer illustrated after 1900.

Considerable variability occurred within the Tucker sample,

with burials dating over 20 years apart, exhibiting similar hardware. For example, swing-bail single-lug handles occurred in burials 6, 2, and 9, spanning between 1888 and 1909. Styles also overlapped, with several styles occurring during the same period. Three handle styles were represented in the sample between ca. 1880 and 1909. Identical hardware was recovered from several burials, with the greatest frequency occurring between burials 8 and 10. The lug style and caplifter styles were identical for burials 8 and 10, while the thumbscrews in burials 7, 2, and 10 matched.

Casket hardware styles may also be an indicator of status. Based on the Cedar Grove (3LA97) sample, "with one exception, infants have no casket hardware or personal goods which suggests low status" (Rose 1985:135). In the Tucker sample, only one infant grave, burial 2 exhibited a high frequency of coffin hardware and included single-lug swing-bail handles, viewing glass, thumbscrews, escutchions, studs, and hinges. Only burial 10, belonging to Miss N. E. Tucker, exhibited a similarly high frequency of coffin hardware.

Burial Preparations

Coffins were generally lined with cloth or cotton. According to Fox (1984:52), the coffin "was lined with white cloth padded with cotton or wood shavings, and held down with carpet tacks. Black cloth was sometimes used for adults. For tiny infants, a small rectangular box was lined and padded with cotton." The exterior might be partially covered with black cloth or satin (Taylor et al. 1986:43), and children's coffins may have been painted white. Children's and youths' handles were available in white during the nineteenth century, with "pearl tinted," pink, blue, and gold by the mid-twentieth century (Hacker-Norton and Trinkley 1984:10).

Few burial items were included in the coffin. According to Fox, data for the Yarbrough Bend Cemetery (41MC18) in McMullen County, Texas, indicated that it was customary

to bury people in their clothing. There were, however, a significant number of graves which had no such indication. Many of these burials had evidence of straight pins, which may have been used to secure or tailor a shroud or winding sheet. This was especially obvious in the Yarbrough Cemetery, where no evidence of clothing was found. (Fox 1984:53)

According to Taylor, et al. (1986:45), it was not unusual in the rural South between the 1860s and 1920 to bury an individual in a shroud.

Variability in dressing the deceased or burying them in a shroud has been documented at other rural cemeteries. Burials containing clothing remains included primarily buttons. Shoes were uncommon (Rose 1985). The Tucker Cemetery sample included six burials with clothing remains, as well as five burials without. Clothing items were recorded for burials 5, 6, 7, 8, 9 and 10, and no clothing remains were found in burials 1, 2, 3, 5, and 11. When these data were correlated with the presence or absence of coffin lining, it was found that three burials were recorded as having both clothing and coffin lining remains (6, 7 and 8), suggesting that the "coffin lining" identified for many of the burials, may actually have been burial shrouds. Only three burials did not contain clothing or "lining" remains and included burials 2, 5 and 11 which may reflect poor preservation.

The inclusion of personal items within the coffin was also variable among burials in rural cemeteries (Fox 1984; McReynolds 1981; Rose 1985). At the Tucker Cemetery, only three burials (4, 6 and 7) contained personal items. A pocket knife was found in burial 6 and watch fobs were recovered in burials 4 and 7. Wigs with haircombs for securing them were evident in burials 7 and 10, and were recorded as clothing-related.

BIOANTHROPOLOGICAL PATTERNS

Barbara A. Burnett

Bioanthropological analyses of historic cemeteries contributes to our knowledge of historical development by assessing the success of a cultural system in terms of human biology. Specifically, the bioanthropologist evaluates the adaptive efficiency of a population, or the degree to which a cultural system protects its members from harmful stimuli thus enabling them to survive and reproduce. The biocultural analysis of the historic Tucker Cemetery examines the skeletal biology of five generations of a rural Texas family within this adaptive perspective.

The osteological data generated by the Tucker skeletal analysis is compared to the osteological analyses of four other historic Texas cemeteries and the public health documentation of Texas between 1850-1900 and 1933. The biological data are placed within their historic context in order to generate interpretations that are historically valid. While skeletal data are an important source of information that contributes historical interpretations of health and diet, osteological analysis can only speak to diseases and nutritional factors that directly impact the skeleton. A biocultural analysis of osteological data would be incomplete without the examination of available historical documentation of public health and the osteological trends observed with other historic cemeteries.

The first goal in the bioanthropological analysis of a historic cemetery is to test the identity of the burials against the identifications established from the grave markers and oral history. There were sixteen possible graves in the Tucker Cemetery. Of those that were located, ten had skeletal remains. The osteological identification process was hindered during the relocation program by poor preservation, incomplete recovery of the skeletal material, and the lack of time to fully describe the skeletal remains. Only one individual could be positively identified. Additionally, there were one probable and two tentative identifications of the skeletal remains (Table 7).

Prior to the interpretation of the skeletal data, the demographic profile of the Tucker skeletal sample was examined to determine if the skeletal series could be considered representative of the historical living population. It was found that the documented birth and death rates of the Tucker family (Table 8) are an accurate reflection of the demographic trends observed within the historic population of Delta County, Texas. The majority of the deaths in the Tucker family occurred around 1900. This high mortality rate observed within the Tucker family was also observed within a larger historical cemetery in the Cooper locale (Table 9). The historic living population of Delta County markedly decreased between 1900 and 1910 following a consistent trend of rapid population expansion in the previous two decades (Table 10). This remarkable downturn in population growth was unique when compared to the rest of Texas and indicated a localized event. Without further investigation of the Delta County cemetery records and county history, it is not clear if the decrease in the Delta County population was the result of an out-migration or locally elevated mortality rates. However, the decreased population growth, coupled with the concurrent marked mortality exhibited in two local cemeteries was suggestive of localized stress.

A review of the documented public health of the historic Texas population revealed five leading causes of death during each census period from 1850 to 1900. Those causes change through time and can be grouped into three distinct patterns associated with historical trends (Table 11). The first cluster of major diseases that impacted the Texas population through 1850-1870 was epidemics of Old World acute crowd infections that followed world-wide pandemics and were brought into the United States via the successive waves of European immigrants. The second pattern of disease, including malaria and digestive disorders, coincided with the rapid expansion of cultivated land between 1870 and 1900. As more land was put under cultivation, the natural equilibrium was disturbed and the breeding grounds for the malaria spreading mosquito expanded and malaria became endemic. The increase in fatalities due to digestive disorders is attributed to the unsanitary conditions of farm life (Brown 1979). The third array of maladies which show up in 1933, closely

Table 7. Summary of Osteological Findings for Tucker Cemetery

Burial	Sex	Suspected Individual by Grave Location			
		Age	Name	Birthdate	Deathdate
1	unknown with female indicators	adult with middle to old indicators	Orie Cumming	-/-/1871	1942
2	unknown	infant	Willie Tucker	12/25/1900	7/31/1901
3	unknown	infant	Daphne Tucker	3/13/1899	8/10/1899
4	unknown with female indicators	20 - 30	William H. Tucker	10/18/1875	3/7/1901
5	unknown	unknown	B.O. Cumming	9/8/1934	9/8/1934
6	unknown with male indicators	adult	Soloman Tucker	?	10/1/1888
7	probable female	adult with middle age indicators	Nancy Portwood Tucker	?	-/-/1893
8	possible male	adult with middle to old indicators	J.J. Cannedy	12/15/1847	-/-/1909
9	unknown with female indicators	adult	Martha J. Bean Cannedy	?	?
10	probable female	adult	Miss N.E. Tucker	11/17/1875	12/28/190
11	unknown with male characteristics	adult	William O. Tucker	?	?
12	no skeletal remains		Infant Norris	?	?
13	no skeletal remains		Infant Norris	?	?
14	no skeletal remains		unknown	?	?
15	no skeletal remains		unknown	?	?

Table 8. Mortality Schedule of the Tucker Cemetery
by Dates of Interment by Decade

	1875	1885	1895	1905	1915	1925	1935	1945
AGES								
0-1			xx				x	
1-5								
5-10								
10-15								
15-20								
20-25								
25-30			x					
30-40			x					
40-50								
50-60								
60-70					x			
70-80								x
80+								
Unknown		x	x					
Percent N=9	11.0	11.0	45.0	11.0		0	11.0	11.0

Table 9: The Mortality Schedule of Dawson Cemetery (Known Dates)¹

Ages	1865	1875	1885	1885	1895	1905	1915	1925	1935	1945	1955	1965	1975
0-1			x										
1-5				x x	x								
5-10					x	x x x			x				
10-15							x	x					
15-20													
20-25			x			x							
25-30					x			x					
30-40			x	x	x x		x		x				
40-50			x	xx					xx		x		
50-60		x				x			x	x	x	x	
60-70	x			x	x		x x		xx			x	
70-80								x		x x x	x x xx		
80+				x	x	x			x xxx	x		x	
Percent N=63	20	6.0	13.0	17.0	10.0	8.0	11.0	14.0	5.0	11.0	3.0		

1. Albright, n.d.

Table 10. Living Population of Delta County, Texas
and the Area Surrounding Cooper, Texas, 1880-1910*

DECADE	DELTA COUNTY		PRECINCT 1 (including Cooper)	
	total	% change	total	% change
1880	5,597		1,308	
1890	9,117	63.0	2,926	123.7
1900	15,249	67.2	4,868	39.8
1910	14,566	- 4.5	4,708	- 3.3

* Data compiled from United States Census records.

Table 11. Five Leading Causes of Death in Texas, by Census Year(1)

CAUSE	1850	1860 (2)	1870	1880	1890	1900	1933 (3)
Fever, non-specific (2)	10.2						6.7
Cholera	9.2						
Pneumonia	5.7	12.3	13.4	10.2	9.6	8.3	
Congestive fever	3.6						
Consumption (tuberculosis)	3.6	5.0	6.0	6.5	7.8	8.6	
Typhoid fever		6.0				5.9	
Remittent fever		5.6					
Scarlatina		3.3					
Intermittent fever			5.3				
Enteric fever			4.1	4.3	3.9		
Measles			3.8			4.1	
Dysentery				6.4			
Malarial fever				6.0	7.9	3.9	
Diarrhea fever					7.3		
Various heart ailments							13.6
Accidents/ violence							9.7
Various tumors and cancer							7.0
% of total deaths by 5 leading causes:	33	32	33	33	36	31	44
N	1,000	13,788	3,662	8,272	9,649	10,540	26,059

(1) data compiled from United States Census records

(2) calculated for eighth District: Mississippi, Louisiana, Arkansas and Texas

(3) no data for years between 1900 and 1933

mirrors those of today, and are characteristic of modern-day society.

The total mean age of death, or average life span of the Tucker family members was low, and reflected a high infant mortality rate. Conversely, the mean age of death for Tucker adults alone was high indicating that if a Tucker family member managed to survive the first year of life, the chances of living to middle age were good. These trends also reflected the mortality rates of the historic population of Texas (Table 12). If a child managed to live past the fifth year of life, the chances of survival increased radically.

The skeletal indicators of health exhibited by the Tucker skeletons were incomplete due to the small sample size, compounded with poor preservation (Table 13). The skeletal data represented adults alone and indicated that the adults did not suffer from chronic skeletal infectious diseases. The lack of adult skeletal infection coupled with the high adult mean age at death indicated that the Tucker adults enjoyed long lives. Children were vulnerable to persistent threats from disease in the absence of modern medical science; adults exhibited higher survivorship, having survived the period of greatest stress.

Brown (1979) reviewed the health status of the rural southern child prior to 1950 and found that this segment of the population consistently suffered under a tremendous disease load until the 1930s. The poor childhood health of the rural children is attributed to the poor sanitary conditions of the farm and a nutritionally deficient diet. Childhood stress data were available for the Tucker adults alone (Table 14), and indicated that these adults survived very stressful childhoods. The chronological distribution of the stress episodes indicates an increase in stress after 2.5 years and a nutritionally poor weaning diet. The consistently high frequency of stress from 2.5 years to 5.0 years indicated that this age group was under continued life threatening stress that abruptly ended after 5.0 years. The occurrence of childhood stress for three of the Tucker individuals followed a seasonal pattern and is attributed to seasonal shortages of nutritionally adequate foods. The later Tucker interments, all born in the 1870s, exhibited a higher frequency of childhood stress than earlier generations of the Tucker family. It is thought that the higher stress among the later Tucker interments is indicative of the "rural disease" load of the southern farm children that was associated with the increase of farming that began in the 1870s.

The reconstruction of the Tucker family diet is crudely based on the frequency of caries for adults alone. The dental data indicated that caries frequencies increased over time. It is speculated from the caries rates for the Tucker Cemetery and the later interments of the comparable historic cemeteries that these

Table 12. Percent of Total Deaths by Age Bracket
and Census Year for Regions in Texas (1)

	REGION					
	A	B	C	D	E	F
YEAR	1850	1860	1870	1880	1890	1900
n=	1,057	9,337	9,015	22,121	26,478	34,160
0-1	17.9	21.8	23.0	27.0	22.1	22.2
1-5	23.9	21.6	18.1	20.0	15.2	18.4
5-10	7.7	6.8	7.2	5.2	5.6	5.2
10-15	12.3	4.0	5.4	3.1	3.8	3.5
15-20		5.9	5.7	4.7	5.3	4.7
20-25		6.9	6.9	6.8	6.0	5.9
25-30		6.1	4.9	5.5	5.2	5.1
30-40	27.8	9.4	9.1	8.6	9.7	7.8
40-50		6.5	6.7	5.9	8.0	6.9
50-60		4.4	5.4	4.6	5.9	5.9
60-70	3.5	3.0	4.2	4.2	5.7	14.1
70-80		1.5	2.1	2.9	3.7	
80+	0.9	0.9	1.1	1.3	1.9	

(1) data compiled from United States Census records
 REGIONS: A-north Texas; B-all Texas; C-Texas east of Colorado River;
 D- Group 2; E-all Texas; F-all Texas

Table 13. Comparison of Osteological Data from Four Rural Texas Cemeteries to Tucker Cemetery

	Three Cemeteries Live Oak/McMullen Counties (1)	Morgan Chapel Cemetery Bastrop Co. (2)	Total percent (four cemeteries) % (n)	Tucker Cemetery percent % (n)
PATHOLOGY				
Infectious lesions	0/26	1/3	3.4 (29)	0.0 (4)
Trauma	2/26	1/2	10.7 (28)	25.0 (4)
Osteo Arthritis	2/26	0/0	7.7 (26)	66.6 (3)
Anemia	3/18	0/2	15.0 (20)	0.0 (6)
Adults with caries	2/12	2/4	25.0 (16)	66.6 (6)

(1) death dates between 1860-1913 (data from Fox 1984)

(2) death dates between 1891-1937 (data from Massey 1986)

Table 14: Episodes of Childhood Stress Through Time by Individual in 6 Month Intervals

	Birthdate	0	.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	Percent (N=20)
Burial 7	b. 1847									x						5.0
Burial 8								xx		x	x					20.0
Burial 9							x		x			x				15.0
Burial 1	b. 1871			x			x	x		x	x					30.0
Burial 4	b. 1874					x			x							10.0
Burial 10	b. 1875				x		x		x		x					20.0
Percent (N=20)		0	0	5.0	10.0	5.0	15.0	15.0	15.0	15.0	20.0	20.0	0	0	0	

populations ate more refined carbohydrates and sugar than their predecessors.

The biohistorical examination of the historical documentation of public health and the osteological analyses of Tucker and four other historic cemeteries suggests that an increase in farming in the late nineteenth century affected dental health and changed the nature of disease patterning. Prior to this time, the Texas population was repeatedly impacted by epidemics of acute crowd infections. While the mortality was high, the epidemics occurred quickly and when they were gone they left behind a healthy population. With the increase in farming around 1870, the disease pattern changed from acute to chronic communicable diseases. Malaria, hookworm infestation, dysentery, and pellagra became endemic within the population, and did not go away. The children were the most severely impacted, and their physical and mental health was often retarded. These diseases, known as the "scourge of the South," continually sapped the vitality of the population until their eradication in the 1930s.

BURIAL INTERPRETATIONS

The biocultural analysis of a small rural skeletal series, such as Tucker will increase our appreciation of the living conditions of these people. The bioanthropological analysis will evaluate the disease patterns, mortality rates, and nutritional adequacy on a populational basis within an historic context. Examining the demographic profile to determine which segment of the population was most likely to succumb to stress and analyzing the severity of environmental and cultural stressors are inherent in the study of biocultural process.

There are certain osteological data that are considered good indicators of biocultural process (for a comprehensive discussion see Huss-Ashmore et al. 1982; Buikstra and Cook 1980; Goodman et al. 1984; and Gilbert and Mielke 1985). The adaptive efficiency will be measured here by demography, childhood mortality, adult longevity, disease, and frequency of childhood stress episodes. These data will be compared to the historic population of Texas and to the osteological analyses of other rural Texas cemeteries to maximize the interpretation potential.

Demography

Demography, or the statistical analysis of a population, is a direct measure of adaptive efficiency. Adaptive efficiency is best evaluated using an estimate of population growth. High adaptive efficiency is characterized by a growing population where births exceed deaths. Conversely, a declining population is where deaths exceed births and is indicative of a low level of

adaptive efficiency.

Prior to evaluating the demographics of the Tucker Cemetery, it is important to evaluate the representative merits of the skeletal sample. Admittedly a sample of eleven burials does not approach a population. Small skeletal samples are often subject to random events that can skew the analysis. Therefore, in order to generate realistic interpretations of the osteological data from Tucker skeletal series, the data will be compared to the demographic trends exhibited by the historic population of Texas.

The first criterion for establishing the demographic merits of a skeletal sample is the evaluation of the excavation. Was there a sampling strategy in use during excavation that would bias the analysis of the skeletal series? There were sixteen possible burials reported for the Tucker Cemetery, thirteen of these were known individuals. A total of eleven graves were located. The cemetery was intensely sampled by the relocation team so that no grave was overlooked. Ten of the graves had skeletal remains available for analysis (see Table 7). The known dates of death for these individuals span from ca. 1880 to 1942. The earliest known birth was in 1847 representing a spouse of the second generation. It is conceivable that the earliest birthdates, which are unknown, could have extended into the 1820s to 1830s. With 78% of the Tucker interments recovered, it is felt that this family is adequately represented between 1830 and 1942.

The second criterion for evaluating the representative merits of a skeletal sample is the examination of the age and sex profiles to determine how the skeletal sample approximates a normal biological population. The Tucker skeletal sample does approach the demographic dimensions of a biological sample with 43.0% subadults and 57.0% adults and a male/female ratio of 1.5 (Table 15). The ideal biological population should have approximately 50% subadults and a male/female ratio of 1.0.

The final criterion for establishing the demographic merits of a cemetery sample is the degree to which the living population is reflected by the skeletal series. In this case, the living population is the community in and around Cooper, Texas, between 1830-1942. Table 10 illustrates the population in the Cooper area between 1880-1910. There are 35 known cemeteries listed within Delta County, Texas, and six cemeteries are within the immediate area of Cooper (G. Albright, n.d.). As previously stated, the small sample of the Tucker Cemetery may not be an accurate representation of the mortality or morbidity schedules of the living community. With such a small sample, random events will have to be a consideration in any interpretations derived from the osteological analysis. However, the Tucker interments do generally reflect the demographic events of at least one cemetery (available to the author) in the Cooper locale (see Table 8). A comparison to Dawson, a larger cemetery a few miles outside of

Table 15. Demography of Tucker Cemetery

YEARS	MALE	FEMALE	UNKNOWN	Percent of Total Known
0-1	1	1	1	43.0
1-5				
5-10				
10-15				
15-20				
20-25				
25-30	1	1		29.0
30-35				
35-40				
40-45				
45-50				
50-55				
55-60				
60-65	1			14.0
65+	1			14.0
unknown	2	2		
Total %	55.0	36.0	9.0	

Cooper, reveals that the mortality schedule, or the pattern of dates of death through time, is comparable (see Table 9). The mortality schedule, as reflected by the dates of death for any cemetery, is shaped by both biological events and the history of the cemetery's use. In other words, the death dates are not only a reflection of death by disease, accident, and violence, but also a reflection of the burial preferences of the next of kin and the longevity of cemetery use. As each successive generation matures, the families utilizing the cemetery will eventually either die off or emigrate, leaving an older generation as the last interments. This is reflected in both the known dates of deaths and the ages at death at the Dawson Cemetery. The majority of the individuals buried after 1940 are over 70 years of age.

The known dates of death at Dawson closely resemble the chronology of the Tucker Cemetery. The highest number of total deaths ($n=63$, 17.5%) at Dawson occurred between 1885 and 1904. The majority (83.3%) of childhood deaths at Dawson (those under ten) clustered between 1887 and 1912. The peak of childhood mortality occurred between 1899 and 1904 with the most children dying in 1900. These trends are mirrored to some extent at the Tucker Cemetery. The Tucker family was severely impacted at this time. Between 1888 and 1909, 55.6% of the Tucker family died ($n=9$); four of these individuals died around 1900. Two of the three children interred in the Tucker Cemetery died at this time, one in 1899 and the other in 1901. The other two individuals, both of whom died in 1901, were brother and sister, ages 27 and 26 respectively.

The concurrent peaks of relatively high mortality seen at the Tucker and Dawson cemeteries around 1900, are reflected in the living population data of Delta County and the area surrounding Cooper (see Table 10). While the statewide population of Texas was expanding at 27.8% between 1900 and 1910, the population of Delta and several adjacent counties was decreasing (U.S. Census Records). An examination of Table 10 will illustrate the dramatic change in population growth. The population of Delta County prior to 1900 was rapidly expanding at a rate far above the rate of Texas. A population decreases either through emigration or as deaths exceed births. The mortality peaks at Dawson and Tucker coupled with the decrease in local population in comparison to the dramatic increases seen prior to 1900 are suggestive of a local event unique to the whole of Texas.

Mean age of death is considered one of the most important indicators of a population's biological success (Goodman et al. 1984). The mean age of death or average life span for all Tucker interments is 26.9 years ($n=7$). The low mean age of death is reflective of the three individuals that died under one year of age. The adult mean age of death (over the age of 17) is 46.2 years ($n=4$). This is high and indicative of a successful adult life style. Conversely, these data indicate that the children

under one were at risk. There were ten known Tucker children born from the second to the fifth generation, three of these children did not live beyond the first year. However, if a Tucker family member did survive the first year, the chances of reaching middle age were very good. These demographic dynamics were typical for this time period.

An examination of Table 12 shows percentage of death by age bracket between 1850 and 1900 for Texas. The percentages across age brackets are consistent through time and illustrate that the chances of survival past the first year were lower than at any other age. If a child survived past the fifth year chances of survival increased radically.

Skeletal Indicators of Health

Infectious disease resulting in bone involvement is usually chronic and is not the primary cause of death, but is a contributing factor that impairs an individual's ability to combat further disease insult. Many acute infectious diseases, such as cholera, which quickly proved fatal, rarely have time to leave any skeletal lesions. Smallpox and rubella are the only viral infections known to affect the skeleton, and then only rarely. Skeletal infectious lesions result from a bacterial invasion of the bony tissue. The invasion can occur through trauma, such as a fracture or surgical wound, where the bone is exposed, from the spread of infection from adjacent diseased soft tissue, or can be blood borne from other foci of infection (Ortner and Putschar 1981).

Unfortunately, the skeletal remains of the Tucker interments were so highly fragmented and poorly preserved that only four individuals could accurately be observed for infectious lesions (see Table 13). None of these individuals exhibited a lesion that was diagnosed as infectious. The Tucker Cemetery represents a small isolated farming family that lived in a dispersed rural settlement pattern and had intermittent contact with the larger community of Cooper. The Tuckers did not live in a high density aggregate, the settlement model suggested by Cohen and Armelagos (1984) that would likely exhibit a high percentage of skeletal infection. The chronology representing the lifetimes of these four Tucker burials spanned from sometime in the early to middle nineteenth century to 1942. These individuals would not have been impacted by the advent of sulphur drugs (first used in World War II primarily for the war wounded) and antibiotics. These data indicate that the Tuckers, living in a rural setting, were not exposed to the variety of microorganisms that produce infectious skeletal lesions. The frequency of infectious skeletal lesions among other rural Texans, buried during the same time period as the Tucker interments, is very low, as expected by the disease model (see Table 13) proposed by Cohen and Armelagos (1984).

The frequency of trauma seen in a population is a direct consequence both of the levels of interpersonal violence in a society, and of specific behavior patterns that predispose the individuals to accidental trauma (Goodman et al. 1984). The mortality due to trauma is not the best indicator of the level of social violence and accidental trauma because these data for non-fatal trauma are not available.

Ortner and Putschar (1981) have classified traumatic lesions into four categories: (1) fractures, (2) dislocations, (3) artificial induced deformity, and (4) disruption of the nerve or blood supply. Five of the Tucker burials are considered accurate observations for trauma. One individual exhibited extensive burning related to a fatal automobile accident in 1942. It is interesting that the one observation of trauma in this small skeletal sample was the cause of death. The high rate of trauma seen among the Tucker skeletal series (20.0%, n=5) is an artifact of the small sample size. The trauma rate seen among the historic skeletal samples chosen for comparison with Tucker (see Table 12) is low. In two cases, the trauma represented fractures and were not fatal. However, in 1862 one of these individuals was fatally wounded in a gunfight (Fox 1984).

Osteoarthritis is characterized by the degeneration of the joint surface and is associated with chronic biomechanical stress and advancing age (Steinbock 1976). The patterning of arthritic lesions can be linked to specific physical behaviors (Merbs 1983). If an individual habitually engages in a strenuous activity, then those joints bearing the stress are most likely to exhibit degenerative changes. The frequency of osteoarthritis is high among the Tucker interments and is likely an artifact of the small sample size. The degenerative changes exhibited by two of these individuals are associated with advancing age. The other individual exhibits degenerative changes due to intensive physical labor. The comparative historic skeletal data for osteoarthritis is low (see Table 12).

Porotic hyperostosis, a non-specific skeletal pathology, is indicative of anemia. There is no evidence of anemia among the Tucker skeletal series. Anemia can be caused by a number of factors: an iron-deficient diet, a diet that inhibits iron absorption, weaning diarrhea, or can be disease induced. There are also ethnic-specific genetic disorders that lead to anemia (thalassemia and sickle cell anemia), but is unlikely that members of the Tucker family would have suffered from these. Pellagra, which was endemic in the South, is caused by a niacin deficiency, the result of a diet based on corn and corn products and pork. A corn rich diet can also cause iron-deficient anemia (El-Najjar et al. 1976). The phytic acid present in corn inhibits the absorption of iron. Pellagra was apparently most prevalent among children (Brown 1979). Children, therefore, were the segment of the population that consistently partook in a diet

that was primarily corn based. It is likely that children should also have suffered from anemia associated with a corn-rich diet.

The other "rural diseases" so prevalent in the South contribute directly to anemia. Malaria will produce anemia as large number of red blood cells are parasitized and destroyed (Anderson and Scotti 1972). Malaria was also most prevalent among the children (Brown 1979). Hookworm infestation, also highly prevalent among rural southern children, will cause severe anemia. Unfortunately, there is no porotic hyperostosis data available for the Tucker children so there is no way to examine for anemia among these children. The Tucker adults do not display the skeletal lesions associated with anemia. However, bone changes due to iron-deficient anemia are considered rare (Ortner and Putschar 1981). Therefore, the lack of skeletal lesions exhibited by the Tucker family members does not necessarily indicated these individuals were free of the endemic Southern diseases.

The comparative osteological data for the other historic cemeteries illustrated in Table 13 indicate that anemia was low in frequency. However, the three individuals, with skeletal lesions diagnosed as chronic anemia, were all interred in the Yarbrough Cemetery with a frequency rate of 60.0% (n=5; Fox 1984). These individuals were all adults, two of them were man and wife and the other, a female, was of unknown identity. The man was 88 years old, his wife was 55 years old, and the unknown female was aged between 35 and 45 years at death (Fox 1984). While it is suggestive that these individuals who suffered from chronic anemia were family members, the cause of the anemia remains unknown.

Childhood Stress

Current research has demonstrated the utility of enamel hypoplasia analysis in reconstructing childhood stress (Goodman et al. 1980; Huss-Ashmore et al. 1982; Rose et al. 1978; Handler and Corruccini 1986). Enamel hypoplasias are developmental enamel defects that appear as horizontal grooves across the labial surface of the tooth which are attributed to metabolic disturbance brought about through non-specific stress (Goodman et al. 1980; Rose et al. 1985; Goodman and Armelagos 1985). If a child does not properly cope with a stressor, such as disease, malnutrition or weaning, then physiological disruption will follow and, in some cases, an enamel hypoplasia will develop. Since enamel is a non-regenerative tissue (it is not altered except through dental attrition) and each tooth is formed during a specific chronological period (i.e., the mandibular canine develops between 1-5 years), the occurrence of an enamel defect can be assigned to a specific 6-month interval (Goodman et al. 1980).

The enamel hypoplasia data available from the Tucker Cemetery sample are from adults alone; no subadult dentition was recovered (see Table 13). Therefore, the episodes of stress analyzed here are from those individuals who survived the rigors of childhood. Four of the six individuals had birth dates identified; three were children in the 1870s, and one was a child during the late 1840s through the 1850s. All the individuals, with recovered dentitions, exhibited at least one hypoplasia, and all but one exhibited multiple hypoplasia indicating that these adults survived highly stressful childhoods. Table 14 illustrates the episodes of stress through time; burials 7 and 8 represent the earliest childhoods, and burial 10 represents the latest childhood. The hypoplasia data span five generations. Collectively, the later burials, all born in the 1870s, had the highest level of childhood stress. Only one individual in the comparative sample from other Texas historical cemeteries is reported as having hypoplasia (Massey 1986). The age (or ages) of occurrence was not reported. The individual was aged between 12 and 15 years at death.

The occurrence of hypoplasias among the Tucker adults did not cluster in any specific 6-month interval. However, the majority of the hypoplasias among the Tucker family members began to peak at 2.5 years and were consistently high until 5.0 years with an abrupt break from 5.0 to 6.5 years with no stress episodes. The analysis of the hypoplasia data indicates that life-threatening stressors decrease after 5.0 years, which is in accordance with the age-specific mortality data presented in Table 12 (for different portions of Texas, including Delta County) between 1850 and 1900. This table illustrates high rates of childhood mortality under the age of 5 and that chances of survival increase radically after 5.0 years. The absence of hypoplasia data prior to the first year resulted from dental attrition that removed the enamel (at the top of the teeth) that was formed prior to the first year. It is speculated that the increased hypoplasias after 2.5 years were the result of a nutritionally inadequate weaning diet. The synergism of inadequate nutrition and disease is well established. Poor diet lowers the resistance to disease, and disease often strips the body of nutritional reserves and the cycle of stress spirals upwards.

Diet

The analysis of dental caries has proven to be a reliable tool for the reconstruction of diet (Moore and Corbett 1971; Turner 1979). Turner (1979), has demonstrated, using a large sample of historic and prehistoric dentitions, that the proportion of the diet derived from carbohydrates can be reliably estimated by the frequency of dental caries. Processed

carbohydrates from corn or starchy seeds provides an ideal oral environment for cariogenic bacteria and any increase in the amount consumed will result in a corresponding increase in caries.

When comparing the dental caries frequencies between individuals, the variables of age, dental morphology (molar versus canine), and dental wear must be held constant, leaving the proportion of carbohydrates consumed as the independent variable. All the individuals in the comparative historic cemeteries and the Tucker Cemetery with cavities were adults (see Table 13). Dental attrition displayed by the comparative collection was moderate to heavy, while the dental attrition exhibited by the Tucker sample was light to moderate. Therefore, dental attrition cannot be held constant.

The frequency and location of caries has changed over the centuries (Mandel 1979; Moore and Corbett 1971) which corresponds to changes in the increasing refinement of flour and the introduction of sugar as a regular staple. The incidence of caries in Europe dramatically increased in the seventeenth century due to the use of refined flour and the availability of cheap sugar. In addition, during this period, the location of the caries changed. Prior to this time caries predominately were located near the gum line and are associated with periodontal disease. During this period, caries appeared predominately on the molar occlusal surface and interproximally (between teeth). These are still the prevailing types today. The caries exhibited by the Tucker sample fit this pattern. Most of the caries were located on the molar occlusal surface, and just a few caries were interproximal. The majority of the caries exhibited by the comparative historic cemeteries were all exhibited on the molars, the exact locations were not reported (Fox 1984; Massey 1986).

The percentage of carious individuals in the early to late nineteenth century increased from 45.0% to 65.0% (Mandel 1979). The Tucker sample exhibited a comparable frequency of 66.6%. The Tucker and Morgan Chapel individuals, buried respectively between ca. 1880 and 1942 and 1891 and 1937, exhibited a much higher caries rate than their historic counterparts who died earlier between 1860 and 1913 (see Table 13). These data suggest that the people who lived earlier had fewer caries than the people who lived later. It may be that the difference in caries frequency through time is related to increasing availability of sugar as well as an increasing reliance upon corn as evidenced by the high frequency of pellagra seen among Southerners.

A METHODOLOGICAL RETROSPECT

Dr. Jerome C. Rose

There are two major goals for the osteological analyses conducted during the relocation of historic cemeteries. The first is the identification of the human remains as established from grave markers, historic documents, and oral history. The second goal is the reconstruction of the biohistory of the burials within their local and regional historical context.

In attempting to reach these goals, it became apparent that there were a number of procedural and analytical weaknesses in the Tucker cemetery relocation project. These weaknesses, described below, have been used to construct a series of techniques which could improve the quality of future historic cemetery relocations.

The major weakness of the osteological investigation was the inability to identify positively the majority of the Tucker burials. Identification depends upon both the quantity and quality of the observations derived from the skeletal remains. The accuracy of the observations was hindered by: (1) the fragmentation of the skeletal remains during excavation, (2) the incomplete recovery of the skeletal remains from the grave fill, (3) the restrictive time allotted for obtaining osteological observations, (4) the inability properly to clean the skeletal material prior to observation, and (5) the inability to view all the skeletal remains of one individual simultaneously. Identification was also inhibited by (6) the standard osteological sexing criteria which frequently classified the material from an historically identified male as female. A review of the osteological analyses of four other historic Texas cemeteries indicates that the problem of classifying male sexual morphology as female is not unique to the Tucker project (Fox 1984; Massey 1986). It is suspected that this problem of misleading sexing criteria is inherent with historic Texas males, all of whom are, at most, two to three generations removed from their "source" area.

The second weakness found during the biohistorical reconstruction was the limited number of historic inferences that could be made from the skeletal remains because of the methods of collecting information. The osteological methodology was streamlined to fit the scope of work. There are more sophisticated methods that have proven to be of great value. The osteological literature conclusively demonstrates that the osteological analysis can be significantly improved by chemical and histological analysis of small bone and teeth samples. For example, histological analysis of one bone sample from each individual buried at the Cedar Grove historic cemetery demonstrated that adult nutritional stress was severe, increased

between 1860 and 1927, and that males were subjected to greater stress than females (Rose 1985). Wood (Wood et al. 1986) demonstrated that trace element analysis could differentiate dietary practices between a sample of White settlers from western Georgia and two Blacks who had lived in the area fifty years later. The investigators found that the Blacks relied on more grain than meat, presumably because the Blacks were snarecroppers and had less access to meat than the earlier White settlers living in a frontier environment. The investigators also employed trace element analysis to differentiate between individuals with and without skeletal infections. Wood (Wood et al. 1986) also used histological analysis of skeletal material to aid in aging ten adults who could not be accurately aged in the field because the bone was too fragmented and eroded.

In order to avoid the methodological restriction of the osteological analysis encountered during the Tucker Cemetery project the following techniques are suggested for similar future efforts.

1. The graves could be excavated to the sides of the grave shafts so that the excavators have room properly to expose the grave contents.

2. The removal of the grave fill from within a foot of the top of the burial with small hand tools would prevent fragmentation of fragile bones and assure recovery of all skeletal material. Water screening with minimal water pressure would be ideal.

3. The employment of a five-component grave-fill-partition procedure would permit the identification of poorly preserved skeletal remains. The following system is recommended: (1) head, (2) right upper body, (3) left upper body, (4) right lower body, (5) left lower body. Removing the skeletal remains in this manner and keeping them separate during analysis would permit faster inventory of the skeletal remains in the field and a clear identification of body orientation.

4. Adequate time for osteological analysis beyond 0.5 hours would greatly facilitate data recovery.

5. The excavation and onsite osteological analysis could be coordinated so that there is adequate time to arrange all the skeletal components from a single individual for viewing simultaneously.

6. There could be a separate photographic work station that can be kept reasonably clean and where adequate lighting could be arranged. A portable field photo station inside a covered trailer might work well.

7. It would be ideal if all the burials could be compared with each other to ensure that the age and sex criteria are consistently employed.

8. The modification of the sex determination criteria through seriation is recommended to accommodate the particular characteristics of nineteenth and twentieth century rural Texans.

It is to be noted that items four through seven would probably require legal mortuary facilities and are therefore not practical for the immediate future.

PART THREE: INITIAL RECONNAISSANCE AND ARCHAEOLOGICAL INVESTIGATIONS AT THE SINCLAIR CEMETERY

Susan A. Lebo

The initial research on the Sinclair Cemetery (41DT105) as directed by the Scope of Work, Historic Cemeteries Assessment, Cooper Lake, Contract DACW63-85-D-0066 D.O. Number 11, Task 2, focused on thoroughly researching, investigating, and verifying the location of the Sinclair Cemetery prior to its relocation. This work focused on conducting archival research, oral interviews, a field reconnaissance and testing program for identifying and documenting the location and size of the cemetery, as well as information on the number of graves, names of individuals interred, grave orientation, and other data that may aid in the future relocation of the cemetery.

Archival and Oral Research

Historical records were examined at several major repositories including the Delta County Courthouse, Lamar County Courthouse, Memorial Patterson Delta County Museum, Delta County Public Library, the Texas State Law Library and the General Land Office in Austin. Records of births, deaths, marriages, probate, deed/title transactions, and historical maps were examined in order to identify land ownership, determine if the Sinclair Cemetery was deeded, and reconstruct the family geneology of individuals that were [or may have been] interred in the cemetery. In addition, historical books and manuscripts focusing on the early Anglo settlement, settlers, and history of Delta County, which prior to 1870 was part of both Lamar and Hopkins counties, were examined and provided a historical perspective of the Granny's Neck area where the Sinclair Cemetery was located. This information is presented in the historical background section in Part One.

Interviews were recorded for several local informants that were able to provide information relating to the location, age, number of individuals interred at the cemetery when the cemetery was abandoned and when the markers were removed. Among the informants interviewed were W. John Banks, C. Ode Thomas, Austin and Jewel Brantley, G. Douglas Albright, and T. Taylor. Mrs. L. F. Hooton, Sr. (n.d.) recorded a "lost cemetery [in Granny's Neck] southwest of the Ode Thomas home. The soft stone markers have crumbled and now there is not a trace left to mark the last resting place of 50 or more of our pioneers." Other informants indicated that the graveyard was quite small and contained between 12 and 20 graves and was located on an elevated point of the J. F. Sinclair property. The markers were white granite tablets and were tightly clustered in a 25 by 30-foot area. Although no wooden markers were evident, bois d'arc markers were commonly used in cemeteries in Delta County during the nineteenth

century and are still visible at Dawson, Liberty Grove, and the Hickory Grove cemeteries, among others, suggesting that they were probably also used at the Sinclair Cemetery. Fences appear to have been uncommon, and maintenance was usually carried out by family members for individual plots. Bricks were not commonly used for forming a border around graves or placed on top of individual graves. Concrete borders were evident at Dawson, Hickory Grove, and Liberty Grove. In addition, mussel shells were uncommon, and appear to have been used primarily as grave goods. No concrete, brick, or shell fragments were identified at the Sinclair Cemetery.

According to W. John Banks, the cemetery was visible from his front porch, and he last remembered seeing markers in the Sinclair Cemetery between 1938 and 1940. C. Ode Thomas was raised on a farmstead adjacent to the Sinclair Cemetery and indicated that soft stone markers were still visible when he lived in the area during his youth. He believed the markers were made of chalk and stated that he remember that when he was around ten years old (ca. 1910), he saw some other boys carving horses and other figures and shapes into the soft stone markers. Based on this information, the cemetery was abandoned prior to 1910, and most probably ca. 1900. The cemetery and adjoining land was plowed between ca. 1938 and 1940 and has been utilized as grazing land since.

Edited transcripts of the taped interviews recorded in September, 1986, are on file at the Institute of Applied Sciences at the University of North Texas.

Archaeological Investigations

The archaeological investigations at the Sinclair Cemetery focused on the use of mechanized exploration in order to document the location and size of the cemetery, and identify grave locations. Previous studies (e.g., Blakely and Beck 1982; Bruseth and Lebo 1986) have documented the feasibility of archaeologically detecting unmarked graves using heavy machinery. These studies focused on removing the A horizon in order to expose unmarked grave shafts which appear as disturbed soil deposits containing mixed A and B soil horizons. This pattern is particularly evident at sites such as the Sinclair Cemetery location where the A and B horizons are distinct. Heavy machinery has long been used in traditional non-archaeological cemetery locations (Larry Banks, personal communication 1988).

The A horizon at the Sinclair Cemetery was a loose, dark brown silty loam which had been plowed over several years between 1938 and 1940. The plow scars were still visible and were oriented north-south. The B horizon appeared as a dark orange clay, and had not been disturbed by plowing activity.

A number of post-oak, hickory, and bois d'arc trees were evident within the Sinclair Cemetery location, and all post-dated when the site was last plowed (Figure 16). No native or ornamental vegetation dating to the use of the site as a cemetery was identified, and indicated that if any cedar trees or small shrubs had been planted near graves, they had been removed when the site was cultivated.

A small backhoe with a front-end loader was employed to remove all necessary trees and undergrowth within the cemetery location. Additional vegetation was removed outside the cemetery in order to aid in clearing, and to investigate the possibility of additional cultural features located outside the cemetery boundaries. After the area was cleared, the front-end loader was used to peel away the A horizon (Figure 17), which averaged approximately 40 cm thick down to the subsoil. This technique revealed grave shafts within the A horizon matrix which was below the plow zone. This matrix was extremely shallow, measuring generally only 10 cm in thickness.

The shafts appeared as rectangular areas containing mixed brown silty loam and orange clay deposits which were more compact than the A horizon, but considerably less compact than the B horizon (Figure 18). The four corners of each grave shaft were flagged and shovels and trowels were used to clean down the exposed deposits allowing the orientation, and general size of each shaft to be measured (Figure 19).

A map showing the location of graves within the Sinclair Cemetery is shown in Figure 20 and indicates that a total of 16 unmarked graves were identified and were located within an area measuring approximately 30 m by 30 m (900 square meters). The northern extent of the cemetery was situated on the topographically highest part of the site, and extended downhill to the south. It is most probable that the earliest burials were placed at the northern end of the cemetery, and later burials progressively further south; further study of the Sinclair Cemetery might indicate why this is so.

Grave numbers were sequentially assigned to the exposed grave shafts beginning in the northwest corner of the cemetery. Grave 16 was isolated and exposed several days after Graves 1 through 15 were identified, and as a result, it appears out of sequence.

Fifteen of the graves were tightly clustered, and occurred in two major north-south rows. A single grave was identified northwest of the main cluster, and occurred as an isolated burial. All of the graves are oriented east-west, although some are slightly off angle. In addition, Graves 5 through 10 and 11 through 16 indicated that individuals were buried very close together. The less compact character of the area surrounding



Figure 16. Overview of the Sinclair Cemetery before the area was stripped to locate evidence of grave shafts.



Figure 17. Removal of A-horizon to expose grave shafts at Sinclair.



Figure 18. Evidence of grave shafts exposed at Sinclair.



Figure 1. A photograph of a rock specimen, showing its shape and texture.

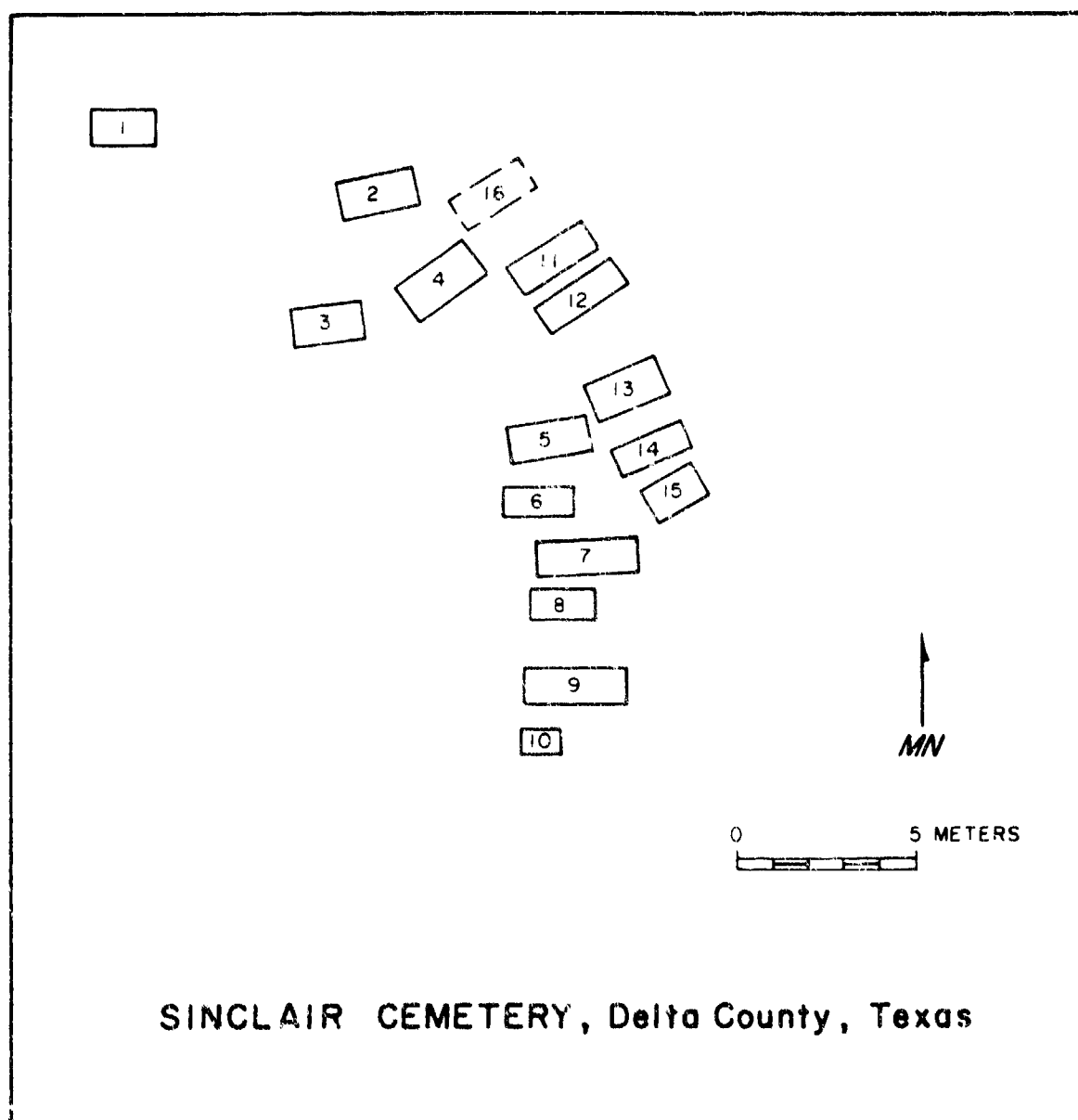


Figure 20. Map showing the location, orientation, and size of unmarked graves at Sinclair.

Graves 1 through 4 suggests that additional exploration may reveal other burials situated between Graves 4 and 5, and possibly an additional row associated with Grave 3.

Several smaller graves were identified and probably reflect infant burials, and accounted for approximately 25% of the isolated graves. Additional archival research is necessary to determine if this pattern is reflected in other cemeteries in the area including Dawson, Tucker, and Liberty Grove.

No evidence of other cultural features including concrete, stone, or wood markers, grave goods, or a fence line were identified. However, a higher percentage of charcoal was noted within the grave fill than the surrounding A or B horizon.

Photographs were taken of overview (Figures 21 and 22) and for each exposed grave, and included both black and white prints and color slides. Additional photographs were taken which recorded the size, location, and general compactness or dispersion of the unmarked graves encountered, and the several phases of archaeological explorations.

In an effort to protect the cemetery, the cemetery was backfilled September 25, 1986. Twenty inch lengths of rebar were set into the ground at the both the head and foot of each shaft to aid in relocating individual graves at a later date. Wooden stakes with grave numbers were also placed at the head and foot in order to facilitate additional mapping by the CE Burial Relocation Division. A minimum of 10 to 12 inches of soil was deposited over the cemetery, and in surrounding exposed areas using a front-end loader.



Figure 21. Overview of the exposed grave shafts at Sinclair, facing south.



Figure 22. Overview of the exposed grave shafts at Sinclair, facing north.

PROJECT SUMMARY

Relocation of cemeteries to be adversely impacted by construction and operation of Cooper Lake, Delta and Hopkins Counties, Texas, was initiated in the fall of 1986. Tucker Cemetery, located in the embankment area approximately four miles southeast of Cooper, Texas, was recorded and the relocation monitored. Another historic cemetery, Sinclair Cemetery, is within the project area and was believed to be located approximately four miles south of Cooper. Its exact location had to be determined through archival and subsurface exploration and data gathered on its inhabitants. The IAS participated in this project under Contract No. DACW63-85-0066, D.O. No. 11, with the U.S. Army Corps of Engineers, Fort Worth District, Texas.

Task 1 (Tucker Cemetery)

Information was gathered on Tucker Cemetery from local informants, and archival research was performed to identify historic data pertinent to the cemetery, to date its use, to identify the community(ies) using it, and to verify information supplied by the informants. The cemetery was thoroughly mapped, photographed, and recorded including its boundaries, grave locations, tombstones and inscriptions, rubbings of significant tombstones, and other pertinent data.

Both a human osteologist and an historical archaeologist were present during the actual relocations to gather data about the cemetery and graves, such as orientation, spatial arrangement, and, when possible, historical information such as grave goods, coffin details, and osteological information, including pathologies, age, physical characteristics, and other pertinent information that would add to knowledge of historical settlements in the Cooper area. This work did not interfere with or delay the relocation contractor's work.

Of major significance is the fact that the relocation of the Tucker Cemetery marked the first joint effort to integrate professional archaeologists, bioarchaeologists, and their research goals with the goals and personnel of the Burial Relocation Division of the U.S. Army Corps of Engineers and a private relocation contractor. Between October 7 and October 11, 1986, archaeologists from the Institute of Applied Sciences, University of North Texas (IAS, UNT), a physical anthropologist from the Department of Anthropology, University of Arkansas, personnel from Billner Brothers Inc., and representatives from the U.S. Army Corps of Engineers, Fort Worth District, (CE), relocated all burials from the Tucker Cemetery (41DT104) in Delta County, Texas. Sixteen burials, including ten unmarked graves, were located, mapped, exposed, studied, and removed for reinterment at the nearby Oaklawn Cemetery.

The major weakness of the osteological investigation was in inability to identify positively the majority of the Tucker burials. Identification depends upon both the quantity and quality of the observations derived from the skeletal remains. The accuracy of the observations was hindered by: (1) fragmentation of the skeletal remains during excavation, (2) the incomplete recovery of the skeletal remains from the grave fill, (3) the restrictive time allotted for obtaining osteological observations, (4) the inability properly to clean the skeletal material prior to observation and (5) the inability to view all the skeletal remains of one individual simultaneously. Identification was also inhibited by (6) the standard osteological sexing criteria which frequently classified the material from an historically identified male as female. A review of the osteological analyses of four other historic Texas cemeteries indicates that the problem of classifying male sexual morphology as female is not unique to the Tucker project in Texas.

The second weakness found during the biohistorical reconstruction was the limited number of historic inferences that could be made from the skeletal remains because of the methods of collecting information. The osteological methodology was streamlined to fit the scope of work. There are more sophisticated methods that have proven to be of great value.

Task 2 (Sinclair Cemetery)

Local informants who have knowledge of the cemetery were contacted, the cemetery location visited to verify location, general boundaries established, and information about individual graves and other data obtained that would facilitate investigations and archival research. A survey of the immediate environs to locate tombstones or other possible locations of the cemetery was performed. Archival research was conducted to identify the cemetery, date its use, the community(ies) using it, and verify information supplied by local informants.

The probable cemetery location (41DT105) was investigated using heavy machinery to clear any necessary trees and overburden in order to verify the presence of the cemetery, map, photograph, and record locations of graves and the extent of the cemetery boundaries. The schedule of relocations is not yet established.

This work was conducted in accordance with and in partial fulfillment of the Corps of Engineers' (CE) obligation under the National Historical Preservation Act of 1966, as amended (PL-89-665), the Archaeological and Historical Preservation Act of 1974, as amended (PL-93-291), the National Environmental Policy Act of 1969 (PL-90-190), and Executive Order No. 11593, "Protection and Enhancement of the Cultural Environment."

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