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Historic Archeological Investigations at Roberts Cemetery Near Troy, Bell County, Texas

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by

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ABSTRACT

A preliminary archeological investigation was conducted in 2008 at Roberts Cemetery near Troy, Texas, as part of the Texas Department of Transportation's planned expansion of Interstate Highway 35. Mechanical trenching discovered one unmarked grave near the highway right of way, and this led to an extensive mechanical search of the eastern edge of the cemetery in 2012. Following the removal of the southbound access road and thick layer of artificial fill, five additional unmarked graves were discovered. Of the six unmarked graves, two are located in the cemetery property and were left in place, but the four burials inside the highway right of way were exhumed. They were reinterred in a nearby plot in Roberts Cemetery.

Analyses of the mortuary items and skeletal remains indicate that the three adult males and one child were interred between 1895 and the late 1930s. DNA analyses were used to try and match the four interred individuals with possible living relatives, but the results were negative or inconclusive. Archival research provided historical context for Roberts Cemetery and defined the sequence of road expansions that impacted the east side of the cemetery in the twentieth century.

ACKNOWLEDGMENTS

The board members of the Roberts Cemetery Association—Mrs. Heroldine Early, Mr. Joel Day, Mrs. Betty Jo Bulls, Mr. Wayne Randolph, and Mr. J. C. Alston—deserve special recognition for their cooperation and involvement throughout this project. From the initial written agreement for reburial to the final graveside reinterment, their efforts were critical to the success of the project and are greatly appreciated.

The work described in this report is the result of a joint project conducted by personnel from the Archeological Studies Branch of the Texas Department of Transportation and from Prewitt and Associates, Inc. Jim Abbott (TxDOT) and Doug Boyd (PAI) served as co-principal investigators. The mechanical search for unmarked graves was directed by Abbott, with TxDOT archeologists John Arnn, Jon Budd, Christopher Ringstaff, and Waldo Troell all working there at various times. Excavation machines were provided primarily by the construction contractor, James Construction Group, LLC, and their assistance is appreciated. TxDOT's Waco District office also provided machines and operators.

Project archeologist Jenny McWilliams (PAI) directed the burial excavations. She was assisted by Aaron Norment (PAI) and osteologist Catrina Whitley, who also served as the project's physical anthropologist for the analysis of the human remains. The analysis and reporting of the mortuary hardware was conducted by consultant Jeremy Pye, who was just finishing up his graduate studies in the Department of Anthropology, University of Florida, at the time he did the analysis (he now works for Cultural Resource Analysts, Inc., in Shreveport, Louisiana). Consultant Terri Myers (Preservation Central, Inc., in Austin) served as the project historian and conducted the archival research. Prewitt and Associates produced this report. It was edited by Elaine Robbins, and the figures were produced by Sandy Hannum and Brian Wootan. Thanks to the USGenWeb project and to Mary Duke for allowing us to reproduce the online burial inventory for Roberts Cemetery as an appendix to this report.

Many other TxDOT personnel contributed to this project. From the Waco District: Michael Rhodes and David Jayroe (Advanced Project Development); Ken Roberts (Public Information Officer); Ali Bashi, P.E. (Area Engineer, Belton Area Office); Clayton Zacha (Project Engineer); Mike Mazoch, P.E. (Assistant Area Engineer); James (Gary) Wagnon (Maintenance Supervisor Belton Area Office); and Bobby Littlefield, Waco District Engineer. From the Environmental Affairs Division in Austin: Scott Pletka (Supervisor of Archeological Studies); Leslie Wickersham (Contracting Officer); Jim Barta (Director of Technical Services); and Carlos Swonke (Director of Environmental Affairs). Pletka handled all of the complexities in navigating through the recently revised cemetery requirements in the Texas Health and Safety Code and the Texas Antiquities Code.

Many people contributed to the DNA studies for this project. Thanks to those people who provided family historical information and buccal swab samples for our DNA analyses. These people are: Cindy Black, Carolyn Pillans, and Georgia Elliott for the Elliott family; Florence Boren for the Gibson family; and Cindy Schleede, Don Thomas, and Dorothy Thomas for the Thomas family. Special thanks go to Dr. Michael Schmiederer with the DNA Processing division at LabCorp of Burlington, North Carolina. He guided us through all the phases of the analysis, helping us understand the various types of DNA studies that could be done, selecting the appropriate technique, taking the DNA samples, and conducting the extraction and analytical procedures.

Many people were involved with the reinterment of the exhumed burial remains on May 26, 2013. Thanks to Larry Granfor (Associate Pastor at Grace Baptist Church in Temple, Texas), who conducted the graveside service, Joseph Bedrich (Bedrich Services, Inc.), who provided the backhoe and excavated the reburial grave, and Heroldine Early, who made arrangements for the acquisition

of a new grave marker. Phipps Memorial, Inc., of Waco, Texas, is acknowledged for their donation of the headstone, which they placed at the new gravesite. We thank all those people who attended the reburial ceremony to lay the remains of four unknown persons to rest once again.

INTRODUCTION AND PROJECT BACKGROUND

1

James T. Abbott, Jennifer K. McWilliams, and Douglas K. Boyd

This report describes archeological investigations conducted in late 2012 at Roberts Cemetery. Roberts Cemetery is in northern Bell County, Texas, just west of the Interstate Highway 35 frontage road, south of Big Elm Creek (Figure 1.1). The cemetery is about 2.5 km (1.5 mi) north of the town of Troy. The work was conducted in response to major improvements to Interstate Highway 35 by the Texas Department of Transportation (TxDOT), including rebuilding and expansion of the main lanes and replacement of the frontage roads (CSJ Nos. 0015-02-048 and 0015-04-067). The highway improvements are being conducted in stages to allow traffic flow to continue on this major arterial highway. The purpose of the archeological work was to ascertain whether burials associated with Roberts Cemetery were present in the portion of the highway right of way under construction, and if so, to remove them and rebury them inside the cemetery. Public outreach was conducted as part of this project in an attempt to identify the remains.

Mechanical trenching along the east edge of Roberts Cemetery in 2008 led to the discovery of one unmarked grave near (but outside) the state-owned right of way (Hatfield et al. 2009). This investigation proved there was a high potential for unmarked graves inside the road right of way. In August and September 2012, archeological staff from TxDOT's Archeological Studies Branch conducted additional mechanical scraping to locate any graves in the project area identifying two unmarked graves in the process. In September archeologists from Prewitt and Associates, Inc. (PAI), along with consulting bioarcheologist Catrina Whitley, excavated these two unmarked graves and two additional unmarked graves found in association within the TxDOT right of way just east of Roberts Cemetery. A fifth unmarked grave was tentatively identified, but it was entirely within Roberts Cemetery and was not excavated. From September 2012 to March 2013, the recovered remains and associated hardware were analyzed, and PAI and TxDOT conducted an unsuccessful effort to identify the individuals represented. In March 2013, the remains from these four graves were reburied in Roberts Cemetery. The work was conducted for TxDOT's Environmental Affairs Division (TxDOT-ENV) under Work Authorization No. 57111SA001 of Contract No. 571XXSA001 and authorized under Texas Antiquities Permit No. 6388.

ROBERTS CEMETERY

This active cemetery currently occupies an area of slightly less than 5 acres and contains more than 600 marked graves. It is well kept and managed by a volunteer cemetery association. The oldest marked grave dates to 1886. Oral tradition related to TxDOT by Ms. Heroldine Early, a member of the cemetery association, suggests that the cemetery was established when one of the Roberts children, Maggie Roberts, was buried in 1886.

Viewed from above, Roberts Cemetery is trapezoidal in plan, with right-angle corners on the west side, parallel sides on the north and south, and a frontage along Interstate Highway 35 that runs south-southeast to north-northwest (Figure 1.2). Other than the highway frontage, the tract boundaries are oriented to cardinal directions and measure approximately 137 m (450 ft) north-south by a maximum of

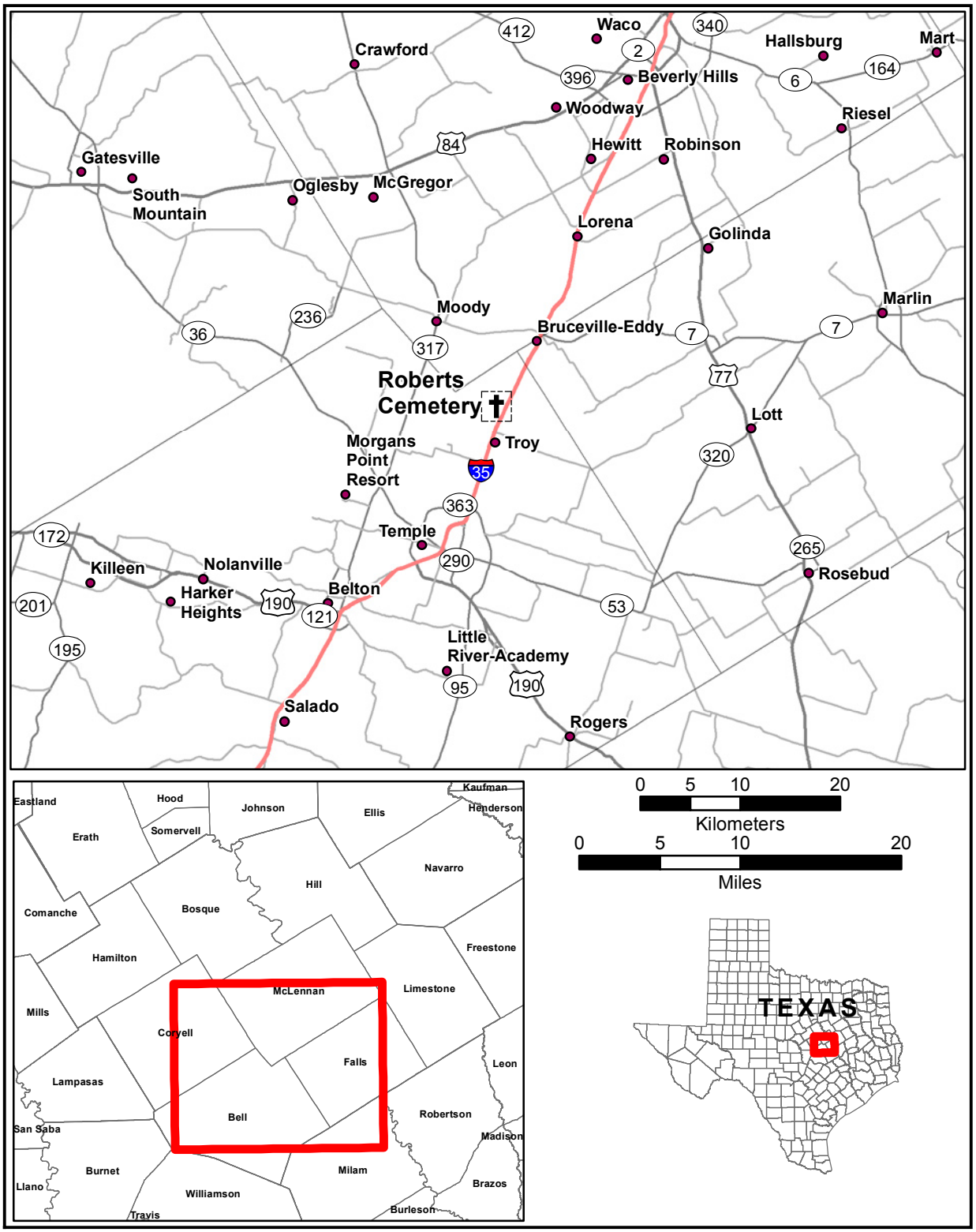


Figure 1.1. Project location map.

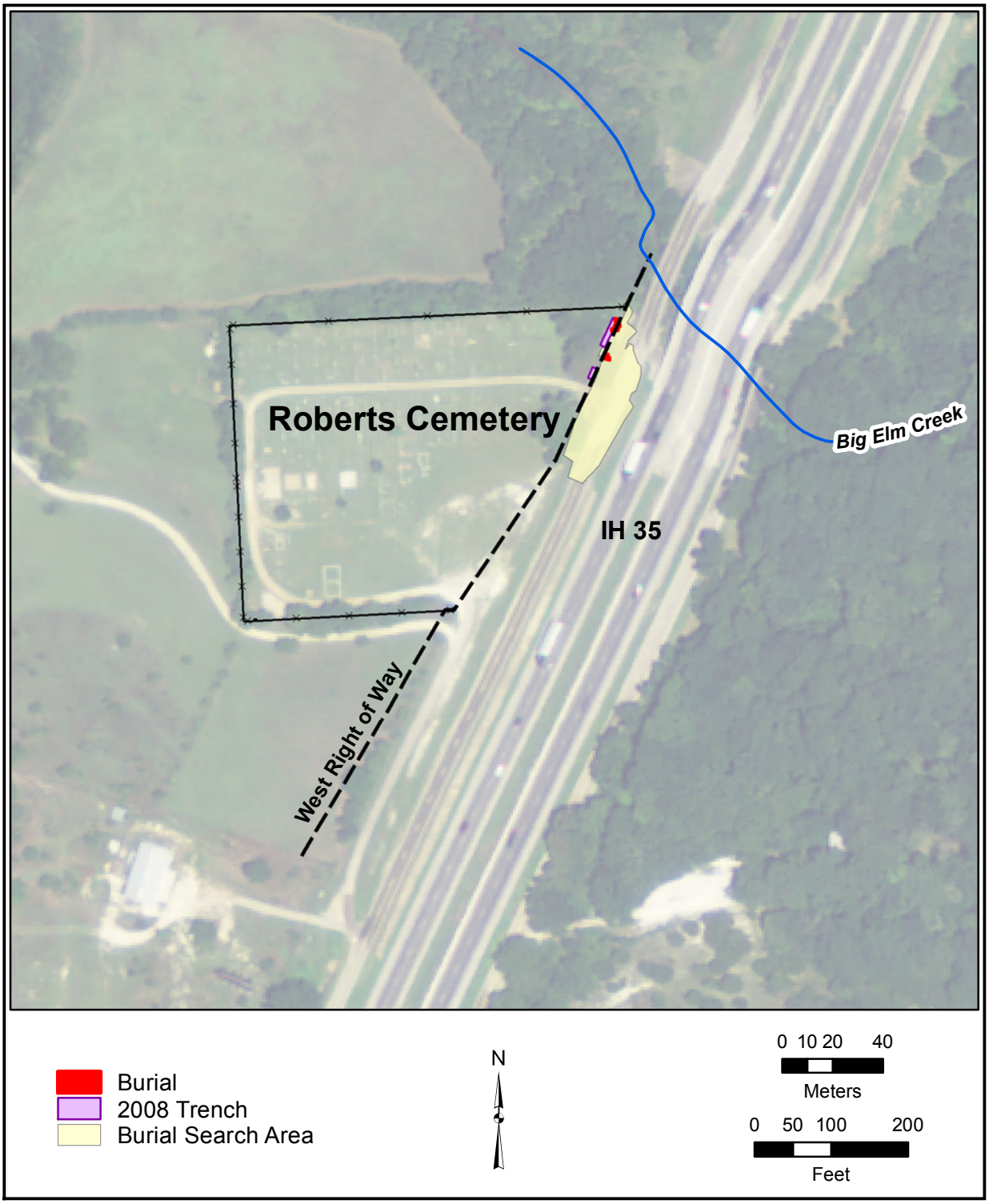


Figure 1.2. Annotated aerial photograph of the cemetery.

approximately 180 m (590 ft) east-west along its northern boundary. The configuration of the cemetery suggests that the plot was originally rectangular but that the southeast corner of the property was taken for highway right of way. Review of available documentation, including a series of highway planning maps by the State Highway Department (TxDOT's predecessor) and Bell County, indicates that this is indeed the case. Property deed research was done to trace the history of the Roberts Cemetery property through time. Although there are some gaps in the records, the deeds and highway maps both indicated that the first taking of cemetery property for highway development was in the 1950s, when State Highway 81 was expanded into Interstate Highway 35.

SETTING

Bell County is in central Texas, along the Balcones Fault Zone. The cemetery is underlain by alluvial deposits near Big Elm Creek and by associated older terrace deposits and uplands to the south and west. The landscape rises from an elevation of approximately 625 ft above sea level in the northeast corner near the creek to 650 ft in the southwest.

The geology and soils of the cemetery and environs are relevant in several ways. First, it seems clear that the character of the substrate exercised a strong degree of control over early grave placement within the cemetery. The bedrock mapped in the area is the Upper Cretaceous Austin Chalk, which consists of chalk interbedded with thin beds of marl (Barnes 1970). The majority of marked graves are in the northern half of the cemetery, with a number of additional graves in the southwest quadrant. The thin soils of the southeast quadrant, in contrast, are very sparsely used even today (see Figure 1.2). Although chalk is a relatively soft rock, it is not surprising that most of the older, hand-dug graves are situated in the northeast quadrant of the cemetery, where relatively thick alluvium is present.

Second, as will be discussed later, the character of the soils had a significant influence on the visibility of grave shafts. The project area is part of the Texas Blackland Prairie, and Austin Chalk commonly weathers to a thick black clay. At Roberts Cemetery, however, soils mapped on the upland include Stephen and Eddy series (USDA, NRCS n.d.), which are much thinner than the typical soils of the Blackland Prairie, probably as a result of ongoing sheet erosion. Field observations confirm that depth to bedrock in the upland part of the cemetery is typically a foot or less, with bedrock exposed occasionally on the steeper slopes. The alluvial terraces, in contrast, represent deposits of several different ages, and support heterogeneous soils that reflect this diverse origin. Although this diversity is not reflected in the USDA soils maps, it was clearly exposed in the wall of the scraped area. The character of these soils, and their influence on the survey, is discussed in more detail below.

PROJECT HISTORY

The project was undertaken to evaluate whether the planned improvements to Interstate Highway 35 would affect the cemetery, and to minimize and mitigate those effects. Although the improvements did not require additional right of way along the cemetery boundary, it was clear at the outset that one or more previous road expansions in the twentieth century encroached upon part of the original cemetery property. Since the impacted area was under the Interstate Highway 35 frontage road, where a concrete-lined ditch and apron flanked a thick fill section, these impacts could not be investigated until construction began. Therefore, the work was done in two phases. PAI conducted the initial investigation in 2008 (Hatfield et al. 2009). TxDOT and PAI conducted the second phase in 2012.

The 2008 investigation was designed to determine if burials were present inside the cemetery close to the eastern property boundary line. Because the right of way was covered with concrete or had buried utilities, the mechanical excavations focused on the portion of the cemetery adjacent to the west edge of the right of way. The idea was that if any unmarked graves were found in this area, it would increase the likelihood that unmarked graves probably existed in the adjacent state-owned right of way. This work included backhoe trenching and discovered one unmarked grave (containing remains of an infant burial), so when construction was initiated a few years later, an extensive mechanical search was conducted to find any burials remaining in the right of way. Five more burials were

identified in this 2012 TxDOT survey, and the project was expanded to include the excavation and removal of four of the burials. The four exhumed burials were completely or partially inside the Interstate Highway 35 right of way. The other two were not disinterred because they were entirely outside the right of way.

All four of the unmarked graves that were excavated had been covered by the concrete apron along the west side of the southbound access road of Interstate Highway 35. By the end of September 2012, these four had been hand-excavated and removed. The burial remains from these four graves, including the casket hardware, human remains, and personal items interred, were analyzed and identified as accurately as possible. The evidence was examined to infer the approximate burial dates and the age, sex, and health characteristics of the deceased.

This project also includes archival research that Austin historian Terri Myers (Preservation Central, Inc.) conducted to aid in the identification of the recovered remains. To accomplish this goal, Myers researched the history of the Roberts Cemetery property. She also examined the Vital Statistics for Bell County, noting people who lived in Troy and died during the period from 1903 (when filing of death certificates became routine) to 1940 (the probable latest date when any of the four exhumed burials occurred). This work identified 75 death certificates for people who lived in Troy or were buried in Roberts Cemetery. These names were compared with burial lists published online for Roberts Cemetery (Duke 2004) and three other cemeteries nearby: Old Troy (Find a Grave 2013; Todd and Todd 2006), Shiloh (includes LewAllen; Entrop 2013, transcribed from Bell County Historical Survey Committee n.d.), and Pleasant View (Badovinac 2001, transcribed from Bell County Historical Survey Committee n.d.). By this process, Myers identified eight people whose death certificates indicate that they were buried in Roberts Cemetery but whose names do not appear in the Roberts Cemetery burial list. In addition, this comparison identified 29 people who were from Troy and may have been buried in Roberts Cemetery, but whose death certificates do not indicate their place of burial. This suggests that there may be up to 37 burials (8 definite; 29 possible) that occurred during the 1903–1940 period that are now in unmarked graves.

Prior to the search for unmarked graves and throughout the excavation and analysis phase, TxDOT coordinated the effort with the Roberts Cemetery Association. Once burials were found, TxDOT attempted to identify the individuals and involve family members in the process. Under the leadership of Waco Public Information Officer Ken Roberts (no relation), television and print media were used to inform the public that the project was occurring and to solicit contact from individuals who believed that their ancestors might be affected. Nine individuals came forward as a result of this process. Of these individuals, three represented families searching for male ancestors whose physical descriptions broadly matched the characteristics of the human remains from one excavated burial (Burial 2), while the other six people were searching for female ancestors that clearly were not represented in any of the excavated burials. DNA testing was then conducted on teeth and long bone segments from each of the four burials, but only one (Burial 2) yielded a usable DNA profile. DNA was extracted from five descendant candidates from three families, and their profiles were compared with the DNA profile of Burial 2.

From the outset, TxDOT and the Roberts Cemetery Association agreed that any burials exhumed from the state-owned right of way would be reinterred at Roberts Cemetery. The burial remains from the four excavated unmarked graves were reinterred in a new location in Roberts Cemetery during a ceremony on March 26, 2013.[1]

[1] The burials that occurred within the TxDOT right of way are considered part of Roberts Cemetery as indicated by historic maps and property records research. No permission from plot owners or descendants was required for the exhumation of these unmarked graves or the relocation of the burials to a new location within the cemetery. In addition, a Disinterment Permit issued by the Texas Department of State Health Services was not required in this situation. The pertinent points, as defined in the state's Health and Safety Code (HSC) and the Texas Administrative Code (TAC), are:

(1) Cemeteries include all areas where one or more human burials occur, and a cemetery does not have to be formally dedicated in deed records or marked (HSC, Title 8, Section 711.035(g)(1)).

(2) Prior notification of plot owners, descendants, or other relations in advance of relocation of burials is not necessary if the relocation will occur from one plot to another within the same cemetery (HSC, Title 8, Section 711.004(e)(1)).

This report presents the results of the 2012 second phase of investigations at Roberts Cemetery. Chapter 2 offers a description of the methods, geoarcheological observations, and results of the mechanical search for unmarked graves and the burial excavations. Chapter 3 describes the excavation and details of the four unmarked graves discovered in the right of way, including the human skeletal remains, the burial containers and mortuary hardware, and the personal items (e.g., clothing items and jewelry) interred with each individual. Chapter 4 provides a detailed discussion of the mortuary hardware. Chapter 5 summarizes the osteological analysis of the human remains and presents comparative mortuary and morbidity data for the late-nineteenth and twentieth centuries to provide a historical context for the four exhumed burials. Chapter 6 presents the archival research conducted to trace the history of Roberts Cemetery through time using deed records and historic maps. It also describes Myers' search for and examination of death certificates in an attempt to identify who was buried in the unmarked graves. Chapter 7 describes the outreach efforts to potential family members and the DNA testing of remains. Chapter 8 provides a summary of the project findings, a description of the ceremony for the reinterment of the burials at Roberts Cemetery, and concluding remarks.

There are six appendixes in this report. Appendix A consists of the tabulated data for the mortuary hardware analysis. Appendix B presents the tabulated osteological data. Appendix C provides lists of people, derived from the death certificate research, who are or may be buried in the unmarked graves at Roberts Cemetery. Appendix D presents a complete chronological listing of 633 known burials (marked graves) in Roberts Cemetery, based on the burial inventory compiled by Duke (2004). Appendix E consists of the official laboratory reports presenting the results of the DNA tests. And finally, Appendix F is the "Agreement to Reinter Unmarked Burials" that was signed by a TxDOT representative and board members of the Roberts Cemetery Association.

(3) The relocation of burials from the TxDOT right of way to the portion of Roberts cemetery beyond the right of way is consistent with all the provisions of Health and Safety Code pertaining to Removal of Remains (HSC, Title 8, Section 711.004).

(4) Relocation of burials within a cemetery does not require a permit from the State Registrar (Vital Statistics Unit, Texas Department of State Health Services) as stipulated in the Texas Administrative Code (TAC, Title 25, Part 1, Section 181.6(d)).

METHODS OF INVESTIGATION, WORK ACCOMPLISHED, AND GEOARCHEOLOGICAL OBSERVATIONS

2

Jennifer K. McWilliams, James T. Abbott, Catrina Banks Whitley, and Douglas K. Boyd

This chapter summarizes the methods and results of archeological field investigations conducted at Roberts Cemetery by Prewitt and Associates, Inc. (PAI) in 2008 and by the Texas Department of Transportation (TxDOT) and PAI in 2012.[2] The work included mechanical scraping to search for grave shafts, the discovery of five unmarked graves, and the subsequent excavation of four of those graves located wholly or partially within the state-owned right of way.

METHODS OF BURIAL PROSPECTION

Prospection for unmarked graves in the frontage of Roberts Cemetery was conducted in several stages by a succession of archeologists from PAI and TxDOT's Environmental Affairs Division. The prospection strategy employed at Roberts Cemetery was based on scraping. Although remote sensing methodologies (e.g., ground-penetrating radar, magnetometry) have the potential to identify graves noninvasively, the only foolproof method is to excavate, and the only practical option for an area of any size is to use machinery. To be effective, machine excavation should employ an excavator that can peel the soil off carefully in a series of thin cuts, allowing the archeologist to observe large swaths of the cut surface. Because soils are typically horizonated (i.e., subdivided by soil processes into subhorizontal zones of differing color and texture) and an excavated grave shaft penetrates through these layers, grave shaft fills usually look different than the natural soil because spoil from the different horizons is mixed in the refilled shaft. This distinction can be subtle, so it is important that the machine provide a wide, smooth, controlled cut. It is also important that the surface be disturbed as little as possible following the cut. For example, although a bulldozer has a wide, smooth-edged blade, it is not a practical machine for prospection because the cut surface is immediately rolled over and torn up by the treads, and any artifacts exposed on the surface are subject to disturbance and crushing. A rubber-tired vehicle like a road grader (maintainer) or belly loader can sometimes be employed to good effect, particularly when the search area is very large, but TxDOT's Archeology Branch generally prefers to use backhoes and excavators, which are able to reach out and peel sediment from a surface without then immediately driving over it.

In our experience, the effectiveness of a backhoe is highly dependent on the skill of the operator and the condition of the equipment. Because a backhoe is essentially an arm rotating relative to an adjustable pivot point, it naturally produces a curved cut. Scraping a level surface with a backhoe requires the operator to continually adjust the height of the arm and the angle of the bucket as a cut is made. If the operator is not highly skilled, if the sediment is hard, or if the hydraulic controls are not precise (as often happens with aged or poorly maintained equipment), trying to consistently peel thin, level cuts off a surface can be an exercise in frustration. Although TxDOT archeologists often have to work with what is available, and many areas are simply not accessible for equipment larger than a backhoe, most prefer a telescoping hydraulic excavator, which is tailor-made for making smooth, level cuts. There are sev-

[2] The TxDOT project is CSJ Nos. 0015-02-048 and 0015-04-067.

eral manufacturers of these machines, but they are commonly referred to by the trade name "Gradall®". In addition to the style of the cut, telescoping excavators typically have a bucket five or six feet wide (the buckets of the relatively small backhoes used by TxDOT rarely exceed three feet) and are able to facilitate work that is quicker and more precise.

With the proper conditions and equipment, it is often possible to identify a grave shaft well above a body, so that the remains can be exposed entirely by hand. In some cases, however, soil conditions make it impossible to identify the shaft, and a burial can only be identified by exposure of the remains or the associated coffin (e.g., Hill and Pye 2012). Despite the common belief that historic graves are six feet deep, they can actually be excavated deeper or considerably shallower, depending on several factors. Moreover, post-burial alterations to the landscape (e.g., erosion, mechanical filling) can dramatically affect the depth of burial. During the initial work at Roberts Cemetery, Texas Historical Commission (THC) archeologists Jim Bruseth and Mark Denton stressed that assumptions should not be made about the depth of burial, and that grave shafts would not necessarily be identifiable. Accordingly, scraping on the project was designed to continue until grave shafts were identified or bedrock was encountered. This proved to be an important decision, because several of the bodies in the unmarked graves were discovered resting on bedrock, with no indication of burial shafts being observed in the overlying sediments.

METHODS OF BURIAL EXCAVATION AND ANALYSIS

PAI personnel, along with osteologist Dr. Catrina Whitley, excavated the four unmarked graves from the state-owned right of way at Roberts Cemetery in August and September 2012. Three of the four graves were excavated in multiple stages due primarily to delay in removing overburden adjacent to the AT&T line that crossed over these graves. Documentation consisted of field notes, burial maps, photographs, and burial inventory forms. Burial inventory records were filled out sporadically due to the interruptions in the excavation schedule, but field notes were recorded, and photographs were taken regularly.

Mapping was done by TxDOT personnel after excavations were completed. TxDOT and PAI archeologist set nails in corners of grave stains or along edges of disturbed burials for horizontal control. For vertical control, elevation nails were placed near each grave by TxDOT and tied into PAI burial maps.

The burials were excavated following the protocols set by Tíne and Boyd (2003). Human remains, casket hardware, and personal items were collected by area (denoted as A, B, C, D, and E), corresponding to different parts of the rectangular grave shaft. This method allowed items that were not found in situ to be assigned to specific areas within the burial. These zones assume that the body is lying on its back in a supine position, which is generally the case for historic Christian burials. Area A is the head of the grave, including everything above the shoulder blades. Area B is the left side of the upper body from the midline of the vertebral column to the left and from the top of the shoulder (left clavicle) down to the waist (includes left humerus). Area C is the right side of the upper body (a mirror image of Area B). Area D is the lower left half of the body, from the midline of the pelvis to the left and from the waist down to the distal end of the grave (including the left leg, foot, and forearm). Area E is the lower right half of the body (a mirror image of Area D). After all the burial elements were mapped, the skeletal elements were wrapped and collected individually. All of the skeletal elements, personal items, and casket hardware from each burial were placed in a box for transport, and the remains were taken to the PAI laboratory for analysis.

Mapping was done by TxDOT personnel after all the mechanical stripping and burial excavations were completed. TxDOT and PAI archeologist set nails in corners of grave stains or along edges of disturbed burials. Elevation nails were placed by TxDOT and tied into PAI burial maps.

Physical anthropologist Catrina Whitley conducted the osteological analysis of the four skeletons in the PAI laboratory October 1–2, 2012. Jennifer McWilliams created an inventory of mortuary hardware and personal items in the PAI laboratory and photographed the mortuary hardware, personal items, and bone pathologies identified by Dr. Whitley. Tabulated data and photographs of mortuary hardware were sent to Jeremy Pye, a mortuary hardware specialist

who analyzed the diagnostic casket hardware in January 2013.

Analysis of Casket Hardware and Personal Items

Casket hardware was inventoried and measured, and within each hardware category, individual styles were assigned a type number. The identification of the diagnostic casket hardware (e.g., outer box and casket handles, thumbscrews and escutcheons, and lid latching mechanisms) was accomplished by comparing the styles and markings with mortuary hardware catalogs and data published in archeological reports on historic cemetery excavations. The analysis and identification of the burial container hardware was conducted by consultant Jeremy Pye, and the results of this intensive analysis are described in Chapter 4, with tabulated data in Appendix A.

McWilliams analyzed the nails and wood screws to reveal information about the construction of the burial containers. Nails were measured and sorted by type, and the groups were assigned descriptive names rather than type numbers. Nail attributes observed included head diameter and shank thickness. McWilliams also analyzed the personal items, which varied significantly from burial to burial. These included items like buttons, cuff links, a coat collar spring, safety pins, and remnants of fabric and floral displays. Detailed descriptions (including measurements) and identifications of these personal items are presented within each burial description in Chapter 2. When possible, personal items were linked to historical advertisements or patent dates to provide relative chronological information on the age of the interments.

Osteological Analysis of Human Remains

The analysis of the skeletal remains by Whitley followed the standardized protocols and recommendations in Buikstra and Ubelaker (1994). The osteological analysis involved data collection using standardized forms to document the condition of each skeletal element, age estimates, sex assessment, ancestry, cranial and postcranial metrics, pathology, taphonomy, dental pathology, dental nonmetric traits, and cranial and postcranial nonmetric traits. No dental metrics were taken. Photographs of skeletal elements exhibiting pathology or anomalies were taken in the laboratory. A complete description of each set of excavated skeletal remains is presented in Chapter 3, and the detailed osteological data for these burials are presented in Appendix B. The specific methodological details for osteological observations and assessments of sex and age, biological affinity, pathology, entheseal changes, dentition, and stature are discussed in Chapter 5.

With only four individuals—a child and three adult males—the burial population excavated from Roberts Cemetery is too small to be representative of the entire cemetery population. No detailed interpretations of demographics, health and mortality risks, mortuary trends, or socioeconomic status can be drawn from this small sample. In Chapter 5, however, Whitley does offer some general observations on individual health conditions and comparisons with other historic cemetery evidence. She also presents some late nineteenth- and twentieth-century health and mortality data for Troy, Bell County, and Texas to provide a historic contextual framework for understanding the individuals whose remains were found in the unmarked graves at Roberts Cemetery.

THE 2008 GRAVE SEARCH

The 2008 investigations at Roberts Cemetery conducted by PAI are reported in detail in Hatfield et al. (2009) and are only summarized here. On September 22, 2008, PAI archaeologist Jennifer McWilliams inspected the cemetery in the vicinity of TxDOT's right of way and assessed access for mechanical trenching. No headstones were present in this portion of the cemetery, but many headstones were found west of a large bur oak close to the highway right of way. McWilliams met with Wayne Randolph, caretaker of the cemetery, who provided a hand-drawn map[3] of grave plots showing graves within 15–20 ft of the TxDOT right of way (Hatfield et al. 2009).

[3] The origin and date of this map are unknown, and it should not be considered historically accurate, nor is it a complete inventory of all the burials. It is likely that this map was initially created sometime after the 1930s as an inventory of grave markers and that additional interments were subsequently added as they occurred. This map does not show any of the six unmarked graves identified by archeologists in 2008 and 2012.

Numerous disturbances were noted in the TxDOT right of way at that time. A massive concrete apron covered the road cut, the drainage ditch, and the slope up to the Interstate Highway 35 southbound frontage road, which was on top of a thick fill section and was nearly a meter and a half higher than the presumed natural terrace surface of the adjacent cemetery (Figure 2.1). Additionally, a buried AT&T cable ran along the west side of the concrete apron. Consequently, prospection for graves in the right of way was precluded until the road was closed and the concrete apron and fill section were removed.

To better assess the potential for graves to occur in the right of way, PAI personnel returned to Roberts Cemetery a few months later to conduct mechanical trenching just inside the cemetery boundary. This survey, which was complicated by the presence of large trees and buried utilities, was conducted between November 12 and 17, 2008 (Hatfield et al. 2009). Because no graves were known in that area, it was reasoned that their presence would dramatically increase the likelihood that other graves were in the right of way. To prevent damage to the adjacent AT&T cable, all trenching conducted was at least 1 m inside the property line.

Five trenches were excavated. No graves were present in the upland areas, but an unmarked grave was encountered in the far north end of Trench 1A, which traversed the stream terrace in the northeast corner of the cemetery. No grave shaft was observed, but bone was encountered 4.1 ft below the surface. Hand excavation exposed the southern portion of the skeleton of a young child within an 8x16-inch area, but the burial continued into the north wall of the trench. This unmarked grave was located completely within the Roberts Cemetery, just a few feet from the TxDOT right of way.[4] Artifacts associated with the burial included deteriorated casket wood fragments, a few small iron nails, and small bones, including skull fragments, a humerus, and other postcranial elements. These materials were returned to the grave, and the trench was backfilled. This child's burial was not assigned a feature or burial number at that time.[5]

Given that the historical evidence indicated that Interstate 35 (and possibly its predecessor, Highway 81) had been built over the eastern portion of Robert Cemetery property (Hatfield et al. 2009:8), and that at least one unmarked grave was present, Hatfield et al. concluded that it was "possible, and perhaps even likely, that unmarked graves are present underneath the concrete-lined ditch and apron, the frontage road, and even the main traffic lanes of IH-35" (Hatfield et al. 2009:13–14). They recommended additional mechanical stripping to search for graves under the concrete-lined ditch, apron, frontage road, and the main traffic lanes of Interstate Highway 35 in advance of construction improvements (Hatfield et al. 2009:23).

Accordingly, TxDOT staff archeologist John Arnn and TxDOT's Waco District Environmental Coordinator Michael Rhodes developed an Environmental Permits, Issues, and Commitments (EPIC) document for the project that allowed it to be cleared for NEPA and released for letting (bidding and award). An EPIC is a mechanism TxDOT uses to incorporate environmental requirements into construction plans so that compliance commitments can be tracked and implemented during construction. The EPIC was inserted into the project construction plans in May 2010.

THE 2012 SURVEY

In mid-August of 2012, pursuant to the requirements of the EPIC, the construction contractor notified TxDOT staff archeologist John Arnn that construction was imminent at the cemetery. Arnn conducted an initial field visit, during which he observed the removal of portions of the concrete ditch liner and riprap by the highway contractor. Scott Pletka, supervisor of the Archeological Studies Branch of the Environmental Affairs Division, asked staff archeologist Jon Budd to survey the right of way and evaluate the amount of work necessary. On Wednesday, August 22, Budd and staff geoarcheologist Jim Abbott returned to Roberts Cemetery and initiated scraping of the TxDOT frontage between the northern access drive and the northeast corner of the cemetery,

[4] It is probable that a second burial was clipped by Trench 1A in 2008, but no evidence of this grave was observed at that time. The 2012 investigations discovered that the 2008 trench excavation had impacted the skull and head end of the burial. This grave, designated as Burial 2, was excavated in 2012.

[5] TxDOT designated the child's grave as Feature 1 during the 2012 grave search.

Figure 2.1. Photo looking east from the cemetery toward the TxDOT right of way. A corner of a footstone representing one of the marked graves closest to the property line is visible in the lower right of the photograph.

adjacent to PAI's Trench 1A. This initial phase of work, designed to determine whether human remains were present in the highway right of way, was performed in accordance with TxDOT's Memorandum of Understanding with the Texas Historical Commission for cultural resources compliance required by state and federal laws.

The initial field session was somewhat stressful for all concerned. When Budd and Abbott arrived at the site, they found that the frontage road surface had been removed, and nearly a meter of fill had already been removed from portions of the right of way. However, no natural deposits had yet been affected. Although Budd and Abbott had been told by their supervisor that they were empowered to direct the work, the construction company supervisor overseeing work on that part of the project was of the opinion that the archeologists were simply authorized to be passive observers, and he repeatedly showed up to give contradictory orders to the machine operator concerning the location, character, and speed of excavation. The archeologists, for their part, quickly escalated the question to Michael Rhodes at the Waco District, who contacted TxDOT project engineer Clayton Zacha. Zacha and Rhodes ultimately convinced the James Construction supervisor that the TxDOT archeologists had the authority to direct the work.

The work along the property line was also complicated by the presence of a large buried telephone cable and by the large trackhoe provided by the highway contractor, which did not fit well beneath the mature oak along the property line (Figure 2.2). This trackhoe was initially fitted with a 3-ft-wide toothed bucket. Given the jurisdictional disagreement going on at the time, Budd and Abbott initially allowed the toothed bucket to be used to remove the remainder of the riprap and scrape the first few feet off the surface, but they quickly halted the scraping when a sharply bounded zone of discolored soil consistent with a grave shaft was noted about a meter below the surface (Figure 2.3). Work with the toothed bucket was suspended at the archeologists' insistence. This ultimately proved to be an unmarked grave (Burial 1).

Figure 2.2. Initial stages of scraping using a trackhoe, looking west toward the cemetery.

Figure 2.3. Initial view of the shaft of what was later identified as Burial 1.

To accommodate the request for a smooth-bladed bucket, the highway contractor welded a steel plate across the teeth of the trackhoe to provide for a smooth cut. Although this dramatically improved the process, the plate was several inches shorter than the teeth. Because it was welded flush with the end of the teeth, gaps were left between the bucket and the plate that

allowed some sediment to escape and partially obscure the fresh cut. The plate also broke off with initial use and had to be rewelded, further delaying the process. Nevertheless, the modified equipment provided a relatively smooth cut that gave the archeologists a reasonable opportunity to observe any grave shafts that might be exposed, and trenching resumed.

It was well past midday before the plate was welded to the teeth, and the latter part of the day was spent scraping from the oak tree north along the property line. The probable grave shaft was flagged and avoided. In areas where no indications of a grave shaft were seen, scraping continued to bedrock. The bedrock consisted of a relatively level shelf of limestone/chalk that was encountered at a depth of approximately 1.4–1.6 m below the ground surface. Near the northern boundary of the cemetery, Budd noted bone in the corner of the last scrape on the bedrock. This bone was examined and was determined to be the lower extremities of a human burial (Burial 2) extending less than a meter beyond (east of) the cemetery boundary and resting directly on the bedrock.[6] The backdirt from the scrape was examined carefully, and all bone was placed back in the approximate location where it was encountered, covered with plastic, and reburied with loose sediment. Although it was not known at the time, this activity also impacted the third burial (Burial 3), a portion of which was later found, still fully articulated, in the sediment block placed to protect Burial 2. Although the profile above the known burial was hand-scraped and examined in detail, no visual evidence of a grave shaft could be observed in the dark gray clay loam soil (see discussion below).

Scraping was then continued to the east, roughly parallel with the original trench. Because most of the material consisted of rubble fill (Figure 2.4), dirt management became increasingly complex as the depth of fill thickened. The work was also constrained by an old bridge pier and shafts for the new frontage road bridge, which had been previously poured. Near the end of the day, Budd and Abbott consulted about the best course of action. At that point, it was known that one unmarked grave (Burial 2) extended less than a meter over the property line at the northeast corner of the cemetery, and a second probable grave shaft (Burial 1) was poorly defined but appeared to be primarily inside the highway right of way. Because it was considered possible that the human remains in this latter feature might have been moved during a previous construction episode, scraping of the eastern part of the feature was continued until cemetery hardware was encountered. At that point, the feature was covered in plastic and buried with backfill to protect it.

On Friday, August 24, 2012, Abbott returned to the cemetery with TxDOT archeologists Christopher Ringstaff and Waldo Troell to continue scraping and to determine if there was a burial in the previously discovered shaft. The loose backfill placed on the feature was shoveled off, and Ringstaff and Troell hand-excavated a 1x2-m unit over the area. While they worked on exposing this feature, Abbott monitored the expansion of the scraped area to the south and east performed with a backhoe supplied by TxDOT's Waco District (Figure 2.5). Given that the fill and underlying soil was several meters thick, and that there was no effective mechanism to remove the spoil produced, scraping was a slow and laborious process.

By noon of that day, Ringstaff had established that there was indeed a burial in the shaft of Burial 1, and he had exposed the well-preserved bones of the feet and lower legs. Once the position and condition of the burial became apparent, the decision was made to rebury the feature and mark its location for subsequent disinterment.

Although the thickness of the fill slowed the work, scraping revealed two additional features within the natural deposits, neither of which was mortuary in nature. These features were designated Features 4 and 5. (The child burial discovered during the survey in 2009 was designated Feature 1, the burial Ringstaff was working on was designated Feature 2, and the burial near the corner of the cemetery was designated Feature 3.)

Feature 4 (Figure 2.6) was exposed and documented by Troell. It consisted of a tapered, round-bottomed hole that was 27 cm in diameter and approximately 25 cm deep. The top of the feature was first observed at the bottom of the A horizon, approximately 50 cm below the natural ground surface. A moderate number of historic artifacts were encountered, including three fence staples, half a dozen short scraps

[6] Per current TxDOT policy, no photographs of human remains will be presented in this report.

Figure 2.4. View of trenching showing the character of the rubble fill.

Figure 2.5. Composite panoramic photograph, looking northeast, showing the character of early-stage scraping.

of steel wire, four small sheet metal scraps, one fragment of ceramic whiteware, several large chunks of charcoal, and fragments of animal bone. These artifacts were concentrated at the top of the feature, which is interpreted as an infilled posthole. The bone was taken to the TxDOT office and examined by faunal specialist Jodi Jacobson. Working without benefit of her comparative collection, Jacobson identified the bone as a fragmentary distal tibia of a large non-bovid mammal, such as a horse or an elk, and stated unequivocally that it was not human.

Feature 5 (Figure 2.7) was a vertical, cylindrical hole filled with sediment and limestone/chalk rubble. It was noted approximately 50 cm above the bedrock a few meters southeast of Feature 4 and was traced down vertically

a

b

Figure 2.6. Two views of Feature 4, a posthole near Burial 1.

into the bedrock. It had a consistent diameter of approximately 60 cm and is interpreted as an infilled geotechnical borehole associated with a previous phase of highway construction.

Figure 2.7. Photograph of Feature 5, a borehole near Feature 4.

At the close of the day on August 24, the following points were clear: (1) a strong potential existed for additional burials in the right of way; (2) an intensive and systematic investigation of the project area was warranted; and (3) such an investigation was impossible unless the thick fill underlying the highway frontage was removed. Accordingly, TxDOT's Archeological Studies Branch prepared a permit application to identify and exhume any unmarked graves in the Interstate Highway 35 right of way fronting Roberts Cemetery and to reinter them in the cemetery. TxDOT also negotiated a work authorization to conduct any necessary exhumations with PAI under an existing contract for archeological services. At the same time, TxDOT's Waco District negotiated a change to the contract specifying that the James Construction group would use their equipment and personnel to remove the overburden but that the Waco District office would supply a gradall, dump trucks, and operators for the mechanical grave search that would follow.

In response to the application, the Texas Historical Commission issued Texas Antiquities Permit No. 6388 on September 4, 2012. The scope of work outlined the following six points:

1. The construction contractor would strip the remaining gravelly road fill in the frontage area under monitoring by a TxDOT archeologist. This stripping would continue vertically until the buried terrace soil was encountered. The fill would then be stripped laterally from north to south. Due to the construction of the interstate highway, the original configuration of the stream terrace was poorly understood, but it was clear that the dark floodplain soil would pinch out laterally against the bedrock valley wall. Stripping would extend from just behind the existing bridge abutment headers to the point where the margins of the stream terrace were encountered.

2. TxDOT would then carefully strip the floodplain soil to search for additional unmarked graves under the observation of an archeologist. Stripping would be conducted mechanically using a wide, smooth-bladed bucket. Any grave shafts detected would be re-covered and protected until they could be exposed, documented, and removed. Excavation of the burials would be conducted by personnel from PAI under supervision of a physical anthropologist and TxDOT's principal investigator.
3. Upon removal, the burials would be documented according to the standards used by PAI at the Pioneer Cemetery in Brazoria County. They would be stored at PAI's office in Austin until identification efforts were completed and reburial could be arranged.
4. Given that no graves were indicated in the area on cemetery association maps, it was considered unlikely that any individuals found would be identified. However, the surviving coffin hardware would be examined for temporal and economic implications, and the results of the osteological analysis would be summarized. It was anticipated that the reporting would be relatively descriptive unless the remains or grave furniture were considered to warrant more detailed treatment (e.g., evidence of ethnicity, signs of skeletal trauma, evidence of significant economic disparities).
5. Because the results would inform the next phase of work, investigation of the main lanes would be deferred until that part of the project was imminent. That work would be conducted under a modification of this permit or under a completely new permit.
6. All recovered remains and associated artifacts would be reinterred in Roberts Cemetery at the completion of the study.

Although the goal was to investigate the area under the southbound frontage road completely, it was not possible to work all the way up to the edge of the main lanes. Such an attempt would have undercut support for the active Interstate Highway 35 travel lanes, which were separated from the work area only by a concrete jersey barrier. Accordingly, based on field consultation with the project engineer, stripping of the overburden was discontinued at a point roughly equivalent to the base of the ditch between the main lanes and the frontage road. The highway fill was then beveled to a point that was more or less in line with the eastern edge of the frontage road pavement. Stripping of the natural soil was only performed between this line and edge of the cemetery, a distance of approximately 15 m.

The week of September 4 was spent stripping and removing more than a meter of artificial overburden from a ca. 50x18-m area (Figure 2.8). This work was conducted by James Construction using a trackhoe and dump trucks under supervision of a TxDOT archeologist (Abbott).

On September 6, the PAI field crew, consisting of archeologists Jennifer McWilliams and Aaron Norment and bioarcheologist Dr. Catrina Whitley, joined Abbott in the field. At the end of the week, the artificial fill was largely removed down to the intact sediments.

During the week of September 10, a TxDOT operator and gradall replaced the construction contractor's equipment and operator, and stripping of the natural deposits was initiated. Stripping was initially concentrated at the north end of the area in the vicinity of the bridge pilings. This effort was conducted by Budd in a manner similar to the previous excavations, with scraping continued until bedrock was encountered. During this process, the edge of the bedrock strath was found in the northeast corner of the excavation, and the excavation was taken down another ca. 1 m (Figure 2.9).

Based on the stratigraphic exposures encountered in the project area, it was decided to systematically scrape the remaining area in three passes, removing material corresponding broadly to the three soil horizons (see Geoarcheological Observations below). Each swath, ca. 50 cm thick, was scraped incrementally, with the gradall moving from north to south in a hemispherical pattern (Figures 2.10 and 2.11). Stripping continued over the next three weeks and was overseen primarily by Abbott (September 12–13, 19–20, 24–26) with additional coverage by Budd (September 10–11) and Arnn (September 21). Several days were lost to rain, and the stripping effort was slowed because the excavator removed fill faster than it could be taken offsite by one or two dump trucks.

Figure 2.8. Stripping of the artificial fill from under the frontage road, looking south.

Figure 2.9. View eastward of the north end of the stripped area during early phases of systematic stripping. The far northern end has been stripped to bedrock, exposing a bedrock ledge and a deep pocket of dark clay in the northeast corner.

Figure 2.10. Systematic stripping of the A horizon beneath the frontage road fill section, looking west. Note the trapezoidal rubble fill section of the former cemetery entrance ramp in middle ground.

Figure 2.11. Systematic stripping of the lower B and C horizons, looking south.

Additional mechanical stripping was conducted along the cemetery property line to facilitate removal of the known burials, each of which was crossed by the buried phone line. On September 21, McWilliams identified wood and nails indicating a possible additional burial in the wall of the excavation cut, immediately north of Burial 1. This feature was explored and proved to be the unmarked grave of a young child, designated Burial 4 (Feature 9). Like the other three burials, the buried cable cross-cut the child's grave. Norment identified the bottom of another probable burial pit southwest of Burial 3. This was designated as Burial 5 (Feature 10), but no further work was done because the unmarked grave was located entirely within the cemetery boundary.

The mechanical grave search was completed on September 26, when the stripped area reached the bedrock slope south of the terrace. Figure 2.12 shows the locations of the unmarked graves (mapped with survey-grade GPS equipment) and nonmortuary features (mapped with consumer-grade GPS locations and measured sketch maps; locations are approximate). The mechanically stripped area was approximately 957 m^2 (10,300 ft^2). The volume of fill removed is difficult to estimate precisely given that no detailed topographic mapping was done prior to stripping, but it is estimated at between 2,500 and 3,500 cubic yards, with roughly half of that figure representing intact soils and half representing overlying construction fill and road base.

At the completion of the mechanical stripping, the effort had discovered five additional unmarked graves (bringing the total number to six) and four nonmortuary features. Table 2.1 lists all the features that were discovered by TxDOT archeologists. Table 2.2 summarizes the sequence of events in the discovery and excavation of each of the unmarked graves investigated at Roberts Cemetery in 2008 and 2012. Although a few fragments of glass and metal were noted near the interface between the fill and the natural soil, and one fragment of prehistoric chipped stone debitage was noted (but not collected) during scraping, the only two relevant artifacts were discovered in a nonmortuary context: a galvanized guy-wire anchor approximately 3 m west of—and presumably associated with—Feature 8, and a small section of unreinforced concrete curbing of the type that frequently surrounds cemetery plots. The concrete curbing fragment was recovered just above the bedrock contact (i.e., more than 1.5 m below the natural ground surface) during scraping in the vicinity of Features 4 and 5. Because soil horizonation was well developed in that area, and no evidence of significant disturbance of those horizons was apparent, it is considered likely that this block was part of the rubble fill of Feature 5.

GEOARCHEOLOGICAL OBSERVATIONS

The effort to locate and exhume any burials in the state right of way fronting Roberts Cemetery was a straightforward undertaking that required no formal geoarcheological planning. However, the prospection process exposed an extensive cross section of geological deposits and associated soils, and the character of those deposits had a significant influence on the visibility of the grave shafts. The nature of the geological deposits and lateral changes in stratigraphy are important considerations for understanding the decisions made during the mechanical stripping and the difficulties in recognizing unmarked graves.

As seen in Figure 2.13, the majority of the cemetery is mapped as Stephen silty clay (StC) with 1 to 3 percent slopes. However, the map unit fronting the majority of the Interstate Highway 35 right of way is Eddy-Stephen Complex (EsD) with 3 to 8 percent slopes, and the extreme northeastern corner mapped as unit Tinn (Ty) frequently flooded, with 0 to 1 percent slopes. Both Eddy soils and Stephen soils are thin, erosional upland soils developed on chalk and limestone. Eddy series soils are classified as Typic Ustorthents and are typified by an A1-A2-Cr profile that is less than 30 cm thick over bedrock. Stephen soils are classified as Udorthentic Haplustolls and are, if anything, even shallower. Neither of these soils bears any resemblance to the soils scraped in the right of way during this survey. In contrast, there was an area that resembled the description of the Tinn series, which is mapped in the axis of the Elm Creek stream valley. Tinn soils are thick, clayey soils typical of stream floodplains in the Blackland Prairies. They are classified as Typic Hapluderts and have a typical Ap-A-Bss1-Bss2-Bss3-Bkss profile developed in dark gray to black

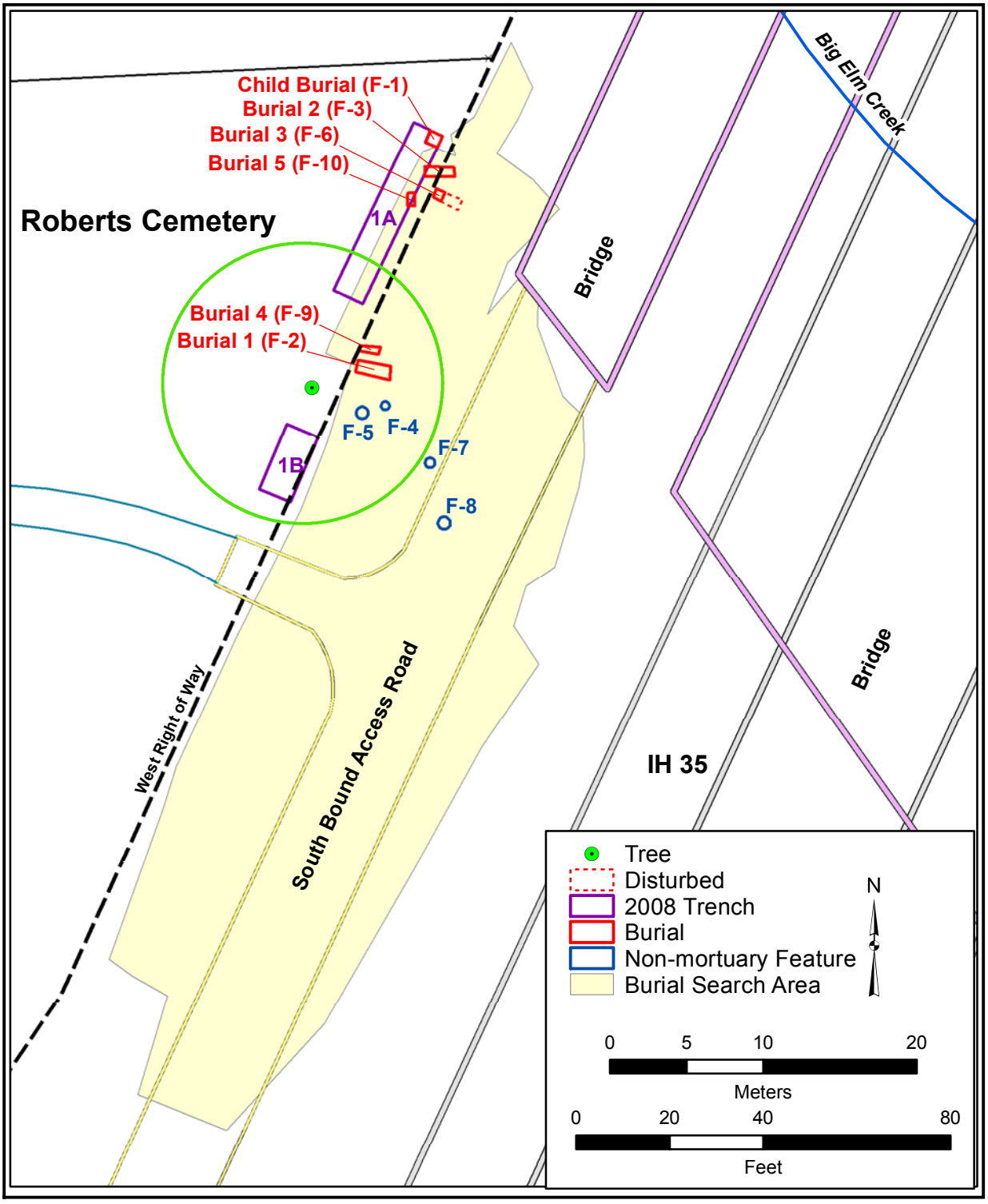


Figure 2.12. Map of the mechanical search area showing the locations of unmarked graves and nonmortuary features found in the eastern side of Roberts Cemetery.

Table 2.1. Features found by TxDOT archeologists

TxDOT Feature No.	Description	Burial No.
Feature 1*	Child burial found in Trench 1A	Unnumbered burial (not excavated)
Feature 2	Adult burial	Burial 1 (excavated)
Feature 3	Adult burial	Burial 2 (excavated)
Feature 4	Posthole south of Burial 1; diameter 27 cm	–
Feature 5	Probable geophysical hollow-core auger hole south of Burial 1; diameter 60 cm	–
Feature 6	Adult burial	Burial 3 (excavated)
Feature 7	Probable geophysical core hole; diameter 10 cm	–
Feature 8	Auger hole; diameter 60 cm. A nearby galvanized guy wire anchor suggests that this hole was for a utility pole.	–
Feature 9	Child burial	Burial 4 (excavated)
Feature 10	Adult burial	Burial 5 (not excavated)

*Feature 1 was found in 2008; all other features were found in 2012.

expansive clays. This description conforms to the dark, homogeneous material at the north end of the cut, particularly in the northeast corner, where the bedrock dropped off.

Instead, the majority of the investigated area is characterized by soils that diverge from the mapped series. The reason for the discrepancies between the mapped and observed geology is simply that the cemetery spans a strath terrace landform that is not recognized in either the geological or soils maps. This terrace is inset against the upland, which is partially overlapped by the more recent floodplain clays. Although the terrace surface grades smoothly into the floodplain, it rests on an underlying bedrock strath that is 5–7 m above the modern channel, and the relatively thick deposits of the floodplain grade laterally into relatively thin (1.5–2 m), horizonated alluvial soils on the terrace, then into mixed alluvial/colluvial deposits near the terrace backslope. Soil processes have blurred these lateral contacts so that they are extremely gradual. As a result, the profile exposed in the Interstate Highway 35 frontage is a complex soil catena that displays lateral variability due to the combined effects of multiple soil processes operating on sediments of different ages, sources, and modes of deposition. Figure 2.14 presents a wide-angle composite photograph and details of the profile. Rather than try to define the diffuse lateral contacts, it is more instructive to illustrate representative vertical profiles that exemplify each unit exposed along the sequence. The three-frame photocomposite in the upper panel illustrates the western wall of the scraped area, and the four profiles detail that exposure at different points along the slope. The upland surface is visible where the trucks are parked on the left, and the stream is visible at the extreme right.

Profile A was near the upslope end of the scrape, roughly where the depth of the scraped material begins to thin as the deposit rides from the terrace strath onto the valley backslope. The material here consisted of a grayish brown to yellowish brown gravelly loam that was almost entirely colluvial in origin and supported a soil with an A-Bk-BCk-2R sequence. The A horizon was a stony loam, while the underlying Bk and BCk horizons were loam to clay loam. The soil exhibited a fine blocky structure and contained up to 2 percent fine soft carbonate nodules and occasional angular pebbles. It rested abruptly on a dipping limestone shelf at a depth of about 140 cm, but thinned rapidly to about 40 cm on the lower slope. Given the color, the character of the A horizon, and the degree of soil development, it is likely that the soil is a Mollisol or an Inceptisol.

Profile B was situated slightly downslope from A at the rear of the terrace. The soil here was developed through a stacked sequence of

Table 2.2. Sequence of burial discovery and excavation at Roberts Cemetery

Burial No.	Date of Work	Investigator	Work Conducted
Unnumbered Burial (Feature 1)	November 12–16, 2008	PAI	A child's burial was exposed in Backhoe Trench 1A. The backdirt was screened, and deteriorated casket wood, some nails, and some bones were recovered. Hand excavations exposed the outline of the small grave shaft. The recovered burial remains were placed back on the intact portion of the burial, and it was covered with protective fill (Hatfield et al. 2009:13–14).
Burial 1 (Feature 2)	August 27–31, 2012	TxDOT	The grave shaft was outlined, and foot bones were exposed to confirm that the feature was a human burial. Displaced hardware was collected and placed with the burial under plastic and earthen fill for protection.
	September 6–7, 2012	PAI	Excavation of lower portion of burial began. All bones of the upper body (ribs, vertebra, humerus, and skull) remained under the AT&T cable.
	September 20, 2012	TxDOT/PAI	Removal of overburden surrounding the AT&T cable
	September 21, 2012	PAI	Excavation of intact (upper) portion of the burial
Burial 2 (Feature 3)	November 12–16, 2008	PAI	The head of the grave and upper part of the skull were unknowingly impacted by Backhoe Trench 1A in 2008 (Hatfield et al. 2009:10–11, 13–14).
	August 27–31, 2012	TxDOT	Lower legs were displaced during the gradall scraping. No shaft was detected; this exposure of the bone was the first indication of the burial.
	September 21, 2012	PAI	Burial excavated
Burial 3 (Feature 6)	August 27–31, 2012	TxDOT	The lower portion of this burial was accidentally scraped up and added to the backfill pile. Subsequently, the sediment in this backdirt pile was used to cover and protect Burial 2. Thus, the disturbed remains of lower Burial 3 were deposited on top of Burial 2. Some remains were commingled at that time, but they were later separated.
	September 6, 2012	PAI	The bones of Burial 3 were discovered in the process of removing the protective fill covering Burial 2. All of the removed fill was screened to recover the remains of lower Burial 3. Some remains from Burials 2 and 3 had become commingled, but they were separated in the laboratory analysis phase.
	September 13, 2012	PAI	The remaining intact portion of the burial was excavated and removed. This consisted of some of the midsection, shoulders, and skull.
Burial 4 (Feature 9)	September 21, 2012	PAI	Casket nails from the edge of Burial 4 were exposed in the balk (vertical wall) north of Burial 1.
	September 24, 2012	TxDOT/PAI	Overburden above and below AT&T cable was removed.
	September 25, 2012	PAI	Burial excavated
Burial 5 (Feature 10)	September 25, 2012	PAI	A row of several casket nails was observed in the excavation trench profile to the south of Burial 3 and along the north edge of the TxDOT right of way. This burial was determined to be outside the TxDOT right of way and was not investigated further.

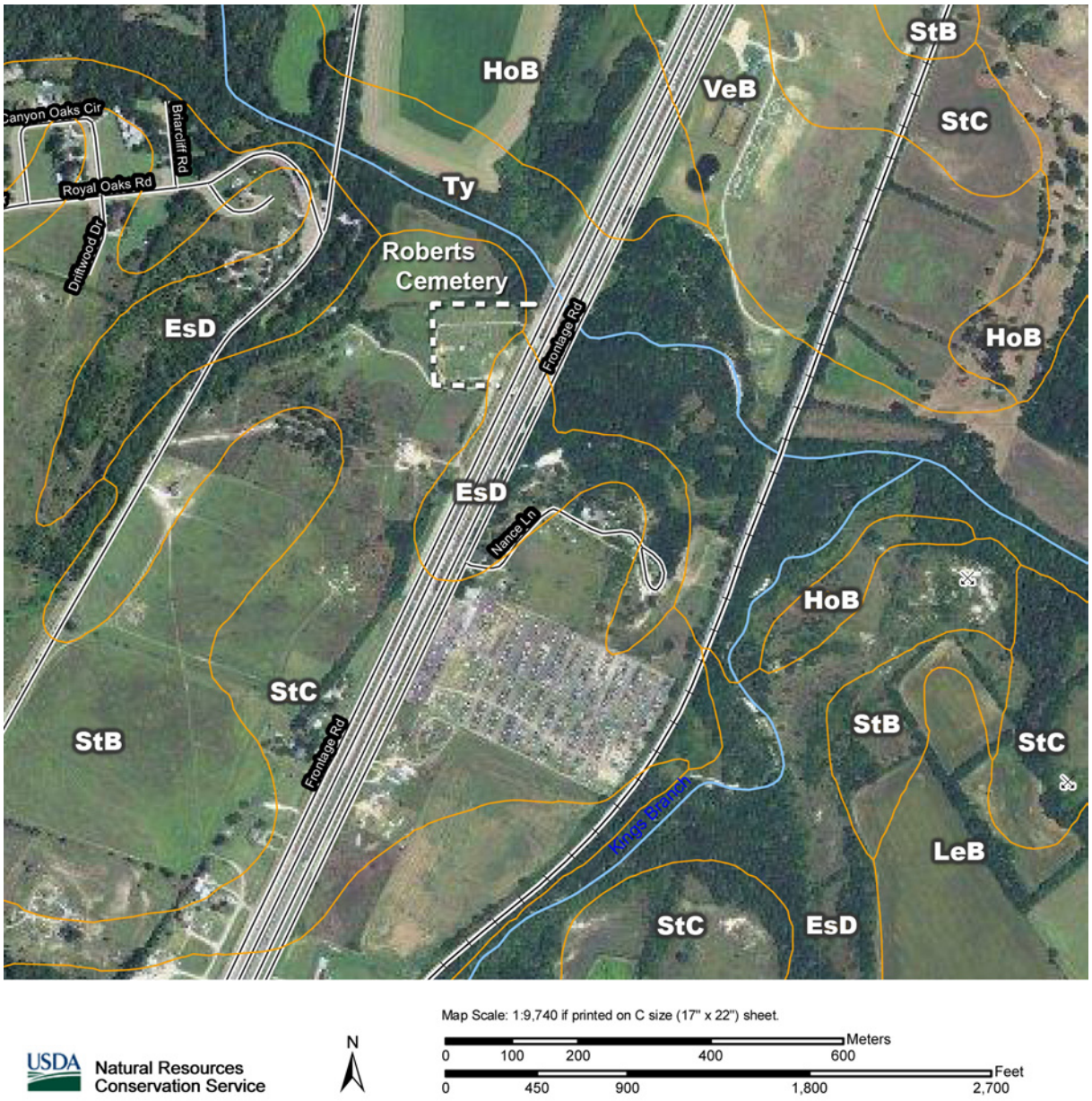


Figure 2.13. Detail of the soils in the vicinity of Roberts Cemetery, as mapped by the USDA Natural Resource Conservation Service (USDA, NRCS n.d.).

two discrete deposits. The upper part of the sequence (AC horizon) consisted of stony grayish-brown colluvium approximately 30 cm thick. It graded down into a dark grayish brown 2A horizon, then into a strong brown, weakly to moderately structured 2Bk1 horizon with few to common carbonate filaments and soft nodules, and finally into a pale brown to yellowish brown 2Bk2 horizon with common carbonate masses, filaments, and matrix "clouds." The soil rested on a hard bedrock shelf (3R horizon) at a depth of about 170 cmbs. Given the character of the soil and the degree of soil development, the soil is likely a Mollisol or an Alfisol.

Profile C was situated in the middle section of the terrace, a few meters south of Burials 1 and 4. The soil here was clay loam and exhibited a moderately structured A-Btk-Bk-Ck-2R profile. The A horizon was very dark grayish brown to black and graded into a very

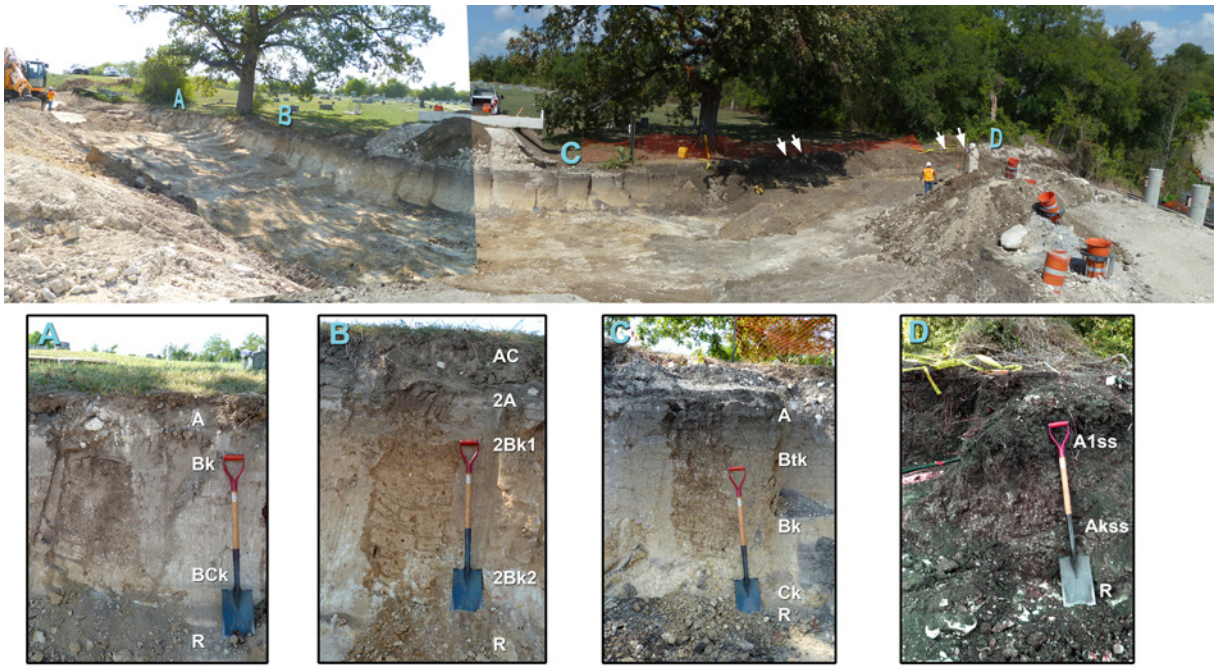


Figure 2.14. Photographs of the western wall of the scraped area and selected soil profiles. (Top) Photocomposite panorama of the west wall of the scraped area showing the locations of burials (marked with white arrows) and profiles (marked with letters). (Bottom) The profiles detail the soils exposed along the cut face.

dark grayish brown to grayish brown Btk horizon with occasional weak argillans on the faces of the moderate blocky peds. Fine carbonate nodules, filaments, and flecks were common through the horizon. This horizon graded into a yellowish brown subsoil that once again rested on a hard bedrock shelf. Although not present at the measured section, there were localized areas of thin (maximum 10 cm), yellowish-brown, iron-stained limestone gravels at the bedrock contact in this part of the terrace. Given the character of the soil and the degree of soil development, the soil is likely a Mollisol.

Finally, Profile D was near Burials 2 and 3 on the proximal terrace overlooking the slope. It exhibited a very dark, structured soil with an A1ss-Akss-2R profile. The profile consisted of very dark grayish brown clay loam that lightened slightly with depth. Limited pressure faces on peds attested to shrink-swell processes, but no slickensides were noted. Secondary carbonate was common in the Akss horizon; it consisted of common soft masses, filaments, and concretions. Small angular fragments of limestone were also common. Given the character of the soil and the degree of soil development, the soil is broadly similar to the Tinn series and would likely classify as a Vertisol.

Although the soil catena reflects the input of material of alluvial and colluvial origin in different positions on the slope, the variability it exhibits also reflects deposits of differing ages that onlap and overlap each other. Based on a broad comparison with the sequence of soil units recognized for Fort Hood (e.g., Nordt 1992), it is likely that the more distal part of the terrace is of early to middle Holocene age (equivalent to Nordt's Fort Hood fill), while the medial terrace (probably equivalent to Nordt's lower or older West Range fill) and more homogeneous proximal terrace (probably equivalent to Nordt's upper or younger West Range fill) are of Late Holocene age. In other words, the more developed soils in the medial and distal parts of the terrace had horizons of contrasting color, while the clayey soil on the proximal terrace did not. As a consequence, grave shafts in the latter setting were not visible as the surface was scraped, and the machine scraping damaged these burials during the prospection process. Even after the burials were identified, close inspection of the adjacent cut wall failed to reveal any evidence of the grave shaft associated

with Burial 2, even though it had to be there. Because the grave shafts were impossible to detect and no coffin remnants remained above Burials 2 and 3, impacts to the remains in this part of the cemetery, although unfortunate, were largely unavoidable.

BURIAL DESCRIPTIONS

3

Jennifer K. McWilliams and Catrina Banks Whitley

The discovery of one unmarked grave at Roberts Cemetery in 2008 led to an extensive mechanical search for unmarked graves inside the state-owned right of way for Interstate Highway 35. The 2012 mechanical stripping covered an area of more than 10,000 ft^2 and discovered five more unmarked graves. Two of the six burials were left in place, and four were exhumed.

For a variety of reasons, the sequence of discovery and investigations of these burials was convoluted (see Table 2.2). Each burial was excavated in multiple stages due to scheduling problems caused by weather delays, logistical delays in the mechanical removal of the overburden above the burials, and the need to expose the overburden in segments to avoid impacting a buried AT&T cable. Further complications arose when burials were impacted during the mechanical grave search.

The excavations of Burials 1 and 4 proceeded normally. The soil changes allowed for observation of the grave shaft above the casket remains, and the burials were intact at the time of excavation. Unfortunately, the two other burials were partially disturbed by the machine scraping because it was virtually impossible to see the grave shafts. A small portion of Burial 2 (the head end of the grave) was disturbed by the backhoe in 2008, and the lower half of Burial 3 was accidentally removed by the backhoe in 2012. The displaced fill from Burial 3 was screened, and all of the burial remains were recovered.

This section presents descriptions of the four excavated burials. The descriptions include information on shaft size and depth and body orientation and an inventory of casket and mortuary hardware and personal artifacts associated with the interred individual. Based on an examination of the human remains, an osteological inventory, pathological information, a dental inventory, and descriptions of dental pathology, anomalies, and modifications are also included. Casket hardware is described in more detail in Chapter 4 and Appendix A, and detailed osteological data tables are provided in Appendix B.

Table 3.1 summarizes the unmarked burials. Table 3.2 summarizes mortuary hardware and personal items recovered from the four excavated burials. Table 3.3 provides descriptions and measurements of the personal items.

BURIAL 1

Burial 1 is the grave of a 30–40-year-old male buried in a rectangular casket (Figure 3.1).

Grave Discovery and Excavation

Burial 1, the southernmost grave, was first detected during trenching when TxDOT personnel observed a linear soil color change. The grave shaft was followed vertically until bones (at the foot) were found. TxDOT personnel exposed foot bones to confirm that the disturbance was in fact a human grave, and then covered the exposed bone with plastic topped with loose fill. Very little overburden was removed prior to excavation, primarily to protect the AT&T cable, which crossed Burial 1 immediately over the head. Roots damaged the north side of the casket and also cut through the midsection of the grave.

Table 3.1. Summary of unmarked burials at Roberts Cemetery

Burial No.	Sex	Age	Casket Length	Casket Width	Depth Below Surface *	Elevation (ft amsl)
Unnumbered	Unknown/ indeterminate, not excavated	Child	16 inches**	8 inches**	ca. 4 ft (49 inches)	N/A (burial outside the right of way)
Burial 1	Male	30–40	7 ft	2.7 ft	4.26–4.66 ft	618.50–617.78 ft
Burial 2	Male	45–60	Unknown	2.13–2.40 ft**	3.97–4.12 ft	616.29–616.45 ft
Burial 3	Male	20–27	Unknown	2.1**	4.15 ft	616.49–616.49 ft
Burial 4	Indeterminate	1.5	2.9 ft	0.72–0.85 ft	3.95–3.77 ft	618.14–618.21 ft
Burial 5	Unknown, not excavated	Unknown	Unknown	Unknown	Similar to Burials 2 and 3	N/A (burial outside the right of way)

* Ground surface measurements could not be taken above every grave, so estimates were made based on elevations nearby. Ground surface was fairly level near Burials 1 and 4, as contrasted with a steep slope in ground surface above Burial 3 and even steeper slope above Burial 2, the northernmost burial.
** Measurements represent only the excavated portion of the burial. No casket outline was identified, so measurements are only the approximate dimensions of the grave shaft.

Table 3.2. Summary of mortuary hardware and personal items recovered from four burials

	Description	Burial 1	Burial 2	Burial 3	Burial 4
Mortuary Hardware					
Outer Box					
Handles	Iron	5			
Common nails	Iron	12			
Casket					
Plaque or plate	Type 1, iron	1			
	Type 2, white metal		1	1	
Handles	Type 1, double lug, white metal	6			
	Type 2, swing bale, white metal		6	6	
Escutcheon (white metal)	Type 1, white metal		3	4	
	Type 2, white metal		1		
Thumbscrew	Heart-shaped, iron	2			
	Type 1, white metal		3	5	
	Type 2, white metal		1	1	
	Type 3, white metal		1		
Cap lifter	White metal		1	1	
Separable stop hinge (iron)	Type 1	2			
	Type 2	2			
Various lid mechanisms (iron)	Stop plates	2			
	Locking mechanism	1			
	Flat iron plates or lid rods	12			
Nails (iron)	Common		17	30	
	Short		22	19	
	Finishing		20	15	
	Extra-large				16
	Shanks			5	
	Large		1	1	
	Square		1		

Table 3.2, continued

	Description	Burial 1	Burial 2	Burial 3	Burial 4
Wood screws (iron)	1-inch		1		
	1.25-inch				4
	1.5-inch		1		
	2-inch			1	
	Shank		1	2	
Tacks (various)	Decorative, copper		2	1	
	Fabric, iron	40	2	1	35
	Long Tacks, iron	5	2		
U-shaped unidentified	iron			1	
Outer Box or Casket					
Nails (iron)	Common, iron	72			
	Finishing, iron	21			
	Short, iron	24			
	Wood	4			
Screws (iron)	1-inch	6			
	2-inch	1			
Personal Items					
Buttons	Shell, two-hole	5	4*		1
	Shell, four-hole		1	3	
	Composite metal	2	3		
Cuff links	White metal		2		
Eyelet	Copper		2		
Fabric remnant		3			
Floral wire	Iron				**
Neckpiece				1	
Safety pins	Copper			1	3
	Iron				2
Snap	Copper				3
Unifacial scraper					1

* Two are button fragments that may be from the same button.
** Not counted. There are more than 100 tiny wire fragments throughout the casket.

Mortuary Characteristics

Burial Shaft Size and Depth: The grave shaft measured 7 ft long by 2.7 ft wide, and the bottom elevations ranged from 4.26 ft to 4.66 ft below the modern ground surface (618.50–617.78 ft amsl).

Burial Orientation: East–west, with the head to the west. The body was in an extended position, lying supine. The grave shaft orientation (head-to-foot) was 285 degrees.

Outer Box Description: Burial 1 contained a rectangular, wooden outer box that probably served as a casket shipping container. Although no outer box wood was observed, alignments of nails and the location of the hardware determined its shape. The exact size of the outer box is not known, but the five handles and many nail alignments indicate that the outer box was slightly larger than the casket.

Outer Box Hardware: Evidence of the outer box includes five simple iron handles and several alignments of common nails. Two handles were found on the right of the mid and upper body and two paralleled those on the left. Another, recovered by TxDOT personnel, most likely came from the lower portion of the grave. It is assumed that the outer box handles originally totaled six and were laid out with three on either side of the box. The sixth handle was accidentally removed during the mechanical grave search.

Table 3.3. Personal items recovered

Artifact Type	Material	Burial No.	Count	Length or Diameter (inches)	Width (inches)	Height (inches)	Thickness (inches)	Description
Button	Composite (metal)	1	1	0.8	–	–	0.2	A round metal composite button (0.8 inches in diameter) was found between the T8 and T9 thoracic vertebrae; the top has linear striations, as if fabric were glued to the surface; shiny glasslike material may represent the glue; no shank is present on the back side; a 0.24-diameter hole on the back side of the metal provides a "window" into the internal unidentifiable material
Button	Composite (metal)	1	1	0.7 (est)	–	–	0.2	Same as above
Button	Composite (metal)	2	3	0.61	–	–	0.19	Same as above
Button	Shell	1	4	0.5	–	–	0.65–.074	Two-hole; no sewing well
Button	Shell	1	1	0.5	–	–	0.068	Two-hole; no sewing well
Button	Shell	2	1	0.35	–	–	0.09	Two-hole shell button, 0.35 inches in diameter with sewing well; found between T7 and T8 vertebrae
Button	Shell	2	1*	0.38	–	–	0.09	Fragment; probably a two-hole button; may be half of fragment below
Button	Shell	2	1*	0.4	–	–	0.09	Fragment; probably two-hole; may be half of fragment above. Has a slight indication of a sewing well.
Button	Shell	2	1	0.5	–	–	0.09	Recovered at right wrist; fragmentary button approximately 0.5-inch diameter
Button	Shell	2	1	0.58	–	–	0.08	Four-hole button, 0.6-inch diameter with sewing well
Button	Shell	3	3	0.44	–	–	0.07–0.08	Three identical buttons; four-hole with sewing well
Button	Shell	4	1	0.4	–	–	.07–.08	Two-hole button; no indication of sewing well
Cuff link	White metal	2	1	0.65	0.48	0.73	0.09	Right cuff link; rounded rectangular shape; surface decorated with swirls; shank is 0.6 inches long including 0.38x.24-inch oval ball at base; shank is slightly curved, but this may be a postdepositional deformation
Cuff link	White metal	2	1	0.66	0.49	0.74	0.09	Left cuff link; identical to specimen above
Eyelet	Copper	2	1	0.19	–	–	–	One of two eyelets (left side, 0.2 inches in diameter) found near the collar area; one eyelet probably decorated each collar tip.

Table 3.3, continued

Artifact Type	Material	Burial No.	Count	Length or Diameter (inches)	Width (inches)	Height (inches)	Thickness (inches)	Description
Eyelet	Copper	2	1	0.21	–	–	–	One of two eyelets (right, 0.19 inches in diameter) found near collar area; one eyelet probably decorated each collar tip.
Fabric	Black Fabric	1	1	–	–	–	–	Three tiny scraps
Collar spring	Iron	3	–	–	–	0.45	0.21	Iron or iron alloy collar support called collar spring
Safety pin	Copper	4	1	–	–	–	–	One tiny copper safety pin, fragmentary; base ring is 0.18 inches in diameter
Safety pin	Copper	4	1	–	–	–	–	Fragmentary, head is 0.39 inches tall and 0.41 inches long
Safety pin	Copper	4	1	–	–	–	–	Fragmentary; head is ca. 0.224 inches tall
Safety pin	Iron	4	1	–	–	–	–	Base ring only; 0.18 inches in diameter
Safety pin	Iron	4	1	–	–	–	–	Fragmentary, head is 0.33 inches tall and 0.44 inches long
Safety pin or pin	Copper	3	–	–	–	–	–	Two-hole button; fragmentary; no indication of sewing well
Snap	Copper	4	3	0.24	–	–	–	Three tiny copper snaps
Wire	Iron	4	–	0.05	–	–	–	Thin iron wire was found throughout the casket; on top of and mixed in with bones; interpreted as flower arrangement laid on top of body
Unifacial scraper**	Chert	4	1	1.53	1.42	–	0.28	From AT&T cable trench and definitely intrusive into the burial

* These button fragments do not refit but could be from the same button.

** Found with Burial 4 but not associated with the burial.

A dash indicates that an accurate measurement was not possible.

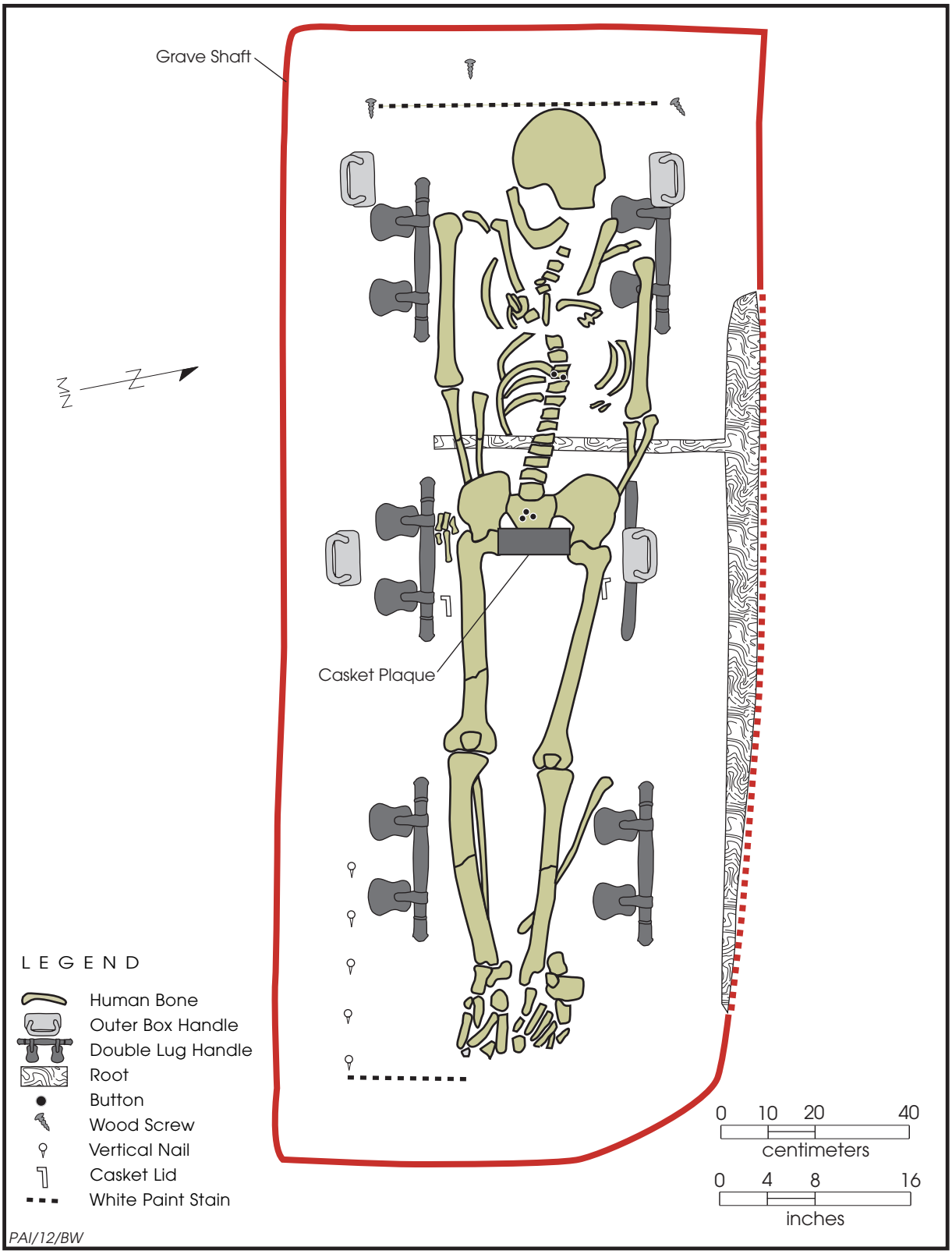


Figure 3.1. Burial 1 map.

Several alignments of common nails were found with their tips pointing upward. They clearly had been nailed from the bottom of the outer box upward into the walls of the box. These alignments were found intermittently around the perimeter of the outer box, and 12 nails from one such alignment were collected separately.

Casket Description: The wooden casket measured 2 ft wide and 7.3 ft long. Faint evidence of deteriorated wood was observed. Additionally, two faint white lines—remains of white paint—were observed, indicating that the casket was painted white. These remnants were found at the head and base of the casket (see Figure 3.1).

Casket Hardware: Six white metal double-lug casket handles (Type 1) were found, three on either side of the casket. Two heart-shaped iron thumbscrews were found: one in the upper left corner of the casket and one in the lower right corner. Most likely, there were originally four (one in each corner); the other two were probably removed during the mechanical scraping. One thin iron casket plaque (Type 1) was found on top of the pelvic bones. The rusty and extremely fragmented iron plaque has scalloped edges and a 0.3-inch-high relief. No words, letters, or any indication of decoration are visible.

Casket construction hardware consists of a catch assembly, 2 sets of top fasteners (4 pieces in each set), and 12 rectangular iron pieces. The rectangular pieces collected from the top and bottom of the casket are joining plates used to attached two pieces of wood together. The other components are iron hardware used to attach and remove the casket lid for viewing the body; these mechanisms replaced the escutcheon and thumbscrew combination used in more modern caskets. These items were all badly corroded but were intact enough to be identified. Although only two of the components were mapped in place (see Figure 3.1), the general locations of the other components were documented and helped define how these items were used. The single iron catch assembly (Type 1) was recovered from the area to the right of the head; it is a latch mechanism for closing and latching the casket lid down. The top fasteners (all Type 1) consist of 8 items in 3 matched groups (4 each) that correspond with the right and left sides of the casket. The matched groups of fastener items are the head plate and spring assemblies, the foot plate and hook assemblies, and the dowels. The two head plate and spring assemblies were found in the upper part of the casket on either side of the ribcage. The two foot plate and hook assemblies were found in the lower part of the casket on either side of the lower legs. The two dowels were found on either side of the hips (mapped individual at the femur heads). All of the lid mechanism components are described and illustrated in Chapter 4, and this information provides a better understanding of how they functioned.

Eighty-four common nails were collected, of which 72 were found throughout the burial and 12 were from one of several alignments of the outer box. Additionally, 21 finishing nails, 24 short nails, and 4 wood nails were collected from throughout the burial. Finally, 40 fabric tacks and 5 long tacks are attributed to casket hardware.

Personal Items: Seven buttons and three tiny scraps of fabric were recovered from Burial 1. The buttons from Burial 1 consist of larger composite buttons and smaller shell buttons.

Two round composite buttons composed of an outer iron alloy and an unknown inner material were recovered. The buttons measure 0.7–0.8 inches in diameter and are 0.2 inches thick. The top of each button displays many faint linear striations and globs of shiny glass-like material. This is most likely glue used to attach fabric to the button's surface. Neither button retains its shank, but a hole (0.24 inches in diameter) in the backside of each suggests that the shanks were metal wire loops. This hole provides a "window" into the internal material, which may be wood or corroded metal but cannot be positively identified. Both buttons were found in the central chest area, and one was recovered from between the T8 and T9 thoracic vertebrae. The low number of these composite buttons, combined with the location in the lower chest, suggests these were jacket or vest buttons.

Five two-hole shell buttons were also recovered from Burial 1. These were all 0.5 inches in diameter and 0.65–0.74 inches thick. Though highly degraded, none appear to have a sewing well. All five shell buttons were found in the pelvic area,

and based on their small size and location, they were likely from an undergarment.

Finally, three tiny fragments of black fabric were recovered from the upper right side of the head. The source of the fabric scraps is unknown, but they may have been part of the interior casket decor, such as casket lining or a pillow, or may have been a personal item such as a hat. These were the only fabric specimens found in the excavations at Roberts Cemetery. The preservation of fabric in this burial suggests that the interment may be younger than the other unmarked graves that were excavated.

Burial Position / Taphonomy: The grave is a single primary inhumation, and the skeletal elements are articulated. The body was supine in an extended position. The arms were extended, with the hands at the sides and beneath the innominates; right palm facing anterior and left palm facing posterior. The right arm is in a pronated position. The legs were extended, and the collapse of the metatarsals and tarsals suggest that the individual was buried in shoes with the soles of the feet facing the east end of the casket. The skull was rotated, or turned, to the left side of the body with the eyes looking in a north/northeast direction. The mandible did not tilt with the skull. Tree roots disturbed the upper portion of the body. A large root extended under the body in a north-to-south direction. This root disturbed the radii and ulnae, resulting in an anterior curvature of the bone shaft. The right radius and ulna also exhibited a postmortem fracture due to the root. A second root disturbed the upper thoracic and cervical vertebrae. At first, the lateral movement of the spine seemed to indicate that the individual was afflicted with scoliosis. However, upon close inspection, it was apparent that a root grew in the area and the vertebrae were shifted lateral in a southward direction toward the right arm. Most of the trabecular bone was friable and collapsed under slight pressure. Overall, though, the skeleton was in good condition.

Osteological Characteristics

Skeletal Preservation: Good.

Sex: Male.

Age: 30–40 years.

Stature:[7] 172.17 ±3.62 cm, 5'6.2" – 5'9.2"

Biological Affinity: Caucasian.

Skeletal Inventory: The skeletal remains consist of complete skull and mandible, though highly fragmented smaller bones such as sphenoid and lacrimals were unable to be scored; both clavicles; partial scapulae; complete sternum; all ribs present but fragmented; complete right humerus; partial left humerus; complete radii and ulnae; most hand elements present; sacrum; partial left ilium; complete right ilium; right and left ischia; left pubis; right pubis; complete femora, though postmortem fracture in shaft required reconstruction; both patellae, fibulae, and tibiae; all tarsals and metatarsals; and most of the foot phalanges.

Degenerative Pathology: Mild osteophytosis is present on the head of the right humerus encompassing the superior and lateral margins. Pronounced osteophytes form a ridge extending 6.01 mm on the posterior-inferior aspect of the right glenoid fossa. Osteophytes are present on the dens of the axis and extend 2.86 mm superiorly, 10.54 mm in a posterior direction at the sulcus of the left ilium, 1.73 mm on the inferior margin of third lumbar body, and 5.57 mm on the superior edge of the fourth lumbar body. Osteophytosis is also present around the circumference of the dens facet and forms a mild ridge. Schmorl's nodes are present in the inferior body of the seventh, eighth, and ninth thoracic vertebrae and are moderately expressed. An osteochondrosis dessicans lesion is present on the right auricular surface of the sacrum.

Infectious Disease: New bone formation on the floor of the left maxillary sinus cavity is consistent with paranasal sinusitis. The external auditory meatus and canal exhibit both destructive and proliferative bone changes with some woven bone present. The changes are predominantly anterior and inferior to the external auditory meatus and inside the canal. Changes are more noticeable externally. These changes are most consistent with otitis externa. Otitis externa is

[7] Estimated using Femur and Fibula stature regression formula in Trotter and Gleser (1958): 1.31: (Fem+Fib)+63.05±3.62.

an infection of the external auditory canal that produces swelling of the canal and pinna with discharge (Sander 2001).

Enthesopathy: Slight changes, level 1, are present on the flexor ligaments on the palmar surfaces of the medial phalanges. Enthesopathy development appeared to be stronger on the right side of the body than the left. A third trochanter is present on the right and left femora. Third trochanters are located at the superior border of the gleuteal tuberosity along the gluteus maximus attachment.

Soft Tissue Calcifications: Two fragments of calcified thyroid cartilage were found during excavation.

Dental Inventory: Maxilla and mandible; all teeth are present except M3, all of which are missing due to congenital loss.

Dental Pathology: Moderate alveolar resorption is present on all teeth. Dental calculus is present on all teeth in minor amounts, except moderate calculus development is present on maxillary teeth RM1 and LM1 and mandibular RI1. Heavy calculus development is present on the maxillary RC and mandibular LI1 and RI2 and covers the entire enamel surface. One carie is present on the maxillary RM2. It is a root carie on the mesial surface measuring 3.45 mm mesial-distal by 1.61 mm buccal-lingual. Hypoplasias are present on the following:

Maxillary Teeth
- RM2, hypoplasia Type 1, 5.04 mm
- RC, hypoplasia Type 1, two hypoplasia present, 2.92 and 4.96 mm
- LC, hypoplasia Type 1, two hypoplasia present, 2.84 and 4.85 mm
- LM1, hypoplasia Type 1, 2.54 mm
- LM2, hypoplasia Type 1, 2.89 mm

Mandibular Teeth
- LM2, hypoplasia Type 1, 2.74 mm
- LM1, hypoplasia Type 1, 3.01 mm
- LC, hypoplasia Type 1, 5.07 mm
- RC, hypoplasia Type 2, 4.0 mm
- RM2, hypoplasia Type 1, 2.96 mm

Dental Anomalies/Modifications: None observed.

BURIAL 2

Burial 2 is the grave of a 45–60-year-old male buried in a rectangular casket (Figure 3.2).

Grave Discovery and Excavation

Burial 2, the southernmost grave, was located within a homogenous soil deposit, and no evidence of a grave shaft was observed. The burial was impacted or investigated in three different events. The uppermost portion of the skull and grave shaft were clipped by the backhoe trench dug in 2008, but the burial was not observed at that time. During current investigations, no grave shaft or soil color change was observed prior to the initial mechanical exposure of the bones. Burial 2 was accidentally bisected just above the knees, and the lower sections of the legs were removed, while the remainder was left in situ under ca. 4–6 ft of overburden due to the location of the AT&T cable, which crossed the burial near the hips. The upper leg bones were covered with plastic and loose fill immediately after they were exposed. Because the majority of the burial extended west of the TxDOT right of way, PAI archeologists returned to this area later to excavate the intact portion of Burial 2. In the absence of a grave shaft, four nails—two at the head of the grave and two north and south of the remains—were placed around the burial for mapping control within the AT&T trench. When the fill protecting the midsection of the burial was removed, it was discovered that it contained the displaced lower leg elements from Burial 2 as well as most of the remains accidentally removed from Burial 3. The remains from both burials were commingled in the fill, but they were later separated during the laboratory analysis.

Mortuary Characteristics

Burial Shaft Size and Depth: Homogenous soil made identification of a shaft impossible; therefore, no data could be gathered on the burial shaft. It is estimated that the grave shaft was

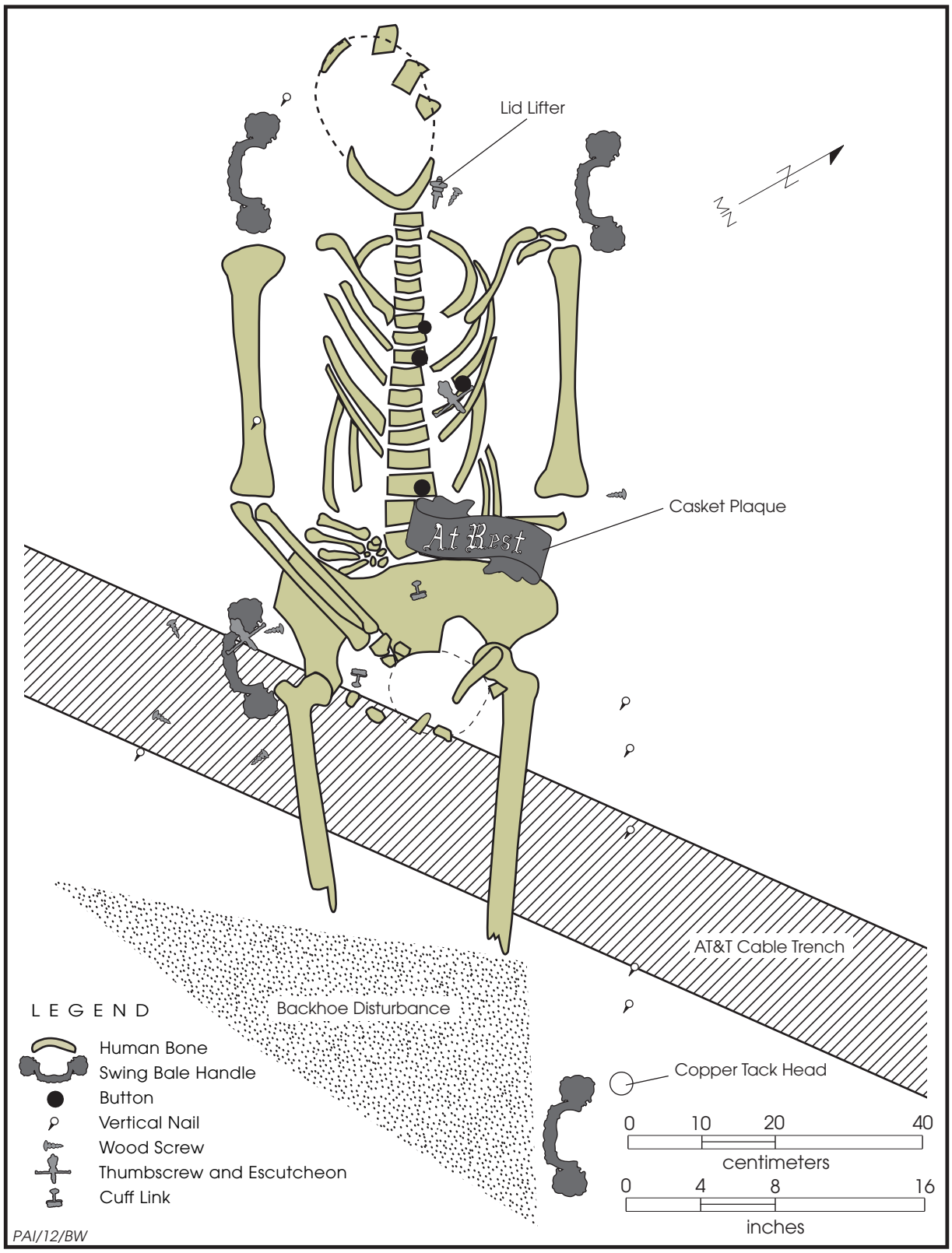


Figure 3.2. Burial 2 map.

between 1.8 and 2.4 ft wide, but its length is unknown. The burial is estimated to have been about 4 ft below the original ground surface.

Burial Orientation: East–west, with the head to the west. The body was supine in an extended position. The grave shaft orientation (head-to-foot) was 262 degrees.

Casket Description: Based on casket hardware and nail alignments, the casket was rectangular, and no outer box was present. Wood was not observed around the skeleton but was found underlying the bones, immediately above the bedrock. The width of the casket, which was taken from nail alignments along the middle of the burial, was 2.13 ft wide. The lower portion of Burial 2 had been removed just above the knee by the gradall; therefore, the length of the casket is not known.

Casket Hardware: Six swing bale handles,[8] four thumbscrews and four escutcheons, one burial plaque, and one caplifter were recovered in Burial 2. All of this hardware is white metal. The six swing bale handles are Type 2. Four of the handles were found in situ, indicating that they were most likely arranged with three handles on either side of the casket. The "At Rest" plaque (Type 2), which originally sat on top of the casket, was found just left of the lower thoracic vertebrae. The caplifter was found to the left of the chin and may have originally been attached to the casket lid to facilitate opening the upper half of the lid. Three of the four thumbscrews are Type 1, as are all four escutcheons. The fourth thumbscrew is a mismatch and is Type 2. Thumbscrews and escutcheons were found on the upper left side (Type 1) and the lower right side (Type 1 and Type 2). A third set of Type 1 thumbscrew and escutcheon was displaced by the backhoe and later found in the backfill pile along with one handle, several nails, and a fabric tack.

Seventeen common nails, 22 short nails, 20 finishing nails, 1 large nail, and 1 square nail were recovered. The square nail, found in the backdirt pile along with other Burial 2 hardware, was the only artifact type found in all four of the burials. Its context with Burial 2 is questionable. It could be not associated with Burial 2 at all, or a single older nail could have been used when the casket was built. An intermittent alignment of common nails associated with the casket was identified along the north (left) side of the casket between the hip and the lower-left handle. Only a few isolated casket nails were identified in rough alignment along the south (right) side of the casket, implying that the right side was more disturbed during decay of the casket. Backhoe disturbance was also more significant on the south side. One 1-inch screw, one 1.5-inch screw, one screw shank (probably from the burial plaque), two decorative copper tacks, two iron fabric tacks, and two long tacks were recovered.

Personal Items: Two cufflinks, three composite metal buttons, five shell buttons, and two copper eyelets (grommets) were recovered (Figure 3.3). The cuff links were perfectly placed at each wrist. Three iron buttons were generally in line with the lower half of the vertebrae and may have been jacket or vest buttons. One two-hole shell button was found between the T7 and T8 thoracic vertebrae, and one four-hole shell button was found in Zone C. One shell button was found slightly higher than the metal buttons, near the sternum. All of the shell buttons probably served as shirt buttons. The shirt had a collar style known as an "eyelet collar," as indicated by two tiny copper eyelets that flanked the sternum. Eyelet collars were pinned with a decorative thin metal rod called a collar pin, collar bar, or collar clip used to hold the collar in place. The use of collar pins as a men's fashion accessory began in the early twentieth century and was very popular in the 1920s and 1930s (Schneider 2010).

Burial Position / Taphonomy: The grave is a single primary interment with semiarticulated skeletal elements. The body was supine in an extended position. The head was slightly tilted to the right. Right and left humeri were extended along the sides of the body, and the arms were bent at the elbow with the hands placed on the pelvis. Skeletal elements were disturbed during scraping, with the tibiae, fibulae, feet, and femoral distal epiphyses removed during scraping. The skull was disturbed by exploratory

[8] As noted earlier, some of the casket handles from Burials 2 and 3 were mixed together in the excavated fill, but they were easily identified and sorted during the analysis.

Figure 3.3. Cuff links (top) and collar eyelets (bottom) from Burial 2.

trenching in 2009 with most of the frontal bone and left side of the face removed.

Osteological Characteristics

Skeletal Preservation: Good to fair.

Sex: Male.

Age: 45–60 years.

Stature:[9] 178.72 ±4.37 cm, 5'8.7" – 6'.06"

Biological Affinity: Caucasian.

Skeletal Inventory: The skull is in fair condition since many of the bones are missing due to disturbance. The skeletal remains consist of both clavicles; partial scapulae; most of the ribs, though they are fragmented; complete right and left humeri; complete radii and ulnae; most hand elements; partial sacrum; partial left and right ilium; partial right and left ischia; partial left pubis with damaged pubic symphysis; right pubis complete, though pubic symphysis is damaged; femora, which are in good condition but could not be reconstructed; partial right patella, partial tibiae; partial right fibula; left fibula in good condition but not reconstructable; most tarsals and metatarsals; most foot phalanges.

Trauma: Healed blunt force trauma is present on the right temporal bone. The lesion is superior to the mastoid process. The defect is 32.11 mm superior to inferior. Much of the defect is missing due to postmortem damage. The defect probably resulted from a depression fracture. Osteochondrosis dessicans is present on the sternal facet of the right clavicle. The lesion is 8.04 mm anterior-posterior and 11.07 mm superior-inferior.

Rheumatic Disease: Whittling of the distal first phalange is present on the right foot. The right second or third middle phalange exhibits whittling and a slight pencil-in-cup morphology. The left first distal phalange also exhibits minor whittling, with large osteophytes on the lateral proximal edge measuring 3.43 mm proximal to distal. An accessory facet is present between the left middle phalanges two and three. No tuft divots are present. These changes are consistent with spondyloarthropathy, and the involvement with only the distal interphalangeal joints and terminal phalanges is suggestive of psoriatic arthritis (Ortner, 2003:580; Rothschild and Behnam 2005:289; Schumacher, Jr., 1988:151–152). Possible diagnoses include rheumatoid arthritis, diabetes (Rothschild and Behnam 2005), or other spondyloarthropathies.

Enthesopathy: Moderate changes, level 2, are present on the flexor ligaments on the palmar surfaces of the first right and left medial phalanges. A third trochanter is present on the left femur at the superior border of the gleuteal tuberosity along the gluteus maximus attachment. The right femur was damaged and unable to be scored for third trochanter presence. The supinator and brachialis insertions on the right and left ulna are strong, level 3.

Additional Observations: The humeri are thin in diameter compared to the size of the head and distal epiphyses and may indicate minor atrophy or limited use. Accessory facets are present on the distal articulations of all metatarsals; most extensive on the first, second, and third. The extensions are present on the superior surface

[9] Estimated using humerus and radius stature regression formula in Trotter and Gleser (1958): 1.82 (Hum+Rad) +67.97 ±4.31. The humerus and radius were utilized because the femora, tibiae, and fibulae could not be reconstructed.

of the distal articulation as a result of the hyperdorsiflexion of the metatarsal-phalangeal joints. The facet results from weight being placed on the toes with the heel raised and can arise from kneeling or sitting in a chair. This condition is known as "executive's foot" (Capasso et. al 1998:142). Both the right and left femoral head exhibit an increase in the articular area on the anterior-superior border of the femoral neck. This can result from sitting in a sartorial position (cross-legged) (Capasso et. al 2005:103).

Dental Inventory: Maxillary teeth: RM3, RM2, RP4, RP3, and LI1. Mandibular teeth: RM3, RPM4, RPM3, RI2, LI1, LI2, LPM3, LPM4, LM2.

Dental Pathology: Minor wear is present on all teeth, and resorption of the alveolar surface is only present at maxillary RM3 and RM2. Moderate dental calculus affects the mandibular LP4 and the maxillary RM2. Minor dental calculus was found on the mandibular LM2 and maxillary RM3, RP4, and RP3. One interproximal carie is located on the distal surface of mandibular LP4. The carie measures 1.37 mm. Dental calculus formed at the cement-enamel junction. Hypoplasias is present on the following:

Mandibular Teeth

- LI2, hypoplasia type 5, 7.53 mm

Dental Anomalies / Modifications: Ante-mortem dental chipping of the enamel is present on the mandibular LM2. The chipped location is on the mesial lingual side of the molar and angled lingually. An enamel pearl is on the disto-buccal root of mandibular RP3.

BURIAL 3

Burial 3 is interpreted as the grave of a 20–27-year-old male who was probably buried in a rectangular casket (Figures 3.4 and 3.5).

Grave Discovery and Excavation

Burial 3 was just south of Burial 2. It also penetrated homogenous soil, and no grave shaft was observed prior to the exposure of bone. Burial 3 was only detected after the excavation of Burial 2. Burial 3 was almost completely removed (up to the chest area) by the backhoe and deposited into the backfill that was temporarily placed over Burial 2 to protect it. Portions of Burial 3, such as the feet and lower legs, were later found intact within large clumps of dirt in this backfill material (see Figure 3.5). Burial 3 was oriented at an odd angle (northwest–southeast). While a general northeast–southwest grave alignment, or cemetery row, can be discerned along the heads of Burials 2, 4, and 1, Burial 3 sits much farther south.

Mortuary Characteristics

Burial Shaft Size and Depth: Because no grave shaft or soil change was identified, the length of the burial is unknown. The width, based on minimal casket hardware that was left undisturbed, is estimated to be ca. 2.0 ft. No ground surface elevations were taken directly above Burial 3, where the current ground surface slopes significantly north, but the estimate of the grave's original depth is 4.15 ft.

Burial Orientation: Northwest–southeast, with the head to the northwest. The precise position of the body and the grave shaft orientation could not be determined due to mechanical disturbance of the grave.

Casket Description: Unknown. Although no deteriorated wood outline was preserved, wood remains were found underlying the remaining skeleton. The casket shape was likely rectangular. This assumption is based solely on the similarity of the hardware to that found in Burial 2, which had a rectangular casket.

Casket Hardware: Minimal casket hardware remained undisturbed in Burial 3, and the majority was recovered from either backfill pile or fill redeposited over Burial 2. Six swing bale handles,[10] one burial plaque, and one caplifter were recovered from Burial 3. An odd mixture of thumbscrews (n = 4) and escutcheons (n = 6) was recovered, including one mismatched thumb-

[10] Original field records indicate that five swing bale handles were found in Burial 3 and seven were found in Burial 2 but materials from these two burials were mixed when the majority of Burial 3 was disturbed with the backhoe, and the fill was deposited on top of Burial 2. Subsequent analysis determined that each burial originally had six handles.

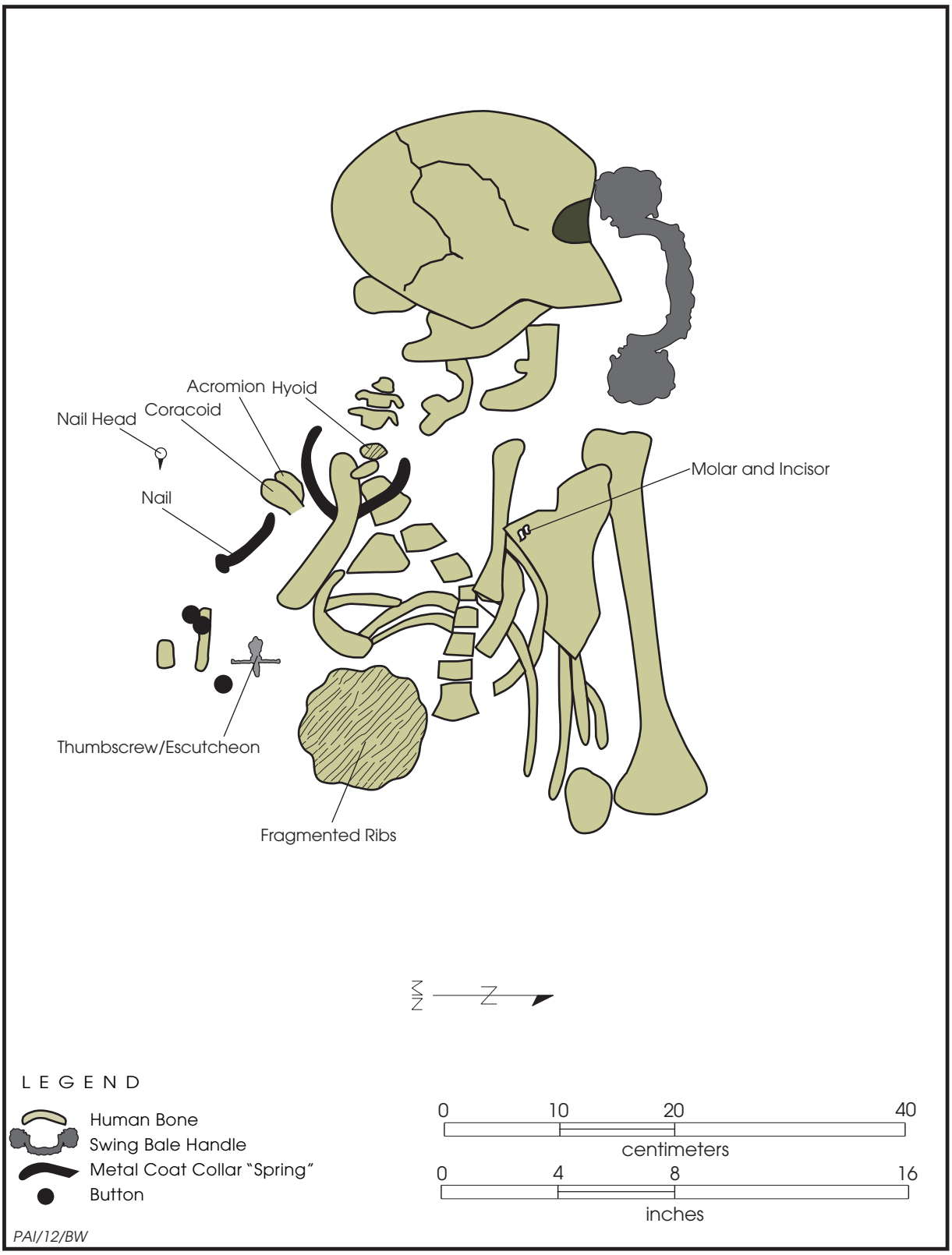


Figure 3.4. Map of the intact portion of Burial 3.

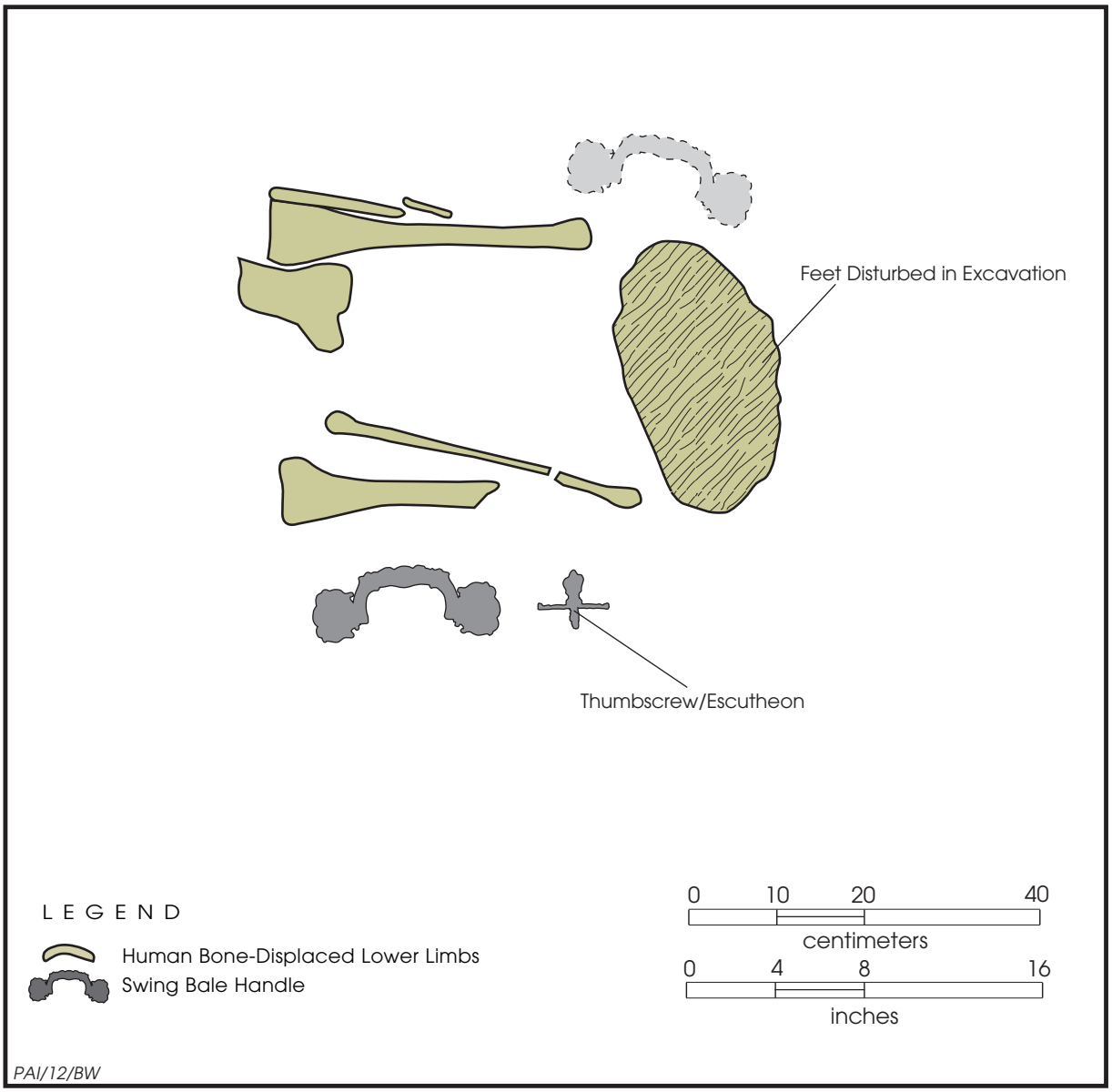


Figure 3.5. Map of lower leg and foot bones of Burial 3 found in a consolidated fill block displaced by machine excavation.

screw. The casket hardware styles are similar to those in Burial 2, but not exactly the same. Like Burial 2, all of these are white metal, and the six swing bale handles are Type 1 and identical in style and size. One of the handles was found in situ to the right of the skull, and two were found in a large clump of dirt where the lower leg and foot bones remained articulated, though not in situ. It is presumed that, like Burial 2, the handles were arranged with three on either side of the casket. The caplifter was in situ near the head, suggesting that it had been located in the center of the upper half of the casket. Four Type 1 thumbscrew-escutcheon sets were recovered (two of which were corroded together). Only one of these sets was found in situ, near the right shoulder; the remaining sets were found in the loose overburden or backdirt pile along with one handle, several nails, a fabric tack. Finally, two independent escutcheons, one Type 1 and one Type 3, were collected from the backdirt. The "At Rest" plaque was found in the overburden but likely was attached to the central portion of the casket lid.

Thirty common nails, 19 short nails, 15 finishing nails, 2 wood screw shanks, 1 decorative copper tack head, 1 fabric tack, and 1 two-inch screw were recovered. Five nail shanks recovered from the backfill are attributed to Burial 3. One square nail was recovered from the backdirt and also attributed to Burial 3. Its context is uncertain, however, since this was the only square nail recovered.

Personal Items: Personal items consisted of three shell buttons, a possible pin or safety pin shank, and a metal collar spring. The three shell buttons were found in the upper body and neck region and were most likely shirt buttons; each were four-hole with a sewing well. A straight copper pin or shank portion of a safety pin was found on the upper right side of the chest. Finally, a metal coat collar stay or "spring" was found around the neck (Figure 3.6). This long flat metal piece was found fragmented in situ, looped around the neck, with the two metal ends crossing over each other near the clavicle. The item was advertised in the 1895 Montgomery Ward (1969:87) catalog, which describes it as a "Patent Adjustable Coat Collar Spring. The spring is made from best oil-tempered steel, formed to fit the coat under the collar. By its use the coat collar and lapels always retain their shape. SAVES the wear on button holes, which disfigures a coat so quickly." This item is pictured in the catalog and inscribed with "STONE'S / PAT. JULY 17, [18]83." U.S. Patent No. 281, 578 was issued to M. C. Stone on July 17, 1883 for a "coat-spring" (Stone 1883). The patent drawing is very similar to the illustration in the 1895 Montgomery Ward catalog.

Burial Position / Taphonomy: The body was supine and probably in an extended position. The arms were extended along the sides of the body, but hand placement cannot be determined. The head and mandible were rotated to the left, and a handle lug was found in the eye orbit, indicating that the casket wall collapsed inward. The cervical and upper thoracic vertebrae were shifted laterally to the right in a similar manner to Burial 1. Though no evidence of a root was present, it is highly probable that the lateral movement was caused by a root since the vertebrae did not exhibit characteristics consistent with scoliosis. All skeletal elements distal to the mid-chest were disturbed during scraping. The body was angled to the plane of the scraping, and this left the right humerus in situ while the left humerus, below the proximal third of the shaft, was disturbed. Tibiae, fibulae, and feet, along with some coffin hardware, were found articulated near the location of Burial 2. It appears the remains were removed during scraping and stayed articulated when that section of sediments was used to cover disturbed remains in Burial 2.

Figure 3.6. Adjustable coat collar spring from the 1895 Montgomery Ward Catalog.

Osteological Characteristics

Skeletal Preservation: Good.

Sex: Male.

Age: 20–27 years.

Stature:[11] 169.1 ±3.74 cm, 5'2.2" – 5'5.1".

Biological Affinity: Caucasian.

Skeletal Inventory: The skeletal remains consist of a partial skull, though highly fragmented smaller bones such as sphenoid and lacrimals were unable to be scored; partial right maxilla and palatine; partial left mandible; partial nasals; both clavicles; partial scapulae; small sternal fragments; hyoid; all ribs, though they were fragmented; complete right humeri, radii and ulnae; most hand elements; sacrum; partial right and left ilium; complete ischae; left pubis; partial right pubis; complete femora, though

[11] Estimated using femur and tibia stature regression formula in Trotter and Gleser (1958): 1.26 (Fem+Tib) +67.09 ±3.74.

postmortem damage to the shaft required reconstruction; right patellae; fibulae, though unable to be reconstructed; complete tibiae; all tarsals and metatarsals; most foot phalanges.

Trauma: The left fifth metacarpal exhibits a fully healed greenstick fracture of the shaft. Osteochondrosis dessicans is present on the left superior facet of cervical vertebra six.

Degenerative Pathology: Osteophytes are present on the lateral proximal surface of the first distal phalange. The osteophytes are 4.63 mm in length.

Additional Observations: The proximal third and head of both fibulae exhibit lateral bowing. It is unclear if this is a result of rickets or was caused by root disturbance, as seen in Burial 1. An accessory facet is present on the superior-lateral edge of the distal articulation of the left fifth metatarsal. Accessory facets are present on the sacrum at the first and second sacral foramina. The facets are ovid and convex. Due to the condition of the ilium, facets on the surface of the posterior superior iliac spine could not be identified. A palatine torus is present, although it is small.

Dental Inventory: All teeth are present, but maxillary RM1, RM2, and RM3 and mandibular left M1, LP4, and LP3 are not in the occlusion, and the associated alveolar bone is missing.

Dental Pathology: Minor alveolar resorption affects all of the maxilla. Minor alveolar resorption is present on the mandibular LP3 and LC, and moderate resorption is present on LI1 and LI2. The mandibular RI1, RI2, RC, RP3, RP4, and LM1 could not be scored due to damage of the alveolar bone. Dental calculus is present on all teeth. Minor calculus formed on mandibular LM3, LM2, LP4, LP3, RM1, RM2, RM3, and all of the maxillary teeth except RP3 and LP4. These exhibit moderate calculus. Left mandibular C, RP3, and RP4 also have moderate calculus deposits. Heavy calculus deposits, which obscured observation of hypoplasia, are on the mandibular LI2, LI1, RI1, RI2, and RC. Hypoplasia is present on the following:

Mandibular Teeth

- LC, hypoplasia Type 1, 3.78mm and 4.85 mm

Dental Anomalies/Modifications: Wear and polish is present on the anterior dentition. Wear is highest on the maxillary central incisors on the lingual surface. Corresponding wear is present on the mandibular incisors on the labial surface. Canines and the first premolars also exhibit a flattened and polished surface with wear on the distal lingual surface of the canines and P3 wear on the lingual cusp, mesial surface. Corresponding wear is on the mandibular canines and P3.

BURIAL 4

Burial 4 is the grave of an 18-month-old child of indeterminate sex, buried in a rectangular wooden casket or box (Figure 3.7).

Grave Discovery and Excavation

Burial 4 was located just north of Burial 1. The grave was first identified in the south profile of the Burial 1 excavation. Here, an extant soil balk had been used to step down from the ground surface into the Burial 1 excavation area. An alignment of nails was observed eroding out of the soil south of Burial 1. The backhoe was brought in to remove ca. 3 ft of overburden. A clear grave shaft outline was observed for Burial 4. Like Burial 1, Burial 4 was located far south of the Elm Creek bank, where two distinct soil colors provided contrast between the fill and undisturbed sediment.

Mortuary Characteristics

Burial Shaft Size and Depth: The grave shaft was 0.72–0.85 ft wide and 2.9 ft long. The depth ranged from 3.69 to 3.90 ft below the surface (618.143–618.218 ft amsl).

Burial Orientation: East–west, with head to the west. The body was supine in an extended position. The grave shaft orientation (head-to-foot) was 270 degrees.

Casket Description: The child's remains were enclosed inside a rectangular wooden container. Although no definitive mortuary hardware was found, the substantially preserved wood remains are presumed to be from a casket, and

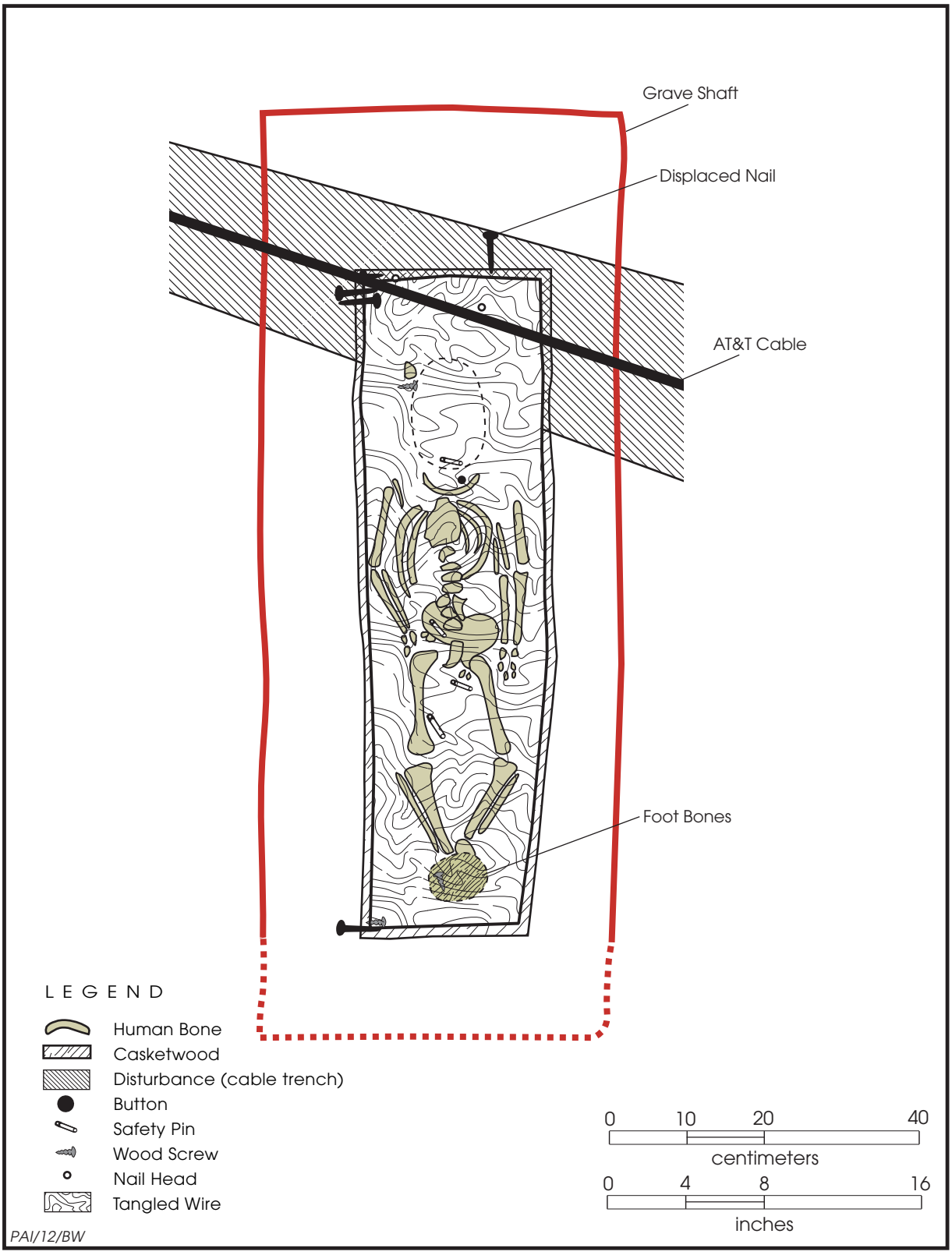


Figure 3.7. Burial 4 map.

no evidence of an outer burial box was found. In fact, portions of the base and north (left) side of the caskets were still virtually intact, retaining both their original shape and height. The casket was 34.98x10.22 inches and probably originally measured 3x1 ft.

Casket Hardware: No handles or other casket hardware were associated with this burial other than nails and screws. Sixteen extra-large nails, four 1.25-inch wood screws, and 35 fabric tacks were recovered.

Personal Items: Personal items consisted of five safety pins, three snaps, one shell button, and an abundance of fine wire fragments found throughout the casket. The safety pins were copper (n = 3) and iron (n = 2). One copper and one iron safety pin were found on the left side of the head, and the other was within the head area. These may have served as attachments for some sort of head wrap or ornamental cap.[12] One copper and one iron safety pin were found in the pelvic region and certainly served as diaper pins. Three copper snaps were found just below the mandible and most likely were fasteners to a dress or baptismal gown. These fasteners are usually found on the backside of the gown. The shell button is a two-hole type with no sewing well. It was found on the left side under the left canine and probably decorated the front of the gown.

Large amounts of fragmentary wire were found throughout the casket, both on top of and intermixed between the bones. The wire is very thin (0.054 inches in diameter), and pieces were less than 2 inches long. This wire mass is interpreted as floral wire from a casket wreath or other floral decoration that was laid over and/or around the body prior to burial. Internet research revealed numerous images of Victorian-era death photographs with flower wreaths surrounding the body, but few had flowers across the entire body (Bien 2013; Frater 2012). In child death photos depicting flower wreaths, the flowers were around the body, pinned on the inside of the lid, or on top of the casket (either in addition to or instead of inside the casket).

[12] One example of a puffy headdress was found in a child's death photo from the Victorian era (Libra13Witch 2012).

Finally, a prehistoric unifacial scraper was found within the AT&T cable trench that cut through the grave, above the top of the child's skull. The artifact is intrusive and clearly entered the burial feature through the trench. The chert scraper is 1.53 inches long, 1.42 inches wide, and 0.28 inches thick.

Of all the personal items recovered with Burial 4, only the iron safety pins and the snaps provide useful chronological information. The iron safety pins are a relatively modern style with a folded metal guard on one end. This improved style with a "sheet metal guard" was patented in 1900 (Patent No. 643,261; Boden 1900). This type of safety pin was found in four of the late period (1900 to 1907) burials at the Freedman's Cemetery in Dallas (Peter et al. 2000:426, Figure III-73). Similarly, the clothing snap, with its distinctive ball and socket fastening, was patented in 1902 (Patent No. 707,054; Dowse 1902).

Burial Position / Taphonomy: The body was supine in an extended position. Arms were placed along the sides with the hands to the sides of the pelvis and palms facing anterior. The legs were rotated laterally at the knees with the knees semi-flexed at 150 degrees, feet touching.

Osteological Characteristics

Skeletal Preservation: Good.

Sex: Indeterminate.

Age: 1 to 2 years.

Dental development estimates age-at-death at 1 year ± 4 months, humeral length 1.5–2 years, femoral length 1–1.5 years, clavicle length 1.5–2 years, and pars basilaris length 1 year ± 3 months.

Stature: Indeterminate.

Biological Affinity: Indeterminate.

Skeletal Inventory: The skull was highly fragmented, and time did not allow reconstruction to assess the presence of small bones such as the lacrimals and nasals. The skeletal remains con-

sist of parietals, frontal, and occipital; mandible; left clavicle; partial right clavicle; scapulae; sacrum; right and left os coxae; all vertebrae; partial ribs; shaft of the right and left humeri; shaft of the right and left ulnae and radii; shaft and distal epiphyses of the right and left femora, with damage to the distal third of the left femoral shaft; shafts of the right and left tibiae and fibulae; most carpals, metacarpals, tarsals, metatarsals; and phalanges.

Pathology and Taphonomy: No pathology is present on the skeletal elements. Much of the cortical bone is eroded due the depositional environment.

Dental Inventory: Maxillary teeth were not in the occlusion, and associated alveolar bone could not be identified. Maxillary and mandibular teeth included the right and left Permanent M1, dM2, dM1, dC, dI2, and dI1. Mandibular right and left I2 were missing due to congenital absence, and permanent left and right I1 were visible.

Dental Development:

Maxillary Teeth – right and left

- Permanent M1, 3-cusp outline complete
- dM1, 9-root length ¼
- dC, 6-crown complete
- dI2, 10-root length ½
- dI1, 10-root length ½

Mandibular Teeth

Left

- Permanent M1, 3-cusp outline complete
- dM2, 6-crown complete
- dM1, unable to score because in crypt
- dC, 9-root length ¼
- dI2, congenital absence
- dI1, 10-root length ½
- Permanent I1, 4-crown ½ complete

Right

- Permanent M1, 3-cusp outline complete
- dM2, 6-crown complete
- dM1, unable to score because in crypt
- dC, 9-root length ¼
- dI2, congenital absence
- dI1, 10-root length ½
- Permanent I1, 4-crown ½ complete

Dental Pathology: None present.

Dental Anomalies/Modifications: None present.

TYPOLOGY AND ANALYSIS OF BURIAL CONTAINER HARDWARE

4

Jeremy W. Pye

In November 2012, Prewitt and Associates, Inc. contracted with Jeremy W. Pye[13] to analyze historic burial container hardware recovered from four unmarked graves at Roberts Cemetery (Table 4.1). The primary objective of the analysis was to infer the most likely dates for the four burials by identifying the types of hardware represented and the manufacture and common usage dates for those materials. The analysis was done by comparing the Roberts Cemetery hardware collection to United States patent records (n = 2,615), period manufacturers' trade catalogs (n = 406), and archeological cemetery excavation literature (n = 206). Supporting data for the identifications and interpretations of the hardware are presented in three tables in Appendix A. These tables summarize the specialized mortuary hardware and general hardware catalogs featuring mortuary furnishings (Table A.1), the published and unpublished historic cemetery reports used for comparisons (Table A.2), and specific comparisons of mortuary hardware from Roberts Cemetery with that reported from other historic cemeteries (Table A.3).

The analysis and historical study of burial container hardware and other mortuary artifacts is crucial in establishing a useful discourse between multiple lines of evidence recorded in historical cemetery investigations. Exact identification of types and styles of burial container hardware and other mortuary artifacts is vital in establishing the chronology of burial, particularly when dated grave markers are absent or when markers have been displaced. Variations in hardware styles and forms, as well as materials of manufacture, indirectly reflect aspects of socioeconomic class, status, and community involvement in the funeral process (Bell 1987, 1990; Davidson 1999, 2004; Little et al. 1992; Pye 2007). Additionally, the specialized burial container hardware introduced into the archeological record in early-twentieth-century contexts reveals the deepening control of the professional funeral industry in the production and distribution of funeral merchandise.

METHODOLOGY

This analysis was conducted using the methods established by Davidson (1999) for the classification of hardware from the Freedman's Cemetery project in Dallas, Texas. Essentially, a new type was designated whenever a different artifact form/style (or combination of elements) was encountered. Davidson (2006:120–121) gives the example, "the first thumbscrew . . . was given the type designation Thumbscrew Type 1. . . [I]f the next burial excavated contained a thumbscrew with an even slightly different design motif, [then] it was assigned a new type number (e.g., Thumbscrew Type 2)."

Following Davidson (1999, 2006:121), these artifacts were dated and contextualized through three lines of evidence: patent dates, dates derived from period hardware catalogs, and known dates of cemetery use. A fourth line of evidence—the estimated interment ranges of burials from previously excavated cemeteries—can be included, but it must be critically analyzed based on the previous lines of evidence.

[13] Department of Anthropology, University of Florida.

Table 4.1. Description and measurements of the mortuary hardware

Mortuary Hardware	Type, Material	Burial 1	Burial 2	Burial 3	Burial 4	Length (inches)	Width (inches)	Height (inches)	Description
Burial Container									
Plaque or Plate	Type 1, iron	1				~6.10	~3.40	0.30 (relief)	An iron coffin plaque; flat metal with ca. 0.3-inch high (relief); a ca. 0.4-0.6 scalloped edge; shattered into many pieces
	Type 2, white metal		1	1		6.00	3.00	0.30 (relief)	Stamped white metal plate in the shape of an ornate banner with the molded words: "At Rest"
Handles	Type 1, white metal		6	6		7.63	2.75	0.40 (relief)	Double-lug, swing bail handle of cast white metal. Lugs have floral motif
	Type 2, white metal	6				12.50	1.24	4.50	Double-lug, short bar handle of iron. Lugs are simple fiddle shape. The bar is an octagonal tube, thick in the middle and tapering toward the ends, with simple rounded end caps
Escutcheon	Type 1, white metal		3	4		2.40	0.80	–	Long ovaloid shape with slightly pointed ends
	Type 2, white metal		1			1.81	0.80	0.12	Smaller and rounder than Type 1
Thumbscrew	Type 1, white metal		3	5		2.60+	1.00	1.30	Crown shape; flanked with curly design
	Type 2, white metal		1	1		1.40	0.77	0.84	Smaller and rounder than Type 1
	Type 3, white metal		1			1.90	0.87	0.93	Smaller than Type 1, similar to Type 2 with slight trefoil at top
Caplifter	Type 1, white metal		1	1		1.00	0.87	0.25	A crown-shaped white metal head cast on an iron screw shank
Internal Lid Mechanisms	Top Fastener Type 1, head plate and spring assembly, iron	2				See description			This is a two-part piece that has corroded together; the "back" plate is rectangular (3.8 inches long x 0.8 inches wide) with two 1-inch screws; the "front" plate is somewhat key-shaped. This "front" piece is 3.3 inches long, tapering from 0.8 inches wide at one end that has an ovaloid hole in it (for engagement of a tongue), tapering to 0.5 inches, prior to widening to a round end that has two screw holes
	Top Fastener Type 1, foot hook, iron	2				1.1 (plus tongue)	–	–	One part of a two-piece locking or catchment mechanism; this portion is round plate ca. 1.1 inch in diameter with three screws holes; a tongue rises from the round plate at an angle and is 1.2 inches long

Table 4.1, continued

Mortuary Hardware	Type, Material	Burial 1	Burial 2	Burial 3	Burial 4	Length (inches)	Width (inches)	Height (inches)	Description
	Top Fastener Type 1, foot plate, iron	2				2.4	0.8	–	One part of a two-piece locking or catchment mechanism; this portion is a plate, 2.4 inches long x 0.8 inches wide with two screws; the plate is flat on one end,but U-shaped on the other; the upper surface of the plate has a U-shaped slot or hole for engagement of a tongue
	Catch Assembly Type 1, iron	1				See description			This is a two-part piece that has corroded together; the "bottom" plate is rectangular with a central U-shaped notch (for encagement); the "top" piece is U-shaped (1.39-inches long x 0.93 inches wide, plus a 0.6-inch tongue) with two screwholes offset to the "bottom" plate's screw holes
	Dowel Type 1, iron	2				1.87	0.59	0.5	A flat rectangular base plate with one end upturned at a 45-degree angle. The base plate has two attached wood screws that are corroded in the screw hole and slot
	Joining plates, iron	12				1.09–1.62	0.56–0.67	–	Flat iron pieces are broken fragments
Nails	Wire common, iron	72	17	30		2.30	0.23–0.35	–	
	Wire finishing, iron	21	8	13		2.00	0.16	–	
	Wire larger-head finishing, iron		12	2		2.13	0.22	–	
	Wire short, iron	24	22	19		1.60	0.24–0.26	–	
	Wire large, iron		1	1		2.40	0.32	–	Heavier gauge and longer than common nails
	Wire extra-large, iron				20	2.60	0.32	–	
	Cut square, iron		1			–	0.26–0.22	–	Unique in this collection
	Wire shanks, iron			5		–	–	–	
	Wire with grooved ring shank, iron	2				–	–	–	
Screws	1-inch, iron	6	1			1.00	0.32	–	
	1.25-inch, iron				4	1.25	0.41	–	
	1.5-inch, iron		1			1.50	0.35	–	
	2-inch, iron	1		1		2.00	~0.34	–	
	Shank, iron		1	2		–	–	–	

Table 4.1, continued

Mortuary Hardware	Type, Material	Burial 1	Burial 2	Burial 3	Burial 4	Length (inches)	Width (inches)	Height (inches)	Description
Tacks	Decorative, copper		2	1		–	0.50	–	
	Fabric, iron	40	2	1	35	0.32–0.38	0.17–0.23	–	
	Long tacks, iron	5	2			0.57	0.20–0.40	–	
U-shaped unidentified	Unknown, iron			1		–	–	–	
Outer Box									
Handle	Type 3, iron	5				5.50	2.75	0.40 (relief)	Single-lug box handle with three screw holes in lug
Thumbscrew	Type 4, iron	2				1.10	1.40	0.23	Heart-shaped wire head
Nails	Wire common, iron	12				–	–	–	
Unknown Location within Burial									
Nails	Wire common, iron	72				–	–	–	
	Wire finishing, iron	21				–	–	–	
	Wire short, iron	24				–	–	–	
Screws	1-inch, iron	6				1.00	–	–	
	2-inch, iron	1				2.00	–	–	

Notes: A dash indicates that no accurate measurement was possible. A tilde indicates that the measurement is approximate or estimated. A plus symbol indicates a partial measurement that is probably close to the complete measurement.

United States Patent Records: Utility Patents (1839–1965)

For this analysis, 2,160 utility patents related to burial containers, burial container hardware, and other types of mortuary merchandise that dated between 1839 and 1965 were viewed through the United States Patent Office (2011) online database during this analysis. Searches were restricted to between 1800 and 1965 and used the primary search terms "casket" and "coffin." It is extremely likely that pertinent patents have escaped the search due to simplicity of the search terms, flaws in the PDF OCR process, and human error in database entry. Exact and similar matches to hardware recovered from the Roberts Cemetery burial excavations are presented in Table A.3.

United States Patent Records: Design Patents (1843–1965)

In addition to patents awarded for utility, or function, 455 design patents related to burial containers, burial container hardware, and other types of mortuary merchandise that dated between 1843 and 1965 were viewed through the United States Patent Office (2011) online database during this analysis. Searches were restricted to between 1800 and 1965 and used the primary search terms "casket" and "coffin." It is extremely likely that pertinent patents have escaped the search due to simplicity of the search terms, flaws in the PDF OCR process, and human error in database entry. Exact and similar matches to recovered hardware from the Roberts Cemetery burial excavations are presented Table A.3.

Manufacturers' Trade Catalogs

For this analysis, 406 period mortuary hardware trade catalogs and price lists dating between 1797 and the present were examined for comparative purposes (see Table A.1). These catalogs were either viewed at several different libraries, museums, and companies throughout the country or are in my personal collections or that of colleagues. Most catalogs utilized were complete; however, some were only partial copies. Care should be taken in historic mortuary artifact analysis to identify exact stylistic matches to make definitive statements about possible temporal range or manufacturer. Sometimes, however, in the absence of exact matches, similar types may be identified. Highlighting similar forms can shed light on a general time period for a particular type. Exact and similar matches to recovered hardware from the Roberts Cemetery burial excavations are presented in the artifact comparison table (see Table A.3).

Previous Historic Cemetery/ Burial Excavation Reports

Also consulted were 206 reports of excavated historical period cemeteries (see Table A.2). This line of evidence is the least reliable in many cases for several reasons. The first is that mortuary artifacts recovered from burial contexts are often in a poor state of preservation. Poor preservation masks stylistic and form differences and often makes it difficult to make definitive comparisons. The second is that many older, and even some recent, archeological cemetery relocation reports either do not provide clear pictures (or illustrations) of recovered hardware and other artifacts, or they do not provide any pictures at all. To merely note that a burial contained six thumbscrews and four handles is not helpful for the purpose of comparison.

In historic cemetery relocations, it is a rare occurrence that death or interment dates are known. Circumstances leading up to the necessary removal of historic burials often involve a break in the social memory of the cemetery or burial, loss of historical record of the cemetery or burial, erasure of the aboveground presence of the cemetery or burial, and potentially the marginalization of or discrimination against the cemetery population. Assuming that preservation of mortuary artifacts is fair to good, and pictures or illustrations are presented in archeological reports, scholars become dependent on the knowledge of the individual cemetery researchers to make accurate observations of artifacts and derive appropriate chronologies for burials. Many archeologists conducting historic cemetery projects for the first time, or who conduct such projects infrequently, do not have enough knowledge about the mortuary artifacts, or access to historic mortuary catalogs, to make good temporal estimations. In recent years, with the greater accessibility of patent records online and the building of a larger library of period mortuary merchandise catalogs, our abilities to

make reliable temporal estimates have greatly increased.

MORTUARY ARTIFACT DESCRIPTIONS AND TYPOLOGY

A contextual discussion of each mortuary artifact form encountered during the Roberts Cemetery excavations will be presented, followed by a description of each type. For more descriptive information about many of the nineteenth- and early twentieth-century general hardware types, see Davidson (1999, 2004) and Mainfort and Davidson (2006).

Internal Burial Container Elements

Internal burial container hardware is an extremely important part of any historic cemetery artifact analysis. These elements are what held the burial container together, and therefore they elucidate key aspects of change and variation in construction technique. These changes in construction took place over time due to technological innovation, which means that internal hardware is often a valuable temporal indicator.

Within historical archeology and material culture studies, a vast literature exists on the production and history of nails (Adams 2002; Baackes 1896; Benson 1983; Edgerton 1897; Edwards and Wells 1993; Epstein 1981; Fontana 1965; Fontana and Greenleaf 1962; Jurney 1987; Loveday 1983; Michael 1974; Nelson 1963, 1968; Phillips 1989; Priess 1970, 1973; Wells 1993, 1998; Young 1991). Rarely, however, are nails (or tacks) given appropriate analytical treatment in historic mortuary archeology reports.

Even less attention is given to the various esoteric complex fastening devices and other internal hardware used by burial container manufacturers in the late-nineteenth and twentieth centuries. These devices were used to secure the lid of the coffin or casket, secure the viewing window cover, allow for the viewing window to slide and lock closed, secure the closure of drop casket sides, as well as support the opening and hinging of burial container lids. An 1883 advertisement from the Stein Mfg. Company of Rochester, New York, presents, "The Most Serviceable Invention of the Age…Our 'Patent Fastener,' For Casket Tops" (Figure 4.1). While it is not specifically evident from the illustration or patent research which fastener they are referring to, the ad attests to the fact that this "perfect boon to the funeral director" was a major turning point in the industry and therefore should be addressed in greater detail.

Figure 4.1. An 1883 advertisement for Stein Manufacturing Company's "Patent Fastener" for casket tops.

The few authors of historic cemetery excavation reports who attempt to accurately identify complex internal hardware elements are hindered by the general lack of preservation of ferrous materials or by a lack of knowledge of hardware function and hardware terminology. These artifacts are often classified collectively in such reports as latches (Dockall, Powell et al. 1996), iron closures (Davidson 1999), or even miscellaneous hardware (Davidson 2006). Davidson (2006) did make a concerted effort to present adequate discussions of the few complex internal hardware elements recovered from in the Becky Wright and Eddy cemeteries near Fort

Smith, Arkansas, but he did not have access to catalogs or patents to assist in his work. The most informed discussions of internal hardware come from Trinkley et al. (2011) and Pye (2011b). Hopefully, the following description of the Roberts Cemetery internal hardware elements will add to the growing body of knowledge about these mortuary artifacts.

Nails

Nails are an essential and ubiquitous form of construction hardware used in the production of burial containers in the nineteenth and early-twentieth centuries. There were three general types of nails in use in various regions and times in the nineteenth century: hand-wrought, square-cut, and wire. Hand-wrought nails were commonly used during the seventeenth and eighteenth centuries until the introduction of the cut nail around 1800 (Davidson 2006:115–116). Cut nails declined in use toward the end of the nineteenth century as wire nails hit the market and became more widely used in the casket industry.

Based on Fontana and Greenleaf (1962), Fontana (1965), Edgerton (1897) and other reliable sources, Davidson (2006) has placed the introduction of wire nails to common usage in the funeral industry between 1890 and 1900. In estimates of burial chronology, this date has been conventionalized to ca. 1895; the period prior to this date should be characterized by the exclusive use of cut nails, or the absence of wire nails. This dating has held true for comparable burials accurately dated by other artifact associations or historical records from Arkansas (Cande 1995:161–168, 249–251), Freedman's Cemetery in Dallas, Texas (Peter et al. 2000), Meadowlark Cemetery, Kansas (Pye 2007), and elsewhere. Turn-of–the-century hardware catalogs, however, attest to the fact that while wire nails became more popular, cut nails continued to be sold into the twentieth century (Figures 4.2–4.4).

The archeological literature (see Table A.2) suggests that the most common sizes of nails used in the construction of coffins and caskets were smaller nails (i.e., 4d, 6d, and 8d) (Davidson 1999, 2006). It is reasonable to expect that there would be a certain degree of uniformity in the sizes of nails used for mass-produced coffins and caskets, and in fact, the most common

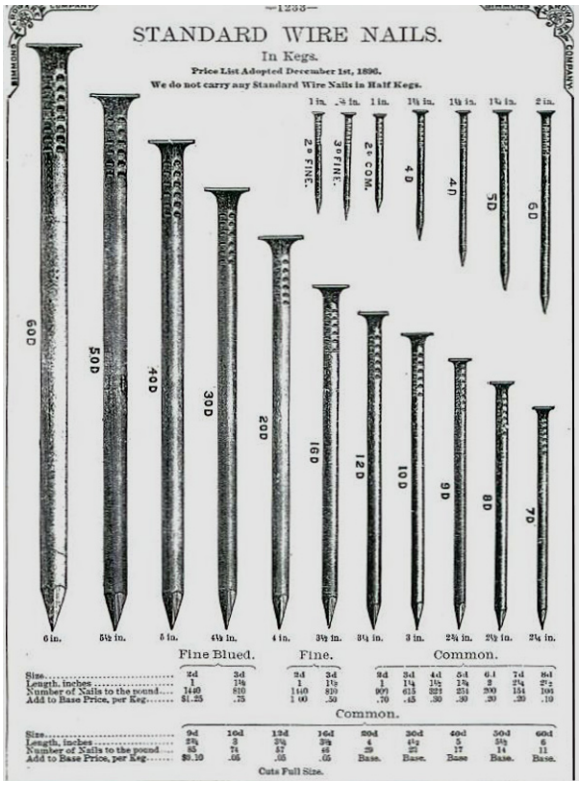


Figure 4.2. Selection of wire nails offered for sale on page 1837 of the 1903 Simmons Hardware Company general catalog.

nails listed in the archeological literature are 6d and 8d cut nails, with a bias toward the use of 6d nails in both the cut and wire varieties (Davidson 2006:101).

No in-depth analysis of nails from the Roberts Cemetery excavations was conducted, mainly due to the poor preservation of the excavated ferrous materials. All burials contained at least some nails (Figure 4.5). Most of them were wire nails, placing the collection squarely in the twentieth century. It is noteworthy, however, that one cut nail was identified in Burial 2, suggesting that this burial probably took place somewhat earlier than the others.

Lining Tacks

The primary functions of lining tacks were to affix cloth lining to the interior of the burial container or to affix cloth covering to the exterior of the container. In some cases, tacks were arranged in a decorative pattern on the surface of the container. These tacks are typically small, with an iron shank and head (flat iron, domed

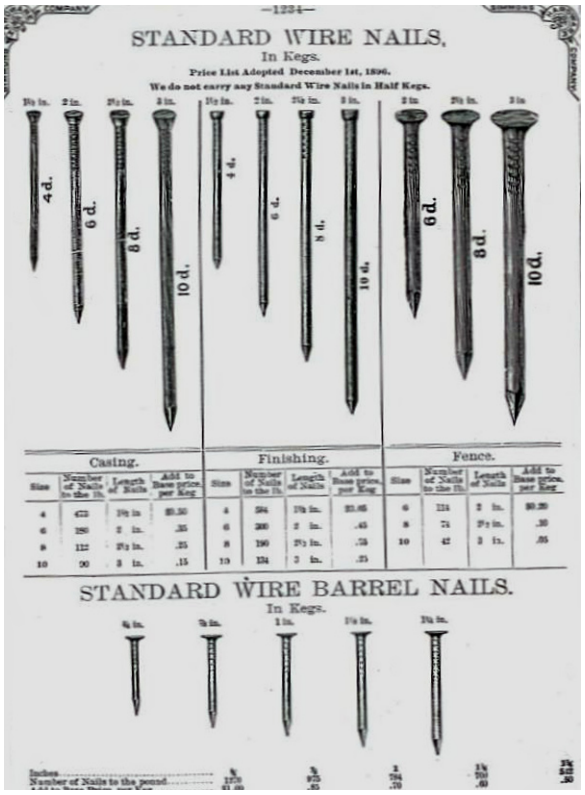


Figure 4.3. Selection of wire nails offered for sale on page 1838 of the 1903 Simmons Hardware Company general catalog.

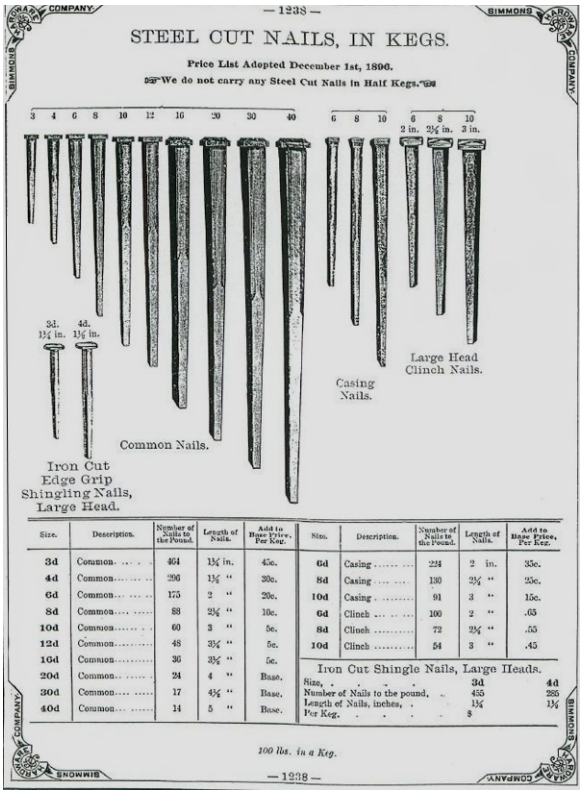


Figure 4.4. Selection of cut nails offered for sale on page 1238 of the 1903 Simmons Hardware Company general catalog.

iron, domed, brass, domed china, or domed lead/white metal; Figure 4.6). Often the iron shank deteriorates or becomes detached and only the head remains (Davidson 1999). Since the presence or absence of lining or cloth covering is a basic economic indicator, the ability to identify lining tacks is important. Lining is not typically preserved except when lying in association with cuprous hardware, and even then it is difficult to distinguish cloth lining from clothing remnants; therefore, the recovery of lining tacks provides a more concrete indicator (Davidson 2004:418).

No in-depth analysis of tacks from the Roberts Cemetery excavations was conducted. All burials contained at least some tacks (see Table 4.1), a few of which can be seen in Figure 4.5. Three types of tacks were identified, including flat-headed tacks, fabric (most likely silk) headed tacks, and copper-headed tacks. The simple flat-headed tack is a ubiquitous form of lining tack and is present in at least 20 trade catalogs between 1865 and 1912. It is unknown when it was first marketed, but likely it had a very long history intimately connected with the history of the nail. In most archeological cemetery excavation reports, not much attention is given to lining tacks, particularly simple iron tacks that are often mistaken for nail fragments; therefore, it is very difficult to determine with certainty the frequency of this type of tack in the archeological record.

Screws

Davidson (2006:144–145) reports that wood screws in some form have been around since the time of the ancient Greeks; however, prior to the nineteenth century, most screws had blunt points and could not self-start. The introduction of the gimlet wood screw, which has a tapered body and a pointed tip, has been attributed to Thomas J. Sloan, who was issued a U.S. Utility Patent (No. 4,704) in 1846 (Figure 4.7). The mass production of these gimlet screws was initiated the same year by Sloan's introduction of the machine capable of producing said screws (U.S. Utility Patent No. 4,864). While technically, a gimlet form had been introduced 10 years earlier by Thomas W. Harvey of Poughkeepsie Screw Company, and a machine capable of pro-

Figure 4.5. A selection of nails and other construction hardware recovered from the Roberts Cemetery burial excavations.

Figure 4.6. Selection of lining tacks illustrated on page 105 of the 1901 Gate City Coffin Company catalog.

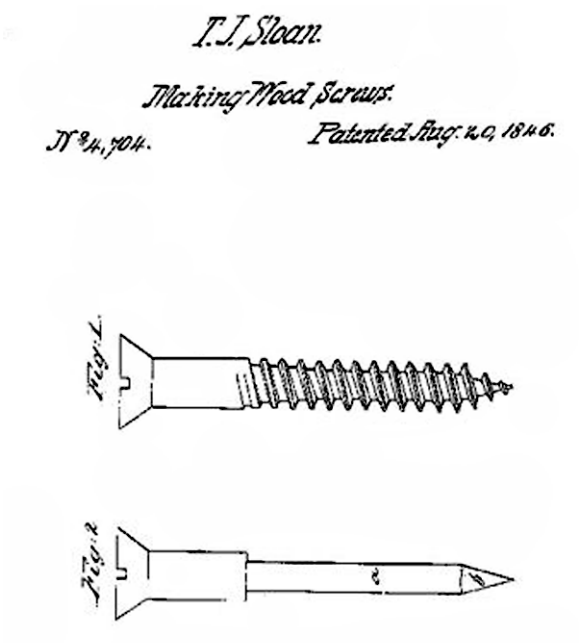


Figure 4.7. U.S. Utility Patent No. 4,704 assigned to T. J. Sloan for a wood screw in 1846.

ducing wood screws was introduced in 1834, most early gimlet and blunt-tip forms had to be hand-turned and therefore were more costly to consumers than later machine-made screws (Davidson 2006:145).

Plain gimlet screws were commonly employed as burial container lid closures in the nineteenth century, though the earliest mention of some type of screw being used in mortuary contexts dates to 1748 (Davidson 2006:145; Tharp 1996:226). In the known sample of general hardware and mortuary catalogues available for comparison, flat, round, oval, and fillister headed gimlet screws were prominently advertised for sale (Figure 4.8). Davidson (2006:145) concludes after critical examination of archeological literature of pre-1850 cemeteries that the presence of screws, particularly gimlet screws, was relatively rare. Additionally, in those burial containers where utilitarian gimlet screws were used as primary means of lid closure, there was an absence of formal coffin hardware, such as coffin screws or thumbscrews. Forms of ornamental tacks, however, were often used to mask the use of ordinary screws (Davidson 2006:146).

No in-depth analysis of screws from the Roberts Cemetery excavations was conducted, mainly due to the poor preservation of the excavated ferrous materials. All burials contained

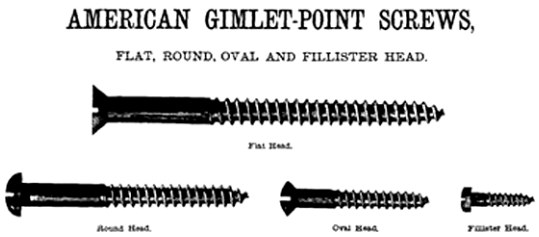


Figure 4.8. Selection of American gimlet screws offered for sale on page 126 of the 1865 Russell & Erwin Company general catalog.

at least some screws, most of which were associated with other types of hardware. All screws for which the heads had lower amounts of masking corrosion appear to be slotted. No Phillips head screws were identified, which suggests (though does not unequivocally determine) that these burials occurred prior to the invention of the Phillips screw in 1936.

Joining Plates

The arbitrary term "joining plate" refers to thin, rectangular, ferrous metal plates used to join two boards together in the construction of the burial container (Figure 4.9). Various sizes of joining plates were recovered only from Burial 1 in Roberts Cemetery (see Table 4.1). The presence of wood grains, which meet at a centerline on both faces, suggests that they could have been used as biscuits at a mitered corner joint. Specimens that exhibit angled wood grains on only one face suggest that they were also used at mitered corners but were possibly secured at the top or bottom of the corner and not within the joint. No nails or screws are associated with these plates, so they likely were secured with some type of adhesive. Joining plates offer information about the construction technique and skill of the carpenter, availability of other resources for construction, and possibly even the cost of a burial container.

Top Fasteners

Top fasteners are a form of complex burial container lid closure consisting of eight pieces in a full set: two foot plates, two foot hooks, two head body plates, as well as a left and a right spring. The springs and foot hooks are positioned along the sides of the lid, with the springs toward the head and the foot hooks toward the foot end of the burial container. The head and foot body plates are positioned on the sides of the burial container itself, in locations that match up with the elements secured to the lid. The foot hooks insert into holes in the foot plates and recesses

Figure 4.9. A selection of joining plates recovered from Roberts Cemetery Burial 1.

cut into the top of the side wall below the plates. When the lid is secured, the spring hooks insert just as the foot hooks do, but the level end of the spring either fits onto a projecting fin on the base plate or descends into a recess cut into the top of the side wall, which limits horizontal movement of the lid.

The first known patent for a top fastener (U.S. Utility Patent No. 377,325) was granted to William J. Noble on January 31, 1888 (Figure 4.10), with a second soon following in May of the same year (U.S. Utility Patent No. 383,235). While these were the first known patents to be issued, they were not the first top fastener patents for which an application was filed. Although the patent was not granted until April 16, 1889, William A. Sparks of Rochester, New York, submitted his application for a "coffin-fastener" (U.S. Utility Patent No. 401,663) (Figure 4.11)

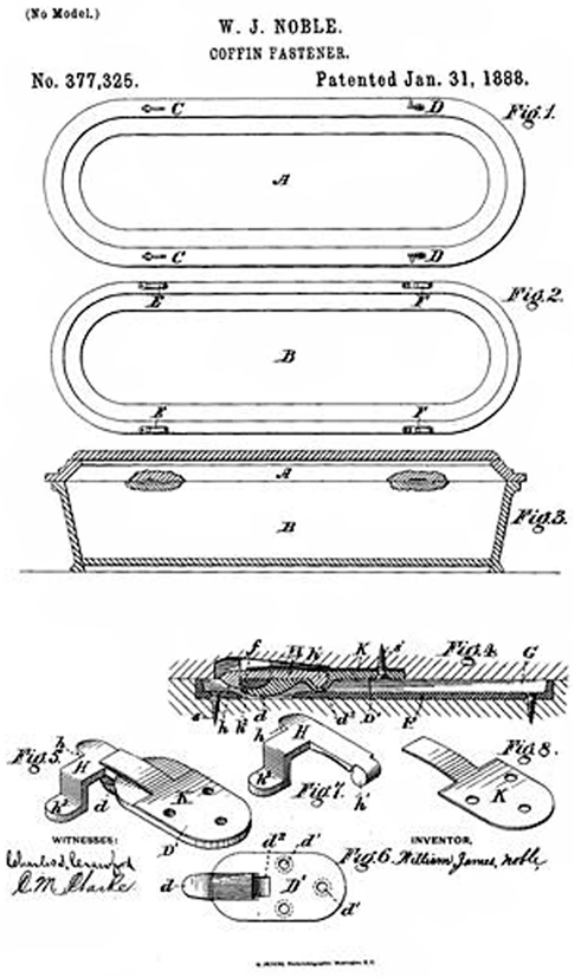


Figure 4.10. U.S. Utility Patent No. 377,325 assigned to W. J. Noble for a coffin fastener in 1888.

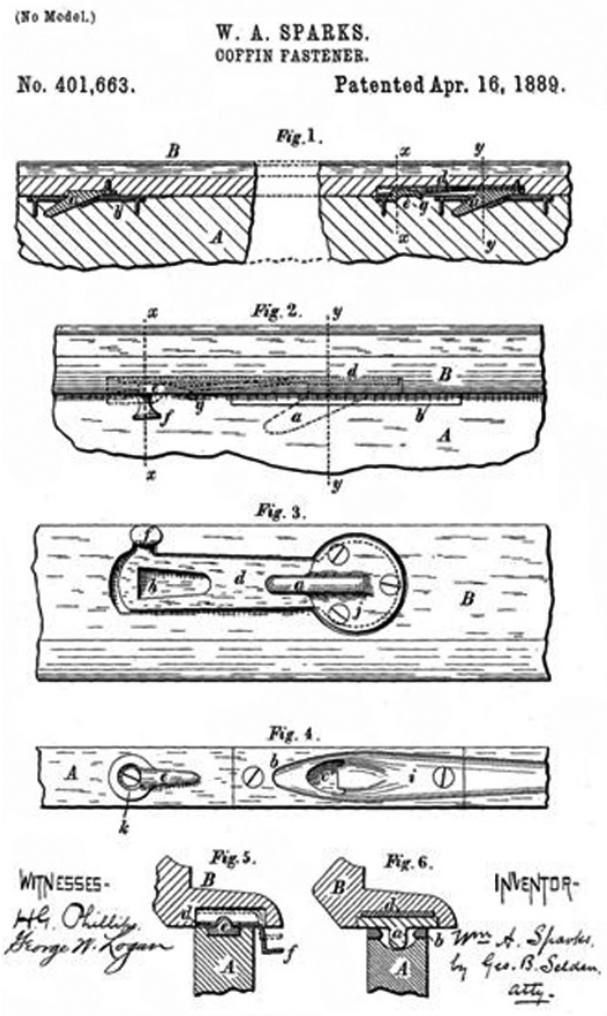


Figure 4.11. U.S. Utility Patent No. 401,663 assigned to William A. Sparks for a coffin fastener in 1889.

on November 4, 1886, well before the Noble applications were filed. Modern-day caskets do not use top fasteners, but it is not known when top fasteners fell out of favor. The ca. 1920s–1930s Langenau Mfg. Company (Cleveland, Ohio) internal specialty hardware catalog was the only extant period catalog available for comparison. Only one other extant internal hardware catalog, the undated Weber–Knapp Company *Shell Hardware for Caskets, Catalog No. 52*, is known to exist. It is owned by Michael Trinkley of Chicora Foundation (Columbia, South Carolina).

TOP FASTENER TYPE 1

Top Fastener Type 1 is represented by a complete set of six artifacts recovered from

Burial 1 in Roberts Cemetery (see Table 4.1). The foot hook (Figure 4.12) is gently curved, and the plate is secured with three screws and is roughly circular with a small triangular notch on the side under the base of the hook. The hook itself is hollow on the underside and extends from the center of the circular base. The foot plate is rectangular with two screw holes at either end. There is also a wide flute running down the center with a hole meant to accept the foot hook toward one end of the plate. One end of the hole is gently curved, while the other end has a similarly curved finger, which is bent slightly down and extends into the hole.

The head spring (Figure 4.13) has a left and right variety, but both are identical in form, with the only difference being that the release tab is on one side or the other, depending on placement. The springs have a circular hook base with three screw holes. The neck of the spring is constricted near the circular base and tapers gently out for a short distance before widening and continuing to taper to the rounded end. An elongated triangular hole with a curved short side lies in this wider end portion of the spring. The spring release tab is also located at this end. The head plate is attached via two screws, one at each end. It is similarly designed as the foot plate, with two exceptions. It is much longer than the foot plate. In addition to the hook hole on one end, the opposite end has a small rectangular hole and an elongated triangular beak that matches the hole on the wide end of the spring.

Top Fastener Type 1 has only been identified in one mortuary catalog, the ca. 1920s–1930s catalog from the Langenau Mfg. Company (Figure 4.14). There is no known exact patent match to this variety of top fastener, but it is very similar to the fastener illustrated in Sparks's patent (see Figure 4.11). This same top fastener has been reported from 17 burials dating between 1907 and 1932 excavated from the grounds of the Texas State Cemetery. Six other historic cemetery relocations have yielded top fasteners that may be exact matches or may just be similar forms. Poor preservation often makes it difficult to tell from report images whether they are exact matches. These cemeteries are from Alabama, Kentucky, South Carolina, Georgia, Tennessee, and Ontario, and date between ca. 1877 and 1940 (see Table A.3 for a summary of these matches).

Dowels

Dowels are a versatile and esoteric hardware item that could have been used in a variety of purposes within the casket. Few have been

Figure 4.12. Foot hook and foot plate of Top Fastener Type 1 recovered from Roberts Cemetery Burial 1.

Figure 4.13. Head plate and spring of Top Fastener Type 1 recovered from Roberts Cemetery Burial 1.

reported in the archeological literature, so information from contextual relationships is scant. Additionally, only the 1920s–1930s Langenau Mfg. Company catalog is known to illustrate dowels. Given their form, they could have been used as stops or catches in securing the casket lid or in a similar capacity with other hardware in construction of the burial container.

DOWEL TYPE 1

Dowel Type 1 (Figure 4.15) is represented by two artifacts from Burial 1 in Roberts Cemetery (see Table 4.1). The dowels were located on the upper edge of the lid on either side of the casket, suggesting they were used as a guide for sliding the casket lid into place, or as stops for the casket lid. The base plate of the dowel has two screw holes, the interior one being elongated and running down the majority of the piece. After the termination of the elongated screw hole, the dowel is bent 90 degrees and a tab extends up, bending slightly outward before ending with a gentle curve. Dowel Type 1 appears to be a match to Dowel No. 32 illustrated on page 32 of the 1920s–1930s Langenau Mfg. Company catalog (Figure 4.16). No patent records have been located that match this type of hardware, but similar dowels have been recovered from four burials in two cemetery excavations, both in Texas. The four associated burials date from 1907–1908 and 1926–1960, respectively (see Table A.3 for a summary of these matches).

Catch Assemblies

Catches are small complex ferrous fastening devices that were used to secure the lid of a burial container or a viewing window cover. Figure 4.17 is the drawing page from a 1953 patent (U.S. Utility Patent No. 2,634,997) for a catch. While this is an admittedly recent piece of hardware, it does show an excellent exploded view of the components of a standard catch.

Figure 1 in the patent shows a vertical section through the casket and lid so that the catch can be seen. *Figure 2* is a front view of the catch. *Figure 3* is a bottom plan view of the catch. *Figure 4* is a top plan view. *Figure 5* is a side view of the "latch guard and mounting ears." *Figure 6* is a front view of the same. *Figures 7, 8, and 9* are top, side, and end views of the wire spring. *Figure 10* is a side view of the lever plate. *Figure 11* is a front view of the base plate with latch guard and mounting ears. *Figure 12* is a

Figure 4.14. Top Fastener No. 35, which is similar to Top Fastener Type 1, as illustrated on page 76 of the 1920s–1930s Langenau Manufacturing Company catalog.

Figure 4.15. Dowel Type 1 recovered from Roberts Cemetery Burial 1.

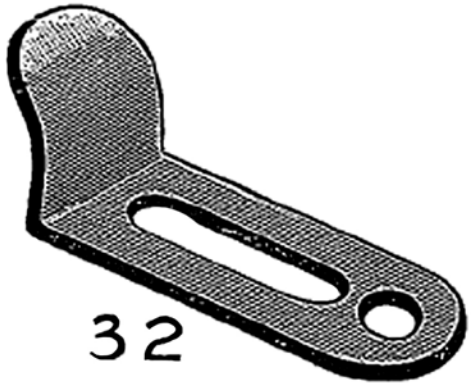


Figure 4.16. Dowel No. 32 illustrated on page 32 of the 1920s–1930s Langenau Mfg. Company catalog. This matches the Dowel Type 1 recovered from Roberts Cemetery Burial 1.

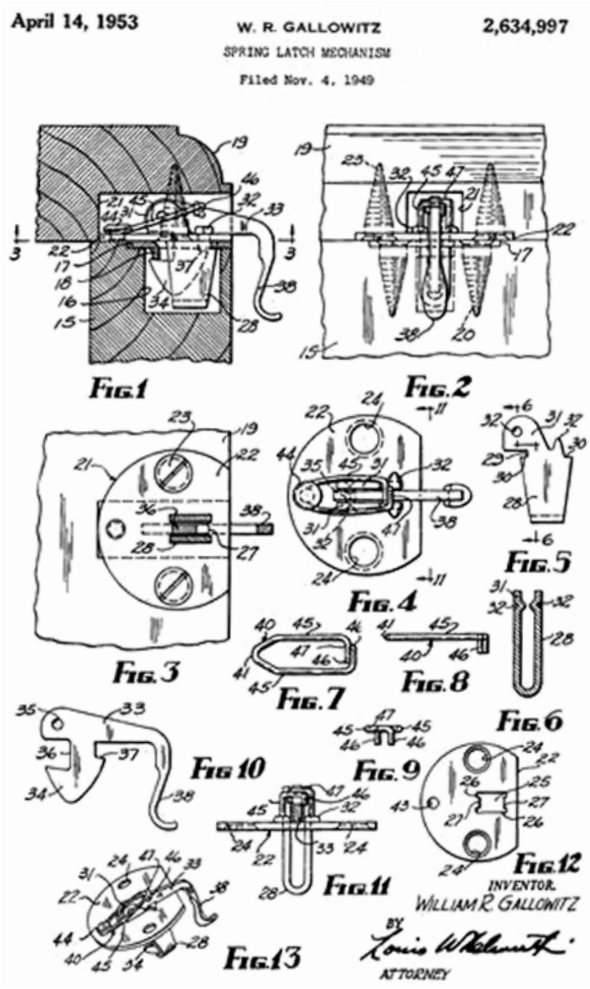


Figure 4.17. U.S. Utility Patent No. 2,634,997 assigned to William R. Gallowitz in 1953 for a spring latch mechanism.

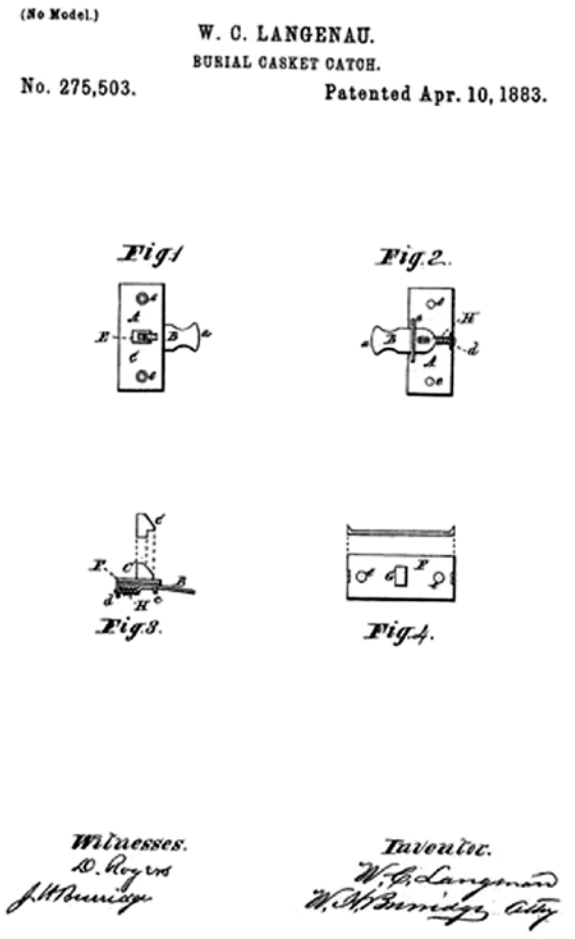
bottom plan view of the base plate. *Figure 13* is the completed catch. The only major difference between this more modern catch and older examples is that most of the earlier devices used thin arched metal plates for the spring rather than wire. Finally, catches must be paired with a matching escutcheon through which the latch guard would pass, enabling the latch to hold when the lid is closed. Catch escutcheons were interchangeable to a certain degree in terms of size and shape, depending on the construction of the burial container and the function and type of catch being used.

The earliest located patent (U.S. Utility Patent No. 275,503) for a catch was issued to W. C. Langenau of Cleveland, Ohio, on April 10, 1883 (Figure 4.18). It was a simple design consisting of a rectangular base plate with latch guard and a lever connected to the latch plate. Langenau followed with a second similar patent (U.S. Utility Patent No. 281,277) in July of the same year. From these early patents, many varieties were patented throughout the late-nineteenth and early-twentieth centuries. As evidenced by the 1953 patent discussed above, catches were still important pieces of hardware in the casket manufacturing industry into the 1950s. It is not currently known whether these types of catches are used in present-day caskets, or if their popularity waned at some point after the 1950s.

CATCH TYPE 1

Catch Type 1 (Figure 4.19) is associated with Catch Escutcheon Type 1 and is represented by one artifact in Burial 1 in Roberts Cemetery (see Table 4.1). This catch is made of iron. The base plate has two screw holes and is circular with one side clipped. The latch guard is narrow and gently rounded at the top. The lever plate is thin but broadens out and morphs into a flat T-shaped head. The lever is depressed, extending in the opposite direction from the latch guard. The lever is kept in play by an arched metal spring plate on the bottom of the catch.

Catch Type 1 has been identified as Catch No. 169 in the ca. 1920s–1930s Langenau Mfg. Company catalog (Figure 4.20) (see Table A.3). This type of catch was designed for use on burial containers with clothwork, and the depressed levers were shaped specifically to conform to recessed top mouldings. The illustration for Catch No. 169 bears the November 26, 1889 Langenau patent date (U.S. Patent 275,503), but this catch does not resemble the device in the patent illustration (see Figure 4.18). No other patents for


(No Model.)

W. C. LANGENAU.

BURIAL CASKET CATCH.

No. 275,503. Patented Apr. 10, 1883.

Fig.1 Fig.2.

Fig.3. Fig.4.

Witnesses. Inventor.

Figure 4.18. U.S. Utility Patent No. 275,503 assigned to W. C. Langenau for a burial casket catch in 1883.

Figure 4.19. Catch Type 1 recovered from Roberts Cemetery Burial 1.

catches bearing a resemblance to Catch Type 1 were located. This type, however, was recovered from two historic cemeteries in Texas with burial dates between 1907 and 1940. Catches of a similar type have also been recovered from one cemetery in Georgia and one in Kentucky. The two burials from the Georgia cemetery date to 1921 and 1943, while the 14 burials in Kentucky have been dated between 1890 and 1940.

Figure 4.20. Catch No. 169, which is similar to Catch Type 1, as illustrated on page 20 of the 1920s–1930s Langenau Manufacturing Company catalog.

CATCH ESCUTCHEON TYPE 1

Catch Escutcheon Type 1 (see Figure 4.19) is represented by one artifact from Burial 1 in Roberts Cemetery and is associated with Catch Type 1. This is a rectangular escutcheon that matches up with various sorts of catches for plush or cloth work. It is made of iron and has two screw holes. There are no specific patents known to exist for this escutcheon type, and because the exact form is not clear due to corrosion, it is not clear whether this particular escutcheon has been recovered in historic cemetery excavations (though it is extremely likely). Many types of rectangular interchangeable escutcheons are advertised in the ca. 1920s–1930s Langenau catalog (Figure 4.21). The Roberts Cemetery rectangular catch escutcheon could match any one of the illustrated escutcheons. The photograph of the catch assembly, however, appears to show side points on the escutcheon, suggesting that Langenau escutcheon numbers 17, 18, 22, or 31 would be high possibilities for a match.

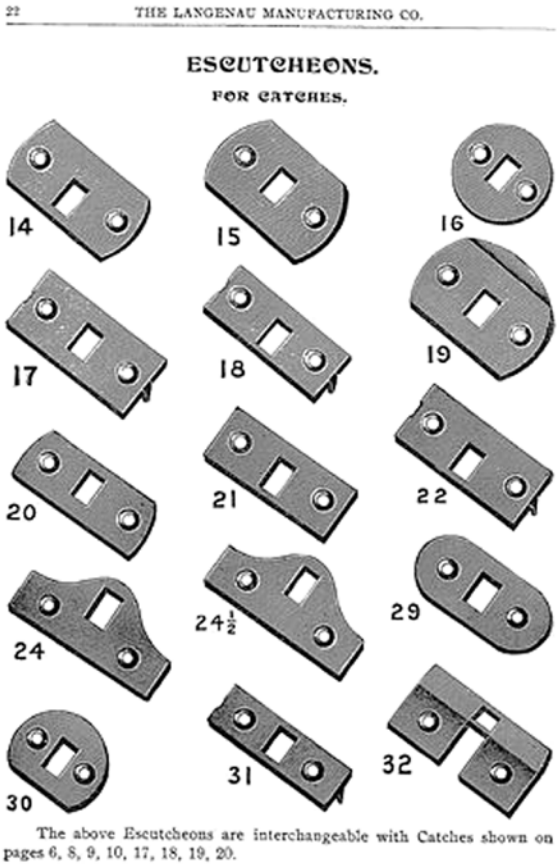


Figure 4.21. Page 22 of the 1920s–1930s Langenau Manufacturing Company catalog showing rectangular escutcheons similar to Catch Escutcheon Type 1.

External Burial Container Elements

External elements can be seen by mourners during the funeral and therefore play a key role in the social perception of the event, and by extension the social and economic status of the deceased and the deceased's family (Pye 2007). Changes in the type of external elements can also reflect changes in consumer culture as well as changes in or adherence to certain social and religious ideologies. For the keen archeologist, identification of changes in patterns of external elements can also provide important clues to chronology (Davidson 1999).

Handles

Davidson (2006:12–123) states that the earliest burial container handles were either made specifically for mortuary contexts (citing

Rauschenberg 1990:43–44) or were utilitarian furniture hardware employed in a mortuary setting. Utilitarian handles were found in a burial in Delaware dating to 1780–1820 (DeCunzo et al. 1992:199). This practice was also noted in nineteenth-century Tucson, Arizona (Pye 2010a), and was likely used in other locales where necessity or scarce resources required creativity. The use of handles specifically designed for mortuary purposes date back to at least the eighteenth century. Tharp (1996:81–88) notes that British coffin handles were being imported and advertised for sale in the American colonies as early as 1738.

Handles on burial containers serve multiple functions. A primary function of handles is to provide a means by which the burial container may be carried to the gravesite from the home or from whatever transportation device was employed to convey the deceased to the burial locale (Davidson 1999:535). The nineteenth and early-twentieth centuries saw great innovation in material, form, and style that cannot be explained by the transportation function. It should not be taken for granted that burial container handles serve broader social and ideological functions.

DOUBLE-LUG, SWING-BAIL HANDLES

The double-lug, swing-bail handle is one variant of the general swing-bail form. It is comprised of two lugs, which are affixed via screws, or occasionally nails, to the side of the coffin; and the bail, which forms the gripping portion of the handle. The bail is mounted into the lugs by the insertion of two metal pins (of iron or steel wire) at either end. Davidson (1999; 2004:407) reports that swing-bail handles have been in production since the eighteenth century. Their prominence did not wane until short-bar, and later extended-bar, handles became more popular in the late-nineteenth and early-twentieth centuries, but the form has never entirely disappeared.

Handle Type 1

Handle Type 1 (Figure 4.22) consists of a double-lug, swing-bail handle represented by six complete handles in Burial 2 and six complete handles in Burial 3 in Roberts Cemetery (see Table 4.1).[14] These handles were made of white metal with the white metal of the bail being cast over a reinforcing bar also made of some nonferrous metal. The lugs are attached to the burial container via two screws. The top and bottom edges of the lugs have a floral motif with three leaves or a three-petal blossom opening up to the outer central edge divided by a gently arching bridge. The bail is U-shaped and hollow-backed, exposing the inner bar. There is a similar floral design on the bail and a central fan or blossom element.

There are no known patent or catalog matches to this handle, although there were roughly similar types of handles present in hardware catalogs from 1890 through 1920. This exact handle has been recovered in three historic cemetery archeological excavations, one each from Arkansas, Texas, and Tennessee, dating between 1890 and 1933. Additionally, this handle type was present in an archeologically documented historical collection from the A. L. Calhoun General Store, South Carolina, which dated between 1894 and 1926 (see Table A.3).

DOUBLE-LUG, SHORT-BAR HANDLES

The double-lug short-bar handle is a variant of the short bar concept, the history of which has been outlined by Davidson (2006:122–128). This variety is more complex than earlier swing-bail forms and can consist of up to nine parts: two lugs, two arms, two pins, a bar/tube, and two tips. The earliest patent dates for elements of the short-bar handle appears in 1866, with many stylistic variants (e.g., C. Strong's 1869 Coffin Handle, U.S. Utility Patent No. 97,827; Figure 4.23) being patented continuing through the 1870s and 1880s (Davidson 2006:125–126). Based on period trade catalogs available for current study, it is evident that early form, short-bar handles were for sale in 1871, as advertised in the 1871 H. E. Taylor & Co. illustrated catalog. These handles grew in popularity in the 1880s and made up a fair majority of the handles available in catalogs through the early twentieth century.

[14] The original field records show that seven Type 1 handles were assigned to Burial 2 and only five were assigned to Burial 3, which was significantly disturbed. Subsequent analysis revealed that one of the Burial 3 handles was displaced and got commingled with Burial 2 (see Chapters 2 and 3).

Figure 4.22. Handle Type 1 recovered from Roberts Cemetery Burials 2 and 3.

Handle Type 2

Handle Type 2 (Figure 4.24) is represented by six double-lug, short-bar handles recovered from Burial 1 in Roberts Cemetery (see Table 4.1). The lugs of this handle are shaped like fiddles. There are no apparent designs on the surface of the lugs. The end segments of the bar are circular, and the caps are domed with a raised ring at the base of the dome and another ring at the end of the cap. The bar has a swelled octagonal grip.

On July 19, 1910, U.S. Utility Patent No. 964,562 was granted to Edward R. Sargent for a casket handle that matches the form of the Handle Type 2 lugs and arm mechanism (Figure 4.25). The patent illustration, however, shows a square bar rather than a swelled round or octagonal bar. The earliest known patent depicting a swell bar variety of a short-bar handle was granted on January 20, 1891 to M. Bremer (U.S. Utility Patent No. 444,973) (Figure 4.26). Swell bars grew in popularity in the 1890s and became very common in catalogs of the first decade of the twentieth century. Swell bars were far less common in the 1940s, but the occasional piece does appear in catalogs into the 1950s. The fact that the Sargent patent shows a square bar is less important than the fact that handles with this lug type quickly grew in distribution after 1910. Octagonal swell bars were apparently coupled with the Sargent lug early on because

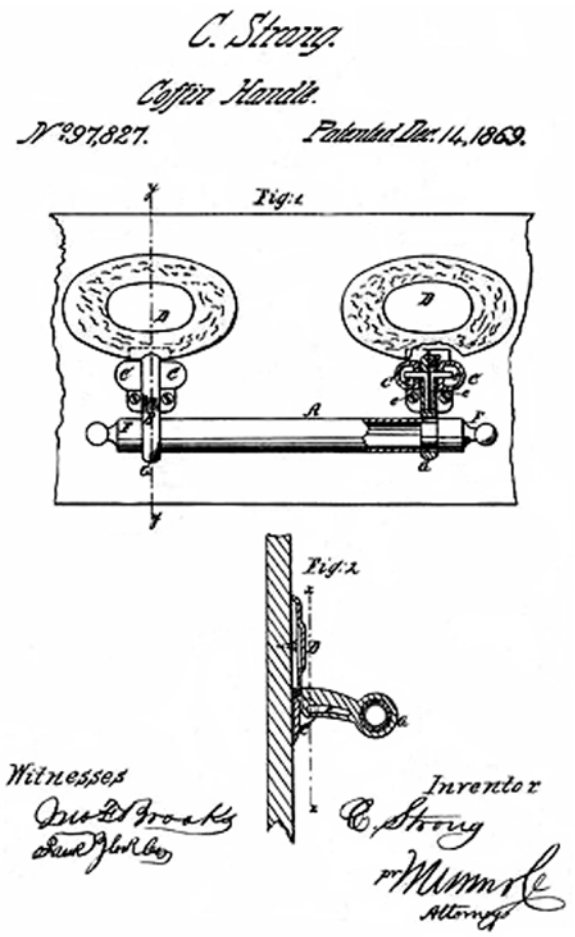


Figure 4.23. U.S. Utility Patent No. 97,827 assigned to C. Strong for a coffin handle with early components of a short-bar handle in 1869.

handles more or less similar to Handle Type 2 appear in at least 15 mortuary merchandise catalogs between ca. 1910 and 1950 (Figures 4.27 and 4.28) (see Table A.3).

It appears, however, that the popularity of the handle declined in the late 1920s or early 1930s. Three of the earlier appearances of the handle come from the catalogs of Boyertown Burial Casket Company. A look through available post-1930s Boyertown catalogs showed that this handle no longer appeared in the product line. Even though the handle may not have been carried by professional mortuary product manufacturers, it remained on the market at least up to 1950. The three latest occurrences of this handle in catalogs were in those produced by Belknap Hardware and Mfg. Company, who sold general merchandise and carried a slim selection of outdated casket hardware. Additionally, this handle has been recovered from one burial with a positive interment date of 1943 from the Nancy Creek Primitive Baptist Church Cemetery, Georgia. It was also recovered from one burial dated between 1910 and 1940 in New Home Cemetery, Texas (see Table A.3).

Outer Box Handles

In the 1850s most burial containers were fashioned by friends, family, or the local cabinetmaker. The Civil War promoted the expansion of transportation networks that in turn supported the growing desire to ship the remains of dead soldiers home for burial. The simple wooden receptacles into which the coffins of the deceased soldiers were placed for transport were referred to as shipping boxes and were often equipped with at least four single-lug box handles (Hacker-Norton and Trinkley 1984:10). As the years passed in the later nineteenth century, it became increasingly common for people to purchase factory-made coffins and caskets from large producers, who also shipped these items in shipping boxes. By the turn of the twentieth century, the purchase of ready-made burial containers, either ordered directly from the manufacturer or through the local funeral director, became the norm.

Shipping boxes, also referred to as outer boxes, were also frequently used as vault boxes. The outer boxes would be placed in the bottom of a grave, and the coffin or casket was lowered into it (Hacker-Norton and Trinkley 1984:10; Oster et al. 2005:191). Then the lid would be closed and the grave filled. The box handles of the outer box would therefore enter the archeological record (Buchner et al. 1999; Rose 1985).

HANDLE TYPE 3

Handle Type 3 (Figure 4.29) is represented by five artifacts found in association with Burial 1 in Roberts Cemetery (see Table 4.1). This handle is a single-lug box or shipping container handle. The lug is rectangular with rounded corners and is affixed to the container via three screws, one in the top center and the other two along the bottom margin nearly under the attachment of the handle bail. The handle is made of iron and has a hollow back. The bail is attached to the lug via side pins. The bail, too, is hollow-backed, although the grip portion of the bail is complete. A seam runs horizontally

Figure 4.24. Handle Type 2 recovered from Roberts Cemetery Burial 1.

along the bottom margin of the lower portion of the bail where the metal was folded over to form the grip.

No definitive matches have been made to patent records, but this same type of box handle appeared in 13 period mortuary or general hardware catalogs ranging in date from 1900 to 1956. It also appeared in four archeological collections dating between 1840 and 1940 (see Table A.3). Figure 4.30 shows an illustration of this handle type as seen in the 1908 Mound Coffin Company catalog. Even though it is not visually depicted, a handle with the same product number is noted in the 1900 Mound Coffin Company price list, which provides the earliest record of this handle type. It is possible that the handle was on the market earlier in the 1890s, but the fact that available merchandise catalogs of that decade carried other outer box handles and not this one suggests that it likely entered the market sometime just before the turn of the century.

Plaques

Plaques, also known as coffin plates, refer to machine-stamped or cast-metal plates that would have been attached to the lid of a burial container (in the midsection over the body's thorax or hips) during a funeral, thus playing an important role in funeral pomp and ceremony (Davidson 1999:548; Gordon 2003:1). Plaques were produced from a variety of metals including various copper, tin, zinc, or lead-based alloys such as white metal, Britannia metal,

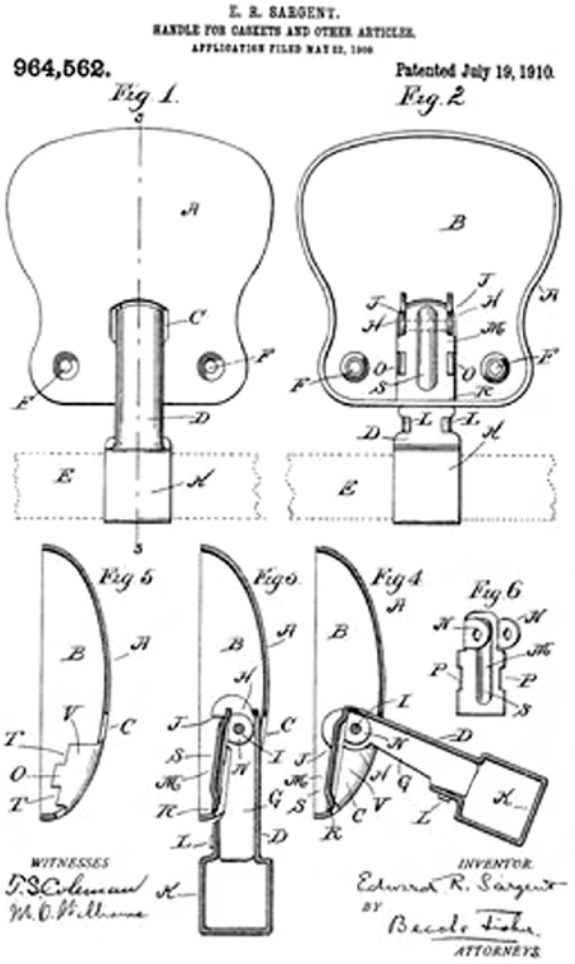


Figure 4.25. U.S. Utility Patent No. 964,562 assigned to E. B. Sargent for a handle for caskets in 1910.

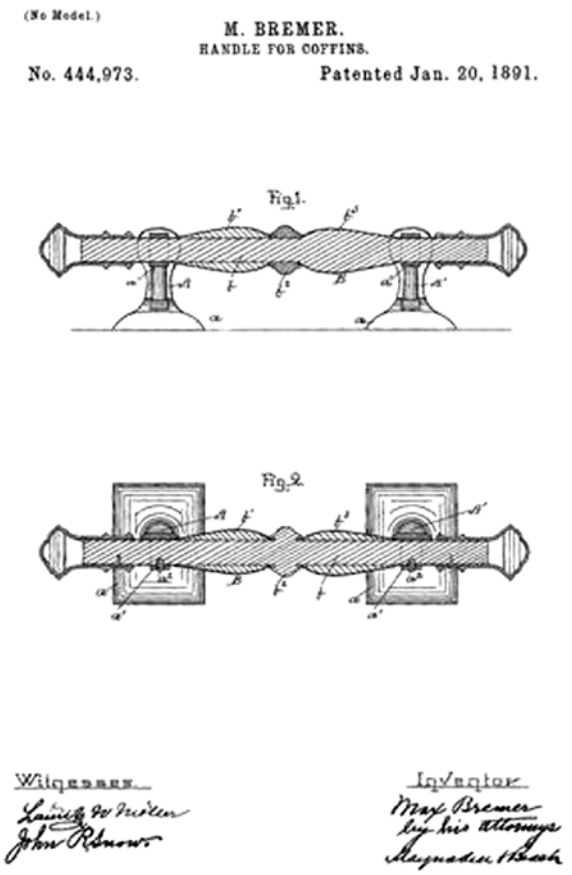


Figure 4.26. U.S. Utility Patent No. 444,973 assigned to M. Bremer for a coffin handle with a swelled bar in 1891.

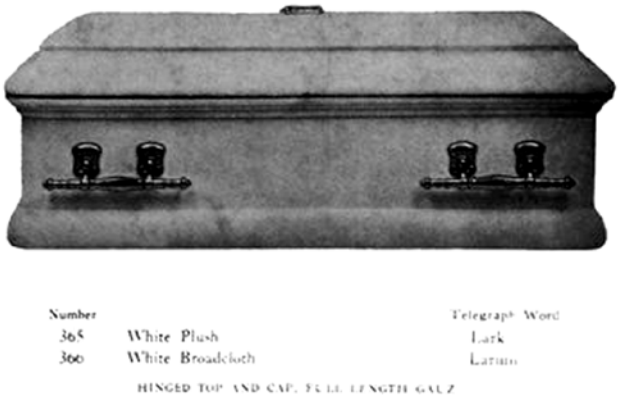


Figure 4.27. Casket illustrated exhibiting a short-bar handle similar to Handle Type 6 on page 30 of the ca. 1910 Dallas Coffin Company catalog.

pewter, brass, and bronze (Davidson 1999:548, 2006:151).

Plaques are one of the earliest forms of mortuary hardware. They appear in two English sample books from 1797 (Figure 4.31), which are the earliest mortuary hardware catalogs that have been located as of yet (see Table A.1). Many of these early forms of coffin hardware were produced in Britain and exported to the United States prior to the establishment of the U.S. funeral product manufacturing industry. The extra cost of the importation, along with the fact that most of these early forms of hardware were actually made of silver rather than cheaper materials, made them less accessible to the masses in the eighteenth and early-nineteenth centuries. The iron coffin handles recovered from the eighteenth-century African Burial Ground in New York (Perry et al. 2006), as well as the stamped-tin coffin handle plates from the early nineteenth-century Tenth Street First African

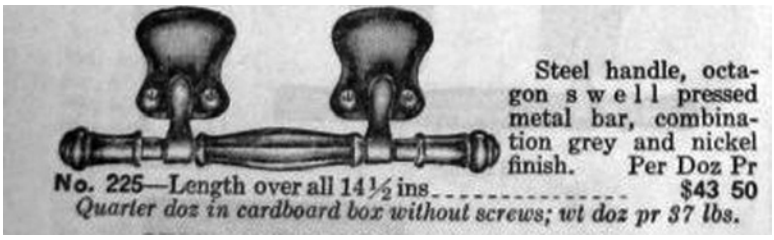


Figure 4.28. Casket handle No. 225 as shown on page 966 of the 1940 Belknap Hardware and Mfg. Company.

Figure 4.29. Handle Type 3 recovered from Roberts Cemetery Burial 1.

Baptist Church Cemetery (Crist et al. 1996) in Philadelphia, represent exceptions to this general pattern (Springate 2011).

In their early period of use, plaques generally were blanks upon which the name and personal information of the deceased could be hand-engraved or painted (Pike and Armstrong 1980:149–150). While hand-engraved blanks persisted through the nineteenth century, it became much more common to purchase factory-stamped or engraved plates exhibiting common nineteenth-century phrases or sentiments, such as "At Rest," "Our Darling," "Rest in Peace," etc. (Davidson 2006:151). At the end of the funeral, most plaques were probably buried with the deceased to identify their remains if disturbed at a later date. However, during the nineteenth and early twentieth centuries, it was also fashionable for some Americans to remove plaques after the funeral but before committal and keep them as mementos of the deceased (Gordon 2003).

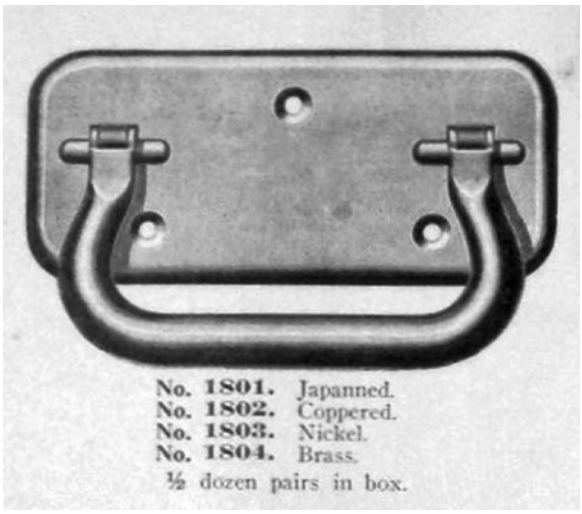


Figure 4.30. Outer box handle shown on page 458 of the 1908 Mound Coffin Company catalog.

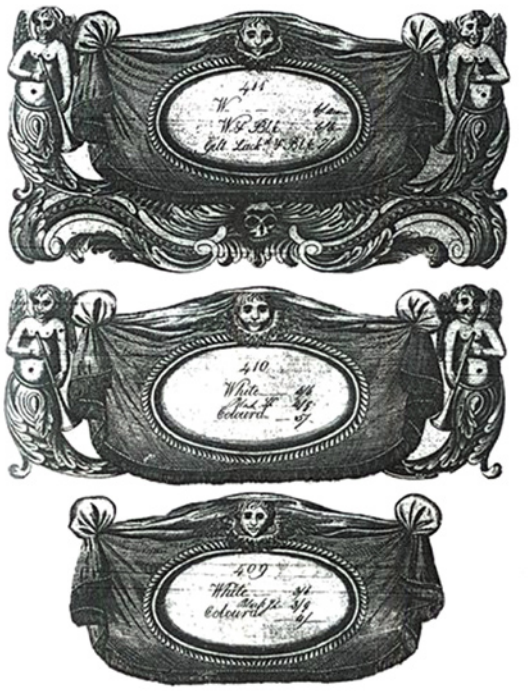


Figure 4.31. Examples of early "coffin plates" from ca. 1797 English hardware sample books.

PLAQUE TYPE 1

Plaque Type 1 (Figure 4.32) is represented by at least 14 fragments of one ferrous metal plate recovered from Burial 1 in Roberts Cemetery (see Table 4.1). This plate is generally rectangular; however, it appears to have raised shoulder corners and possibly an elevated lip on the upper margin of the plaque. There is no evidence of embossed or engraved lettering on the face of this plate. Due to its fragmentary nature, it is not possible to definitively match it to any patent records, catalogs, or cemetery excavation reports (see Table A.3).

PLAQUE TYPE 2

Plaque Type 2 (Figure 4.33) is represented by two artifacts in Roberts Cemetery, one each in Burials 2 and 3 (see Table 4.1). This plaque is made of white metal and was affixed to the burial container via two screws, nails, or pins, one in the upper left corner of the piece and the other in the lower right. The plaque is shaped like a ribbon or banner with forked ends, which are flowing behind the midsection of the banner. "At Rest" is molded onto the face of the banner in Old English Text MT type font. "At Rest" was a common phrase found on plaques in the late-nineteenth and early-twentieth centuries. The reverse face of the plaque is hollow-backed, and the impressions on the "est" of "Rest," as well as a mold mark "92E" just to the left of the "t," are visible.

This same plaque type has been recovered from six other historic cemetery excavations—four in Texas, one in Tennessee, and one in Arkansas—from burials that range in dates from 1891 to 1935. In addition, this plaque appears in eight period mortuary hardware catalogs dated from 1901 to 1949 (e.g., Figure 4.34) (see Table A.3). The "92E" mold mark on Plaque Type 2 is significant, however, because it suggests that this particular plaque came from the Chattanooga Coffin Company (Chattanooga, Tennessee), which was founded in 1887 and closed sometime in the 1930s, possibly as the result of losses from the Great Depression. It is not known when Chattanooga Coffin Company began to produce this particular plaque because the 1905 catalog and price list are the only known extant ephemera from this company. This evidence indicates that the Type 2 plaques associated with Burials 2 and 3 were manufactured after 1887 and no later than the 1930s. It is likely that Burials 2 and 3 occurred before ca. 1940.

Thumbscrews

Thumbscrews evolved out of earlier forms of coffin screws with the first identified iteration

Figure 4.32. Plaque Type 1 recovered from Roberts Cemetery Burial 1.

appearing in an 1859 patent issued to Mr. H. Marshall for an innovative type of rectangular metal casket (U.S. Utility Patent No. 25,659). The flat-bodied forms, like those recovered from the Roberts Cemetery excavations, first appear with an 1874 patent issued to W. M. Smith (U.S. Utility Patent 7,797) for a flat-bodied, urn-shaped design. These new types of thumbscrews soon hit the market, appearing in catalogs in 1875. Thumbscrews are great temporal diagnostics because continued advancements and variations in designs yielded further registered patents even up to 1884. Even into the twentieth century, companies and individuals continued to produce new forms (though few were patented) (Davidson 2006:133–134). Due to the increased use of complex lid fasteners, such as the ones already discussed in this analysis, the popularity of thumbscrews as lid fasteners declined in the first two decades of the twentieth century. As evidenced by the presence of only two forms of thumbscrews in the 1959 Victor Casket Hardware Company catalog, a greatly reduced and simplified selection of thumbscrews was sold even up to the 1960s, mostly as outer box fasteners.

THUMBSCREW TYPE 1

Thumbscrew Type 1 (Figure 4.35) is associated with Escutcheon Type 1 and is represented by three artifacts from Burial 2 and five artifacts from Burial 3 in Roberts Cemetery (see Table 4.1). It consists of a flat-bodied head made of white metal cast upon a iron shank. The head has a tri-lobed crown motif, with floral tendrils curling inward along each side margin at the lobes, and two lines extending from the apex of the crown to the bottom corners. A constricted neck and a raised cylindrical base lay below the crown.

Figure 4.33. Plaque Type 2 recovered from Roberts Cemetery Burials 2 and 3.

Exact matches have been not been located in any patent records or period trade catalogs. This screw has, however, been identified in the archeological excavations of three other historic cemeteries, one in Georgia from a burial dating between 1875 and 1930, one in Arkansas from a burial dating between 1890 and 1927, and the third in Texas from a burial dating between 1895 and 1905 (see Table A.3). This time window brackets the range of common use for thumbscrews in general and therefore does not provide much aid in determining a tighter chronology.

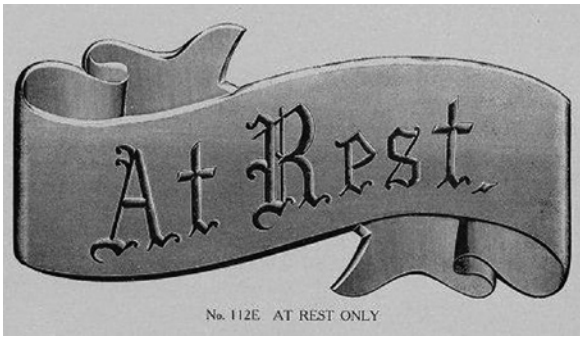


Figure 4.34. Plaque No. 112E, which is a match to Plaque Type 2, as illustrated on page 66 of the ca. 1911 Hearne Bros. & Company catalog.

Figure 4.35. Thumbscrews recovered from Roberts Cemetery burials: (from left to right) Thumbscrew Type 1, Burials 2 and 3; Thumbscrew Type 2, Burials 2 and 3; Thumbscrew Type 3, Burial 2; Thumbscrew Type 4, Burial 1.

THUMBSCREW TYPE 2

Thumbscrew Type 2 (see Figure 4.35) is represented by two artifacts in Roberts Cemetery, one each coming from Burials 2 and 3 (see Table 4.1). This thumbscrew is made of white metal cast on a metal screw shank. The head shape is reflective of a lotus flower. Within this conception, there are five petals extending from a central stylized three-leaf blossom. The first, third, and fifth petals are convex, while the second and fourth petals are concave. Small beads sit atop the edge of the screw head between the petals.

Exact matches to this thumbscrew have been not been located in any patent records, but it has been identified in two period trade catalogs, one from 1901 (Figure 4.36) and one from ca. 1904. This screw has been recovered in the archeological excavations of three other historic cemeteries, two in Georgia from burials dating between 1875 and 1930, and one in Texas from a burial dating between 1900 and 1907 (see Table A.3). This time window brackets the range of common use for thumbscrews in general and therefore does not provide much aid in determining a tighter chronology. It is evident at least that this thumbscrew was on the market in the first decade of the twentieth century. When it entered the market or fell out of favor is not known.

THUMBSCREW TYPE 3

Thumbscrew Type 3 (see Figure 4.35) is represented by one artifact in Burial 2 in Roberts Cemetery (see Table 4.1). This thumbscrew is made of white metal cast on a metal screw shank. The head shape of these white metal thumbscrews is rounded with a raised edge and a central floral element growing out of the rounded base and blossoming into three petals at the top of screw head. On either side of the raised stem is a raised leaf with three points toward their top edges.

Exact matches to this thumbscrew have not been located in any patent records, but it has been identified in three period trade

Figure 4.36. Thumbscrew No. 12, which is similar to Thumbscrew Type 2, as illustrated on page 264 of the 1901 St. Louis Coffin Company catalog.

catalogs again from a narrow time window, ca. 1904 (Figure 4.37) to 1905. This screw has been recovered in the archeological excavations of two other historic cemeteries, one in Texas from burials dating between 1900 and 1907, and one in Tennessee from burials dating between 1899 and 1933 (see Table A.3). This at least suggests that this screw appeared sometime in the late 1890s and was most popular in the first decade of the twentieth century. When exactly it fell out of favor is not clear.

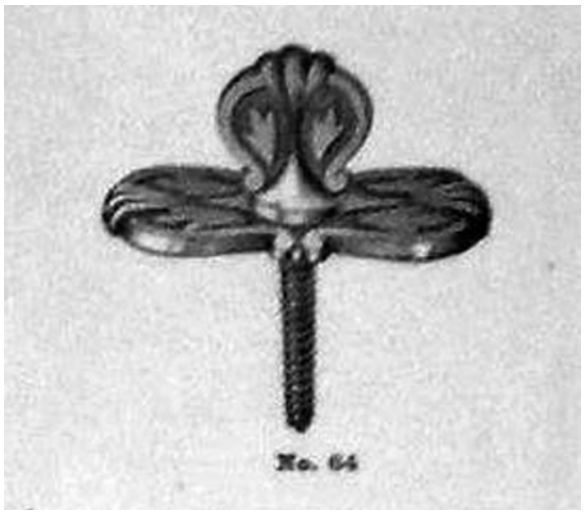


Figure 4.37. Thumbscrew and Escutcheon No. 64, which are similar to Thumbscrew Type 3 and Escutcheon Type 2, as illustrated on page 181 of the ca. 1904 Gate City Coffin Company catalog.

THUMBSCREW TYPE 4

Thumbscrew Type 4 (see Figure 4.35) is represented by two artifacts from Burial 1 in Roberts Cemetery (see Table 4.1). This thumbscrew is made of iron, and the head is formed by bending the ferrous wire around into the shape of a heart and twisting it off at the base of the head. This was a rough utilitarian form of thumbscrew used to secure the lids of outer boxes, or shipping crates, during transport of a coffin or casket from a manufacturer. That is why it is also referred to as a "box screw" or an "outer box screw." The shipping crate was often placed within the grave, and the burial container was placed within it before the grave was filled. In this capacity, it was used as a type of vault, and the box screws, therefore, entered the archeological record.

Exact matches to this thumbscrew have been not been located in any patent records, but it has been identified in 11 period trade catalogs from ca. 1895 to 1966 (e.g., Figure 4.38). This screw has been recovered in the archeological excavations of seven other historic cemeteries, one each in Arkansas, Georgia, Tennessee, Kentucky, Illinois, Virginia, and Ontario, Canada. The associated burials within six of these cemeteries provide a date range of 1890–1935, which is in agreement with the catalog ranges. The final cemetery, Terre Haute Cemetery (Virginia) was dated between 1790 and 1865, which is extremely suspect (see Table A.3). This thumbscrew type was definitely not in production that early. The comparison data illustrates the fact that this thumbscrew had a wide geographic and temporal range, which is not extremely helpful in producing tight chronologies, but does suggest that a ca. 1890 date of entry onto the market is reasonable.

Thumbscrew Escutcheons

The term "escutcheon" refers to decorative screw plates with a central hole through which a thumbscrew can pass for mounting. These accessories were first known to have been illustrated on page 331 of the 1865 Russell & Erwin Mfg. Co. hardware catalog. The early varieties consisted largely of simple diamond-shaped forms. It was not until the widespread introduction of thumbscrews in the 1870s that escutcheon designs began to evolve so that they could be sold

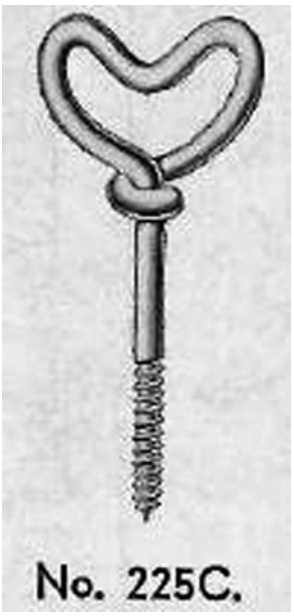


Figure 4.38. Outer box screw No. 225C, similar to Thumbscrew Type 4, as illustrated on page 76 of the ca. 1925 Sargent and Company Catalog No. 18.

Figure 4.39. Escutcheons recovered from Roberts Cemetery burials: (from left to right) Escutcheon Type 1, Burials 2 and 3; Escutcheon Type 2, Burial 2.

with thumbscrews as matched sets. This type of artifact has a broad temporal range of approximately 1865–1920s (Davidson 2006:147).

THUMBSCREW ESCUTCHEON TYPE 1

Thumbscrew Escutcheon Type 1 (Figure 4.39) is represented by seven artifacts recovered from Roberts Cemetery, with three coming from Burial 2 and four coming from Burial 3 (see Table 4.1). It has been found in association with Thumbscrew Type 1. It shares some stylistic elements with its associated thumbscrew, and likely came as a set. The plate has a central hole from which extends two leaf-like elements that make up the body of the plate. The leaves have two inward-facing floral tendrils running lengthwise along the piece. Where the leaves join along the side margins are what appear to be floral buds flanking the center hole. No matches have been located in period trade catalogs or patent records, but this type has been recovered from one historic burial in New Home Cemetery, Texas, dated between 1895 and 1905. Because of the lack of comparative matches, it is difficult to accurately date this artifact. It likely has a production period comparable to that of its associated thumbscrew, which was found in archeologically relocated burials dating between 1875 and 1930 (see Table A.3).

THUMBSCREW ESCUTCHEON TYPE 2

Thumbscrew Escutcheon Type 2 (see Figure 4.39) is represented by one artifact recovered from Burial 2 in Roberts Cemetery (see Table 4.1). It was found in association with Thumbscrew Type 3. It shares stylistic elements with its associated thumbscrew, and likely came as a set. Each side of the thumbscrew is a mirror image of the other. Each side is rounded with a raised edge and a central floral element growing out of the central hole area and blossoming into three petals at the terminal ends. On either side of the raised stem is a raised leaf with three points toward their top edges. Where the two sides come together in the center are squared short projections.

Exact matches to this escutcheon have not been located in any patent records, but it has been identified (along with the associated thumbscrew) in three period trade catalogs from ca. 1904 (see Figure 4.37) to 1905. This escutcheon has been recovered in the archeological excavations of two other historic cemeteries, one in Texas from burials dating between 1900 and 1907, and the other in Tennessee from burials dating between 1899 and 1933. This escutcheon was also recovered from the 1894–1926 A. L. Calhoun General Store collection in South Carolina (see Table A.3). As was the case with

the associated thumbscrew, this escutcheon probably appeared on the market sometime in the late 1890s and was most popular in the first decade of the twentieth century. When exactly it fell out of favor is not clear.

Caplifters

Caplifters are a class of burial container hardware designed to be affixed to the panel covering a viewing window on a burial container. They acted as a pull that would facilitate the drawing off of the cover to expose the window glass and view the enclosed decedent. Many caplifters were not remarkably different from the vast majority of thumbscrews and, in fact, thumbscrews were sometimes used as caplifters and vice versa. Davidson (2006:163) notes that the earliest "caplifter" forms can be found on the metallic caskets and burial cases of the 1850s and 1860s, such as those produced by Crane, Breed & Company, but these were not referred to by name. The earliest catalog known to exist where caplifters are offered for sale as a separate hardware class is the 1875 H. E. Taylor & Co. catalog. Within this catalog, the "Rose-Leaf Lifter" was described as being used for "Panels, etc." Caplifters became common throughout the catalogs of the late 1870s and fell out of use in the 1920s (Davidson 2006:164).

CAPLIFTER TYPE 1

Caplifter Type 1 (Figure 4.40) is represented by two artifacts recovered from Roberts Cemetery, one each from Burials 2 and 3 (see Table 4.1). This caplifter has a white metal head cast on an iron shank. The head is roughly the shape of a full-bodied crown with a broad base and a constricted neck upon which is a rounded band. Above the neck sits a saucer platform with a scalloped edge upon which sits a two-tiered pinnacle. No caplifter base or escutcheon was found in association with this caplifter.

Exact matches to this caplifter have been not been located in any patent records, but it has been identified in one period trade catalog from ca. 1911 (Figure 4.41). This caplifter has also been recovered in the archeological excavations of two other historic cemeteries, one in Tennessee from a burial dating between 1899 and 1933, and one in Georgia from a burial dating between 1875 and 1930. Additionally, this

Figure 4.40. Caplifter Type 1 recovered from Roberts Cemetery Burials 2 and 3.

Figure 4.41. Caplifter No. 161, which is similar to Caplifter Type 1, as illustrated on page 81 of the ca. 1911 Hearne Bros. & Company catalog.

escutcheon was recovered from the 1894–1926 A. L. Calhoun General Store collection in South Carolina (see Table A.3).

CONCLUSIONS

This chapter has explored the types of burial container hardware recovered from four historic burials in Roberts Cemetery, Bell County, Texas. The collection contained three handle types, four thumbscrew types, two thumbscrew escutcheon types, one caplifter type, two plaque types, one dowel type, one type of top fastener assembly, and one catch assembly. The artifacts were compared to U.S. patent records, period mortuary hardware catalogs, as well as published and

unpublished reports of other archeologically relocated historic cemeteries and isolated burials (see Tables A.1, A.2, and A.3). Table 4.2 presents a chronology of burials, as well as a summary of the chronologies for each artifact type as derived from the aforementioned comparisons, which are laid out in Table A.3.

Burial 1 has a *terminus post quem* (TPQ) of 1910 because a patent matching the lug and arm of Handle Type 2 dates to that year. A terminal date is more problematic. Handle Type 2 is the most informative piece of hardware. It has been located in period hardware catalogs up to at least 1950, however, ca. 1935 is the last known appearance of the handle in an actual mortuary merchandise catalog. The three later appearances of this handle are in general hardware catalogs. It is unclear how wide an impact this venue would have had on the marketing of this handle. It is likely the popularity of the handle waned in the 1930s when it no longer appears in mortuary catalogs.

Burials 2 and 3 contain such a similar assortment of hardware that it is very probable that they were interred at the same time, or very soon after one another sometime between ca. 1895 and the 1930s. The widespread use of wire nails inform the beginning date of this estimate (the TPQ), while the decline in the use of the varied white metal thumbscrews mark the ending. The presence of Plaque Type 2 in both of these burials provides an additional piece of evidence to support a *terminus ante quem* (TAQ) of the 1930s. Plaque Type 2 had a "92E" mold mark indicating that it was produced by the Chattanooga Coffin Company. It is not known when the company acquired the mold for this plaque and started production, because only the 1905 catalog and price list are known to have survived. The Chattanooga Coffin Company was founded in 1887 and appeared in the city directories for Chattanooga, Tennessee, through 1930. However, the company apparently hit hard times during the Great Depression, and they were no longer in business when the 1940 city directory was prepared. Companies did occasionally sell old hardware molds, but rather than altering the mold number, companies purchasing old molds would adopt the product number of the mold. One post-1940 appearance of this plaque type has been documented in a 1949 Philadelphia Mfg. Company catalog, but the mold number is not the same. At this time it does not appear that the Chattanooga molds continued to be used after the failing of the company in the 1930s.

Burial 4 contained no decorative hardware, but the presence of wire nails suggest an interment after ca. 1895. The fact that Burial 4 contained no decorative hardware potentially indicates that the individual was of limited economic means compared to the other individuals represented in this sample. A much larger sample of burials would be needed, however, to make grander observations about socioeconomics within this cemetery population. In the absence of diagnostic hardware, a TAQ of the 1930s has been applied to this burial as well, due in part to its proximity to Burial 1.

Based on the matches between the recovered hardware and this compendium of comparative materials, the four burials collectively appear to date between ca. 1895 and the 1930s, with Burial 1 being more specifically dated between 1910 and the 1930s. The estimated interment dates are based on the period of peak popularity and usage for the combined burial hardware associated with each grave. As has been discussed for some hardware types, the estimated ending dates are not the maximum possible span that includes the latest advertising and sale of out-of-style or surplus hardware. The ending date estimates also do not consider the possibility that there could have been lag time between the manufacture and sale of mortuary hardware in rural areas, a problem that has been discussed by several scholars (e.g., Buchner et al. 1999; Hacker-Norton and Trinkley 1984; Mainfort and Davidson 2006). Setting aside the possibility of prolonged use of certain artifact types beyond their period of peak popularity, there remains one final reason why the burials appear to date to the early part of the twentieth century. There is a distinct lack of formal embalming paraphernalia recovered from the burials. Burials dating to the late 1940s through the 1960s that have been archeologically recovered commonly include embalming items like trocar buttons, mouth formers, eye caps, etc. (Dockall, Boyd et al. 1996; Pye 2011b; Trinkley et al. 2011). By the mid-twentieth century, embalming was so commonplace that the absence of associated items is a potential, although an admittedly speculative, temporal indicator.

Table 4.2. Chronological summary of mortuary hardware by burial

Mortuary Hardware	Type	Type Dating	Burial 1	Burial 2	Burial 3	Burial 4
Burial Container						
Plaque or plate	Type 1, iron	circa 1900	1			
	Type 2, white metal	circa 1900–1930s		1	1	
Handles	Type 1, white metal	circa 1890–1940		6	6	
	Type 2, white metal	circa 1910–1950	6			
Escutcheon	Type 1, white metal	circa 1875–1930		3	4	
	Type 2, white metal	circa 1900–1930		1		
Thumbscrew	Type 1, white metal	circa 1875–1930		3	5	
	Type 2, white metal	circa 1875–1930		1	1	
	Type 3, white metal	circa 1900–1930		1		
Caplifter	Type 1, white metal	circa 1875–1930		1	1	
Internal lid mechanisms	Top Fastener Type 1, spring assembly, iron	after 1889	2			
	Top Fastener Type 1, foot hook, iron	after 1889	2			
	Top Fastener Type 1, foot plate, iron	after 1889	2			
	Catch Assembly Type 1, iron	after 1889	1			
	Dowel Type 1, iron	after circa 1880s	2			
	Joining plates, iron		12			
Nails	Wire common, iron	after 1895	72	17	30	
	Wire finishing, iron	after 1895	21	8	13	
	Wire larger-head finishing, iron	after 1895		12	2	
	Wire short, iron	after 1895	24	22	19	
	Wire large, iron	after 1895		1	1	
	Wire extra-large, iron	after 1895				20
	Cut square, iron	after 1830		1		
	Wire shanks, iron	after 1895			5	
	Wire with grooved ring shank, iron		2			
Screws	1-inch, iron	after 1846	6	1		
	1.25-inch, iron	after 1846				4
	1.5-inch, iron	after 1846		1		
	2-inch, iron	after 1846	1		1	
	Shank, iron	after 1846		1	2	
Tacks	Decorative, copper			2	1	
	Fabric, iron		40	2	1	35
	Long tacks, iron		5	2		
U-shaped unidentified	Unknown, iron				1	
Outer Box						
Handle	Type 3, iron	circa 1890–1960	5			
Thumbscrew	Type 4, iron	circa 1890–1966	2			
Nails	Wire common, iron	after 1895	12			
Unknown Location within Burial						
Nails	Wire common, iron	after 1895	72			
	Wire finishing, iron	after 1895	21			
	Wire short, iron	after 1895	24			
Screws	1-inch, iron	after 1846	6			
	2-inch, iron	after 1846	1			
Estimated Date Range for Interments Based on Mortuary Hardware			1910–1930s	1895–1930s	1895–1930s	1895–1930s (?)

OSTEOLOGICAL ANALYSIS OF HUMAN REMAINS

5

Catrina Banks Whitley

This chapter describes the methods and results of an osteological analysis of the remains of one child and three adults excavated from the Roberts Cemetery. Brief osteological summaries were presented in the individual burial descriptions in Chapter 3, but this chapter provides a more detailed comparative look at the osteological interpretations. Because the number of exhumed burials is so small, it is not a representative population sample for the Troy community or the central Texas area, so local health and mortality risks cannot reasonably be interpreted. However, comparisons with selected state and regional historic mortality data and other historic cemetery populations are made. General observations on individual health status provide a limited historic context for understanding the late-nineteenth- and early-twentieth-century burials at Roberts Cemetery.

METHODS

Data on burial excavation followed the protocols set by Tíne and Boyd (2003). The osteological analysis of the Roberts Cemetery skeletal remains followed the recommendations in Buikstra and Ubelaker (1994). Forms designed by Prewitt and Associates, Inc., were used to collect data on the remains, and the collected data are presented in Appendix B. Osteological information collected includes the condition of each skeletal element, sex, age estimations, ancestry, cranial and postcranial metrics, pathology, taphonomy, dental pathology, dental nonmetrics, and cranial and postcranial nonmetric traits. Dental metrics were not taken. Photographs of skeletal elements exhibiting pathology or anomalies were taken in the laboratory.

Sex and Age

Sex estimation was based on os coxae and cranial morphology. The characteristics followed recommendations identified in Buikstra and Ubelaker (1994) and Bass (2005). When possible, os coxae and cranial morphology was used, with priority on the os coxae. In cases in which these elements were not available or observations were limited, humeral and femoral head diameters and biepicondylar widths were used to support the analyses (Stewart 1979, as reported in Bass 2005).

Age estimations included analysis of the pubic symphysis and/or the auricular surface. Damage precluded the use of pubic symphyseal changes in most instances; age estimates relied more heavily on the auricular surface. Pubic symphyseal scoring followed Suchey-Brooks phases (Brooks and Suchey 1990; Katz and Suchey 1986) and Todd (Todd 1921). Auricular surface morphology scoring followed the standards defined in Buikstra and Ubelaker (1994).

For the infant, dental development and skeletal element length was used to estimate age-at-death. Crown, root, and apex formation was scored for each tooth and compared to dental development charts (Ubelaker 1989). Pars basilaris sagittal length, maximum width, and maximum length were measured and compared to postnatal dry bone charts (Scheuer and MacLaughlin-Black 1994). Clavicle, humeral, and femoral lengths were also compared to dry bone postnatal charts to assess age. Documented remains from the Spitafields, St. Bride's, St. Barnabas, and Lisbon collections provided data for age-at-death postnatal measurements of the clavicle (Black and Scheuer 1996; Schaefer,

Black, and Scheuer 2009:144). Humeral and femoral age was based on data from radiographic postnatal measurements (Maresh 1970; Schaefer, Black, and Scheuer 2009:174).

Biological Affinity

Biological affinity was assessed from traits listed in Rhine (1990). Observation of many of the markers to determine biological affinity was precluded by the damage to the cranial elements. Nonmetric evaluation of the mid-face was not possible on all individuals, including prognathism, eye orbit shape, nasal spine, nasal sill, zygomatics presence of wormian bones, shape of dental arcade, and nasal root. Of the markers that could be observed, such as carabelli's cusps, sutures, oval window, inion hook, and bilobate chin, all indicate each male was Caucasian. For Burial 3, the intercondylar notch of the distal femur was also measured to assist in the determination of biological affinity. The distal intertrochanteric length measured 30.13 mm on the left and 30.08 mm on the right. These measurements classify Burial 3 as Caucasoid since the measurement is equal to or below 32 mm (Baker, Gill, and Kieffer 1990).

Pathology

Pathology and entheseal changes were recorded for each burial. Overall presence for pathological changes was scored on a diagnosis form, and descriptions of each incidence were written in narrative form. Osteophyte formation was noted by location, and measurements were taken to define the extent of the osteophytes formation. Other changes consistent with degenerative joint disease, such as eburnation and surface porosity, were not present on any of the individuals. Schmorl's nodes were scored according to presence/absence and location on the vertebral body. All pathological changes were analyzed using at least a 10x stereomicroscope. Due to erosion of the cortex on the infants' skeletal elements, each bone was inspected with the microscope to ensure differentiation between cortical bone erosion and pathology.

Entheseal Changes

Entheseal changes were scored according to the system established by Hawkey and Merbs (1995). No forms were used to record entheseal changes, but narrative descriptions were included on the pathology form. A complete assessment of entheseal changes by muscle insertion was not recorded since in-depth comparisons would not be performed. Only general robusticity observations were made, except for the flexor ligament attachments on the hand phalanges. The following scores were assigned for each MSM type: Level 0 = no expression; Level 1 = faint expression; Level 2 = moderate expression; and Level 3 = strong expression.

Dentition

Dental data were collected according to standards established in Buikstra and Ubelaker (1994). Visual recording forms for permanent dentition included observation of wear, caries, calculus deposits, and tooth presence. Metrics were not collected. Dental observation forms included data collection on presence, alveolar resorption, abscess type and size, calculus formation, hypoplasia type and metric location, caries location and size, dental modifications, and any other anomalies. Dental development of deciduous and permanent dentition crown, root, and apex were scored according to the Moorees, Fanning, and Hunt codes (Moorees et al. 1963a, 1963b; reported in Buikstra and Ubelaker 1994).

Stature

Stature estimates were calculated from regression formulae in Trotter and Gleser (1958). The regression equation with the lowest standard error for which measurements were available was used to estimate stature. Trotter and Gleser (1958:119–120) indicate that lower limb bones correlate with stature more highly than upper limb bones, and upper limb bones should only be used in the absence of lower limb bone measurements. When deciding between equations, Trotter and Gleser (1958:119–120) recommend preference be given to the equation with the lowest standard error as it is more accurate in estimating living stature. Thus, for white males, the preferred stature estimate uses the femur and fibulae, and the least accurate estimate uses the ulna (Trotter and Gleser, 1958:120; Table 12).

DISCUSSION OF THE ROBERTS CEMETERY BURIALS

The four individuals excavated from Roberts Cemetery are three adult males and one child. The osteological interpretations for these individuals are summarized as follows:

Burial 1	30- to 40-year-old male, 5 ft 6 inches to 5 ft 9 inches (172.17±3.62 cm)
Burial 2	45- to 60-year-old male, 5 ft 9 inches to 6 ft 1 inch (178.72±4.37 cm)
Burial 3	20- to 27-year-old male, 5 ft 2 inches to 5 ft 5 inches (169.1±3.74 cm)
Burial 4	infant, unknown sex, ca. 1.5 years old

Due to the small number of individuals excavated at Roberts Cemetery, demographic profiles for the Troy community cannot be calculated. The sample is also too small to assess meaningful age-at-death reconstructions or discuss childhood mortality rates for Bell County, Texas. However, a few observations can be made regarding the health status of each of these individuals when the Roberts Cemetery data are compared with mortality schedules and data from other historic cemeteries.

Data collected on teeth provide evidence of diet, oral hygiene, access to dental care, stress in-vivo and during childhood, including diseases and nutritional deficiencies. Data regarding health and nutrition by the analysis of teeth are more robust since teeth are often the only part of the body that survives. Evidence of health, diet, and disease is evaluated by the presence of dental caries, hypoplasia, extent of dental calculus, periodontitis, attrition, dental abscess, and wear.

Dental Caries

The individuals from Roberts Cemetery exhibited few dental caries. Dental caries is a disease in which food particles and plaque bacteria work together to demineralize the tooth, resulting in opaque spots to large cavities (Roberts and Manchester 1995). Caries rates increase as a population has greater access to refined sugars, sucrose, fine flours, and carbohydrates. Only two of the adults at Roberts Cemetery had caries. Burial 1 had one dental carie on the upper right first molar and Burial 3 had two caries, one on the upper right third molar and lower left premolar four. Only 3 of the 68 observable teeth had caries, which is much lower than the expected frequency, since the Burial 1 male was between 30 and 40 years of age and the Burial 2 male was 45 to 60 years.

Dental Calculus

Dental calculus develops on teeth closest to the salivary glands (Roberts and Manchester 1995:55). It is a matrix that adheres to the teeth and is comprised of organisms, proteins and saliva. Dental calculus is useful in that microscopic particles of food, such as starch granules, and DNA from the individual can be embedded in the matrix (Hardy, et al. 2009). Recent research being conducted by Warinner (2012) reveals that pathogenic bacteria from the nasal passages and bacteria from the upper respiratory tract and gut systems also are detectable in calculus. Dental calculus increases as a softer diet, due to refined flours or corn, poor oral hygiene, or increased carbohydrate consumption allows plaque to accumulate (Cox and Mays 2002:230; Hillson 1996:260). Prevention requires removal with a toothbrush and dental floss (Sivapathasundharan 2009:379).

Deposits of calculus are moderate to severe on all three adults from Roberts Cemetery. All teeth from Burial 3 had dental calculus deposits. Several of the teeth are encased in calculus, preventing observation of caries or hypoplasia. The oldest of the males, Burial 2, had the least dental calculus, though two dental caries were present.

Though there were only 14 teeth present for evaluation, the mild calculus deposits and small number of caries suggests he had access to dental care or that he ate a diet with fewer refined flours and low in sugars. Hillson (1996:278) notes that a diet high in starchy foods and sugars can lead to an increase in cavities, while a diet of starchy foods with lower sugar consumption can result in fewer cavities. Foods commonly consumed in nineteenth-century Texas generally consisted of bacon/salt pork, corn pancakes or cornbread, sweet potatoes, coffee, and molasses (Fehrenbach 2000:299), and

the accumulation of calculus in these individuals is consistent with this starchy diet.

Dental Hypoplasia

Dental hypoplasia are indicators of stress, and the defects occur during tooth development, providing a chronological record of stress episodes. These defects are areas of decreased enamel thickness and are evident as pits, furrows, or exaggerated lines (Lewis 2007:105). Hypoplasia can occur on deciduous dentition as well as adult dentition. Deciduous hypoplasia indicate stress during fetal growth, particularly corresponding with a deficient maternal diet. Hypoplasia on permanent teeth develop between birth and 7 years of age, peaking at 2–4 years of age (Lewis 2007:106). Though the exact causes of the defects are unknown, they can be broadly separated into two categories: malnutrition and illness (Roberts and Manchester 1995:58). Cases of malnutrition do not necessarily indicate that calorie intake was deficient; they could also result from diets lacking certain vitamins (e.g., lack of B12, D, and niacin may be associated with anemia, cribra orbitalia, or pellagra) or dysentery/bowel diseases preventing absorption. Most of the defects develop between 2 and 4 years of age and may be related to complications as children are being weaned, losing the protective immunity provided by the mother's milk. During weaning, children are exposed to changes in the quality of food and are often introduced to contaminated water supplies. Illness-associated stress include high fevers, potentially from ear infections, measles, cholera, typhoid, malaria, or other childhood diseases. The presence of hypoplasia in adults reflects the individual's ability to survive these childhood health insults and correlates with a decreased life expectancy (Lewis 2007:106). Burials 2 and 3 had one to two teeth with a hypoplasia defect. Burial 3 had two bands present on the lower left canine. Based on Reid and Dean (2006) estimates, location of the hypoplasia in Burials 2 and 3 correlate with them being between 2 to 3.5 years of age at development. Thus, the location of the hypoplasia indicates stress consistent with weaning and exposure to changes in food. More hypoplasia may have been present, but the encasement of several teeth with calculus prevented observation. Burial 1, however, had 10 teeth with one or more hypoplasia. All canines were affected and other bands were present on the molars (see Appendix B). The location of the first hypoplasia on the canines occurred between 1 and 2.5 years of age. The second hypoplasia is consistent with 3 to 4 years of age. Of the molars, the hypoplasia in the upper left M1 corresponds with the canines, indicating the lines are probably caused by the same stressors. However, the hypoplasia on the upper left M2 and upper right M2 both indicate a second period of stress between 4.5 and 6 years of age. Hypoplasia on mandibular teeth resulted in stress at ages congruent with the maxillary hypoplasia.

Degenerative Joint Disease

Due to the chronic nature of degenerative joint disease, it is one of the more recognizable changes in skeletal remains. Degenerative joint disease refers to chronic changes of joint cartilage that results in the destruction, formation, or both of bone in a clearly defined distribution pattern (Roberts and Manchester 1995:100), all of which are classified as rheumatic diseases (Schumacher 1988). Degenerative joint diseases are segmented into four classifications: neuromechanical, inflammatory, immune, and metabolic (Roberts and Manchester 1995:101). Neuromechanical includes primary and secondary stages of osteoarthritis and is a noninflammatory disease that affects synovial joints. Increasing age, repetitive activities, lifestyle, mechanical loading, obesity, and environment (urban versus rural populations) can all affect the presence of these neuromechanical joint diseases (Larsen 1997; Roberts and Manchester 1995:106;). Compared to mechanical insults, inflammatory, immune, and metabolic forms of joint disease are rarely seen in the archeological record. Inflammatory joint disease includes septic arthritis, while rheumatoid arthritis, anklyosing spondylitis, and psoriatic arthritis—which sometimes may be categorized as inflammatory—are typically categorized as immune joint disease. Gouty arthritis is listed as a metabolic joint disease.

Archeological reports typically focus on findings of neuromechanical degenerative joint disease, osteoarthritis, as it is one of the most commonly occurring joint diseases. Osteophytosis, or bone spurs, are outgrowths of bone tissue that form around these damaged joints. Only one individual from Roberts

Cemetery exhibited notable osteoarthritic changes. In Burial 1, osteophytes at the right shoulder, lower and middle thoracic vertebrae, odontoid process, and Schmorl's nodes in the thoracic vertebrae are consistent with an individual with an occupation or lifestyle requiring heavy lifting or heavy and continuous work activity, such as farming. Osteophytes are present on the right humeral head and correspond with osteophytes on the glenoid fossa of the right scapula. When coupled with the more pronounced musculoskeletal stress markers, or entheses, in the right arm, these changes indicate that this individual was probably right-handed and performed strenuous tasks or heavy lifting with this arm. Additional evidence of heavy labor included osteophytes on the sulcus of the left innominate, an osteochondrosis dessicans of the right acetabulum of the sacrum, and osteophytes on the circumference of the inferior body of Lumbar 3 and superior body of Lumbar 4. Disc pressure is greatest on the third lumbar disk during bending and lifting. While holding a 20-pound weight, the load being placed on the third lumbar vertebrae increases by 100 percent over standing, and the pressure being placed on the disk increases as the disk degenerates (Jensen 1980:770). Extreme flexion and bending, particularly when lifting heavy loads, can result in Schmorl's nodes, which are herniations of the nucleus pulposa of the vertebral disc. Schmorl's nodes were present on the inferior vertebral body of Thoracic 7, inferior and superior bodies of Thoracic 8, and the superior body of Thoracic 9. The presence of osteophytosis in the lumbar vertebrae and Schmorl's nodes, particularly since this individual was a young to middle-age adult, indicates heavy and continuous working activity, and the extent and severity of the changes at such a young age are striking.

Degenerative joint disease changes in Burial 2 are consistent with an immune form of joint disease, specifically spondyloarthropy. Spondyloarthropies are a group of rheumatic diseases that cause arthritis, mainly affecting the spine. They include ankylosing spondylitis, reactive arthritis, psoriatic arthritis, and inflammatory bowel disease (Kataria and Brent 2004). Skeletal changes in Burial 2 include extensive whittling of the shaft of the first right distal phalanx with distal tuft resorption and osteophytes on the proximal end. The left first distal phalanx also exhibits minor shaft whittling and distal tuft resorption. A large osteophyte on the lateral proximal edge is present. The second and third medial phalanges in the right foot have whittling of the distal end, exhibiting a slight pencil-in-cup morphology. Tuft divots are absent, and there are no arthritic changes or ossification of the ligaments in the spine. Osteochondritis dessicans is present on the right clavicle on the sternal facet. Both right and left humeri are circumferentially small, have little entheseal changes, and exhibit thinning consistent with atrophy. These changes are consistent with spondyloarthropathy, and the involvement with only the distal interphalangeal joints and terminal phalanges is suggestive of psoriatic arthritis (Ortner 2003:580; Rothschild and Behnam 2005:289; Schumacher 1988:151–152). Of the spondyloarthropies, psoriatic arthritis is associated with the skin disease psoriasis, and arthritis may be mild, affecting only a few joints, especially those at the end of the toes or fingers, while ankylosing spondylitis targets the spine. Approximately 95 percent of the cases involve peripheral joints, and the majority exhibit asymmetric involvement (Rothschild and Behnam 2005:289; Schumacher 1988:151). Rothschild and Behnam (2005) studied digital tuft and shaft changes related to leprosy and spondyloarthropies and also included changes to the tufts consistent with diabetes, syphilis, and scleroderma. Spondyloarthropathy was associated with both tuft and shaft whittling, tuft resorption, stress fractures, and periostitis. In psoriatic arthritis, inflammation can occur at the periosteum, insertion areas of the entheses along tendons, and inflammation of other joints (Schumacher 1988:151–152). Considering leprosy was not common in the United States in the late 1800s to early 1900s, differential diagnosis is closest to psoriatic arthritis.

Additionally, inflammation of the sternoclavicular joint is associated with polyarthritis or spondyloarthritis, which clinically affects 15 percent of patients with psoriatic arthritis (Taccari et al. 1992). Joint pain is associated with rheumatic diseases and is one of the cardinal symptoms (Hassett and Barnsley 2001). Burial 2 had changes in the proximal upper limb, the humerus, consistent with atrophy. Pain in the lower neck, shoulder, sternoclavicular joint, and acromioclavicular joint affect the use of the upper limb (Hassett and Barnsley 2001). The

sternoclavicular joint is commonly affected in rheumatological pathologies. Movement of the upper arm requires movement in the sternoclavicular joint. Movement of the scapula and shoulder motion are associated with movement at the sternoclavicular joint, and inflammation or pain associated with this joint will limit shoulder motion (Plausinis et al. 2006:170). Thus raising the arm above the shoulder, anterior and posterior movement of the shoulder or upper arms, and circular movement of the shoulder will result in movement at the sternoclavicular joint. Hassett and Barnsley (2001) reported that pain in the sternoclavicular joint was present in the area of the sternocleidomastoid and trapezius muscles in the neck area and could radiate down the ipsilateral arm to the elbow. Thus, the atrophic changes in the upper arms may be associated with swelling of the sternoclavicular joint, which is common in psoriatic arthritis; however, it must be noted that associated swelling in the acromioclavicular joint or shoulder would result in similar disuse of the upper arm. Osteochondritis dessicans was present on the right clavicle at the sternal facet. Osteochondritis dessicans commonly occurs from trauma to the location, particularly when the location is subjected to "repeated, low-grade chronic or microtrauma." (Aufderheide and Rodriguez-Martin 1998:81). The presence of the osteochondritis dessicans, though not typically found at this location, is more probably associated with trauma and not related to degenerative joint disease and could be an alternative explanation for the arm atrophy.

COMPARATIVE ANALYSIS

Comparisons with other cemetery populations and mortality data can provide insights into the lives of the four individuals excavated from Roberts Cemetery. These comparisons will not provide interpretations on the health and demography of the population of Troy or Bell County in the late nineteenth or early twentieth centuries, but they will indicate if the diseases, age, and life stress factors correlate with expectations based on regional data. The majority of the comparative populations discussed here are pioneer families. Generally, the cemeteries chosen for comparison are small family or community cemeteries in rural areas that date to the late 1800s.

- Sinclair Cemetery, 41DT105 (1850–1880): A small family cemetery in Delta County, Texas. The residents belonged to a community called Granny's Neck, which was 3 miles south of Cooper, the county seat. The burial population consists of white farmers (Lebo 1988; Winchell et al. 1995).
- Tucker Cemetery, 41DT104 (1880–1942): A small family cemetery near Sinclair Cemetery in Delta County (Lebo 1988; Winchell et al. 1995).
- Reynolds Cemetery (1832–1900): A small rural cemetery in Kanawha County, West Virginia. The founding Reynolds family were interred here—and potentially other locals after the Reynolds family moved (Bybee 2002).
- Morgan Chapel (1891–1937): A historic cemetery in Bastrop County, Texas (Taylor et al. 1986).
- Brunson-Sisson Cemetery (1836–1892): A small rural cemetery of pioneers and farmers near Joliet, Illinois. Three related Caucasian families were buried here (Cobb 1999).
- Pioneer Cemetery (1880–1921): These burials represent a small portion of the Pioneer Cemetery in Dallas, Texas. The relocated individuals are Caucasian (Cooper et al. 2000).
- Texas State Cemetery (1844–1951): A relocation project due to renovation activities moved several White Confederate soldiers. These burials represent slightly later interments, most in the early 1900s (Dockall, Boyd et al. 1996).
- Cross Homestead Cemetery (1820–1849): Caucasian tenant farmers are buried in this cemetery in Springfield, Illinois (Craig and Larsen 1993).
- Choke Canyon Cemeteries (1860–1930): Combined data from five small Caucasian cemeteries in south-central Texas (Fox 1984).
- Voegtly Cemetery (1883–1861): A cemetery in the churchyard next to the Voegtly Church in Pittsburgh, Pennsylvania. The first interments were Swiss-German settlers (Ubelaker and Jones 2003).

The *Texas Almanac* documents a notable increase in the population of Bell County in the three decades from 1880 to 1910 (Texas Almanac 2010), with Texas legislators encouraging an influx of settlers from other parts of the country and foreign immigrants (Rozek 2003). Since the Roberts Cemetery burials may date to this period, it is possible that these adult males were immigrants rather than native Texans. The comparative sample described above contains individuals from Texas and other parts of the United States, including some European immigrants. In addition to the historic cemetery evidence, general health and mortality data for the United States taken from McDowell et al. (2008) are used for comparison.

Stature

Stature of the three adult males from Roberts Cemetery can be compared to stature estimates from other cemetery excavations and the modern U.S. population (Table 5.1). Unfortunately, the stature estimates recorded in the historic cemetery literature do not include the minimum and maximum statures. The only data provided are the average statures for each cemetery, many with a sample of only two to six individuals. Stature estimates for the adult males (Burials 1, 2, and 3) range from 169.1 to 178.72 cm (5 ft 6.5 inches to 5 ft 10.5 inches). When compared to stature estimates from other historic cemeteries and the modern U.S. population, the individual in Burial 2 is taller than average, and the individuals in Burials 1 and 3 are shorter than average (see Table 5.1). The average stature for the three Roberts Cemetery adults is 173.33 cm, which is only slightly shorter than averages for the other small samples.

A comparison of other osteological traits is informative (Table 5.2). Voegtly Cemetery in Pennsylvania is the best comparison for average rates of disease, caries, trauma, and occupational changes. This excavated skeletal population is large and better representative of a community. However, the rates of degenerative disease, Schmorl's nodes, and trauma may be lower since the individuals in Texas were pioneers and farmers that probably lived a more rugged life. Rates of degenerative disease and Schmorl's nodes are high in the Texas State Cemetery population, but that is not out of the ordinary, since most of the individuals were soldiers. The presence of Schmorl's nodes in Roberts Cemetery Burial 1 is not unexpected since other evidence of an active lifestyle is present. He was right-handed—or his occupation required greater use of the right arm—and degenerative changes in the right shoulder show a preference for using this arm. Additional degenerative evidence in the vertebrae also support an active lifestyle. Most of the hypoplasia reported in Table 5.2 are associated with this individual. He experienced several episodes of childhood stress, probably in the form of unexplained high fevers, nutritional deficiencies, digestive disorders, poor sanitary conditions, or infectious diseases such as cholera, typhoid, or pneumonia.

Dental caries rates are low for the individuals in Roberts Cemetery. Hillson (1996) notes that we should expect historic populations to have 25 percent caries rates due to access to sugar, fructose, and lactose. Roberts Cemetery is not necessarily representative of the Troy community and is a small sample, but it is interesting to note the low caries rate when reported as number of caries per teeth observed (see Table 5.2). In comparison to Voegtly (the cemetery with the largest sample of observable teeth), the caries rate for Roberts cemetery is only 4.4 percent (of 68 teeth observed) while Voegtly has a caries rate at 28.5 percent (of 2,738 teeth observed). The low rate could be related to differ-

Table 5.1. Comparison of stature estimates

Burial Sample	Male		Female	
	Stature (cm)	No. of Burials	Stature (cm)	No. of Burials
Roberts Cemetery, Burial 1	172.17	1	–	–
Roberts Cemetery, Burial 2	178.72	1	–	–
Roberts Cemetery, Burial 3	169.10	1	–	–
Cross Homestead Cemetery	174.80	5	163.30	6
Brunson-Sisson Cemetery	175.80	4	169.00	1
Choke Canyon Reservoir	174.10	2	159.90	8
Texas State Cemetery	174.67	47	160.90	5
Modern U.S. Data	174.00	?	161.00	?

Table 5.2. Comparison of selected osteological traits

Cemetery	Hypoplasia*		Dental Caries		Degenerative disease		Degenerative Disease: Vertebral**		Schmorl's Nodes**		Trauma**	
	Percent	No. of Burials	Percent	No. of Burials	Percent	No. of Burials	Percent	No. of Burials	Percent	No. of Burials	Percent	No. of Burials
Roberts Cemetery	17.6	68 teeth	4.4	68 teeth	33.3	3	33.3	3	33.3	3	66.7	3
Sinclair Cemetery	56.0	9	70.0	10	20.0	10	–	–	–	–	30.0	10
Tucker Cemetery	–	–	66.6	6	66.6	3	–	–	–	–	25.0	4
Choke Canyon Cemeteries	–	–	16.7	12	77.0	26	–	–	–	–	77.0	26
Morgan Chapel Cemetery	–	–	50.0	4	–	–	–	–	–	–	50.0	2
Brunson-Sisson Cemetery (Illinois)	25.0	8	–	–	90.0	10	66.7	6	80.0	5	–	–
Pioneer Cemetery	80.0	5	–	–	100.0	3	100.0	3	100.0	3	–	–
Texas State Cemetery	15.7	83	–	–	94.6	56	50.0	48	37.5	48	–	–
Cross Homestead (Illinois)	64.0	?	–	–	27.3	11	80.0	5	0.0	3	–	–
Voegtly Cemetery (Pennsylvania)	18.2	1,836 teeth	28.5	2,738 teeth	–	–	7.6	131	2.3	131	–	–

Notes: All cemeteries are in Texas unless otherwise stated.

For Roberts Cemetery and Voegtly Cemeteries, hypoplasia and caries rates are based on the number of observable teeth with one or more caries/hypoplasia. For all the other cemeteries, the caries rates are based on the number of individuals with 1 or more carie.

* Calculated for adults only

** Reported for males only

ences in access to sugary foods or the small sample size for Roberts Cemetery. If Roberts rates are reported per individual, the caries rate would be 66.6 percent (2 of 3). That rate is comparable to those reported for the smaller Texas cemeteries.

Population Data and Mortality Schedules

Prior to antibiotics, reliable clean water supplies, and vaccines, life expectancy was significantly lower, than today and childhood mortality was high. In Texas in 1999, the death rate was 649.4 per 100,000 for children under 1 year; but it dropped to 35.1 per 100,000 for children 1–4 years of age (Figure 5.1; Centers for Disease Control and Prevention 2013).[15] In comparison, the 1880 death rates for Texas, gathered from mortality statistics per state from the 1880 U.S. census, show a different pattern (Billings 1885). Children under 1 year old did have the highest death rate, but there also was a second spike in death between ages 15 and 35 (Figure 5.2). As can be seen by comparing Figures 5.1 and 5.2, the death rate charts depict these different trends in 1880 and 1999 (Billings 1885; Centers for Disease Control and Prevention 2013).

The ages at death of the four individuals at the Roberts Cemetery are consistent with expected ages at death for the time period. In Texas in 1880, 26.7 percent of all reported deaths were infants under one and 19.8 percent were under 5 (based on data reconstructed from Billings 1885). The individual in Burial 2 lived a long life for the period, living to an "older" age between 45 and 60 years. Age-at-death of the individuals in Burial 1 (30–40 years) and Burial 3 (20–27 years) are also consistent with higher rates of death in Texas documented in the 1880 census (see Figure 5.2).[16]

Exposure to unsanitary environments, nutritional stress from a limited diet with few vegetables available for much of the year, and endemic and epidemic diseases are probably the greatest causes of death. In infants, the summer months were a dangerous time as diarrheal diseases from drought, poor quality of weaning foods, and dilution of foods with contaminated water which young children cannot tolerate, resulted in higher death rates. Saunders et al. (1995:81) report that 39 percent of infant deaths occurred between June and August. In Massachusetts in 1840, most of the children died before reaching 5 years of age, with more than half of those from bowel trouble. In 1850, children under 5 years old accounted for 45–50 percent of all deaths (Larsen et al. 1995).

An examination of the 1880 mortality schedules for Bell County and Troy, Texas, give a good indication of the most common causes of death (United States Census 1880). Most serious environmental problems faced by infants and children took the form of acute infection rather than chronic undernutrition or chronic infectious diseases (Saunders et al. 1995). The 1880 mortality census data compiled by Billings (1885) support the conclusions of Saunders et al. (1995), since most of the cases of reported deaths are from contagious diseases resulting in high fevers or hives, including typhoid, consumption (tuberculosis), pneumonia, and bronchitis (Tables 5.3 and 5.4). Diarrhea, croup, and teething were limited to children under 5 years of age-at-death. Teething was only attributed to children between 1 and 2 years of age. This is probably due to high fevers that can occur during the teething process, along with a misdiagnosis and assumption that the tooth development caused the high fevers rather than recognizing underlying illnesses that result in high fevers. Among the causes of death, dysentery ranks fourth for the State of Texas (see Table 5.4). However, this information does not include age of the individuals at death, making it difficult to ascertain whether dysentery disproportionally affected children.

A detailed examination of the "Troy, Texas" and "Bell County Unknown District, Texas" data for 1880 indicates a wide range of causes of death (Table 5.5; United States Census 1880). In the "Bell County Unknown District," the highest cause of death was stillborn children. This indicates genetic abnormalities or stress in the mother during fetal growth. Childhood diseases were prevalent as a cause of death, such as diarrhea—possibly caused by poor sanitation, hives,

[15] The 2006 data show the same trend at 629.5 per 100,000 children under 1 year and 29.3 per 100,000 children 1–4 years of age (Centers for Disease Control and Prevention 2013).

[16] The 1880 census was chosen because it is the latest known mortality schedule and is most likely to represent the period in which these individuals lived. Census records for 1890 are not available. Also, based on the known burial dates in the cemetery, the earliest dates are in the 1880s.

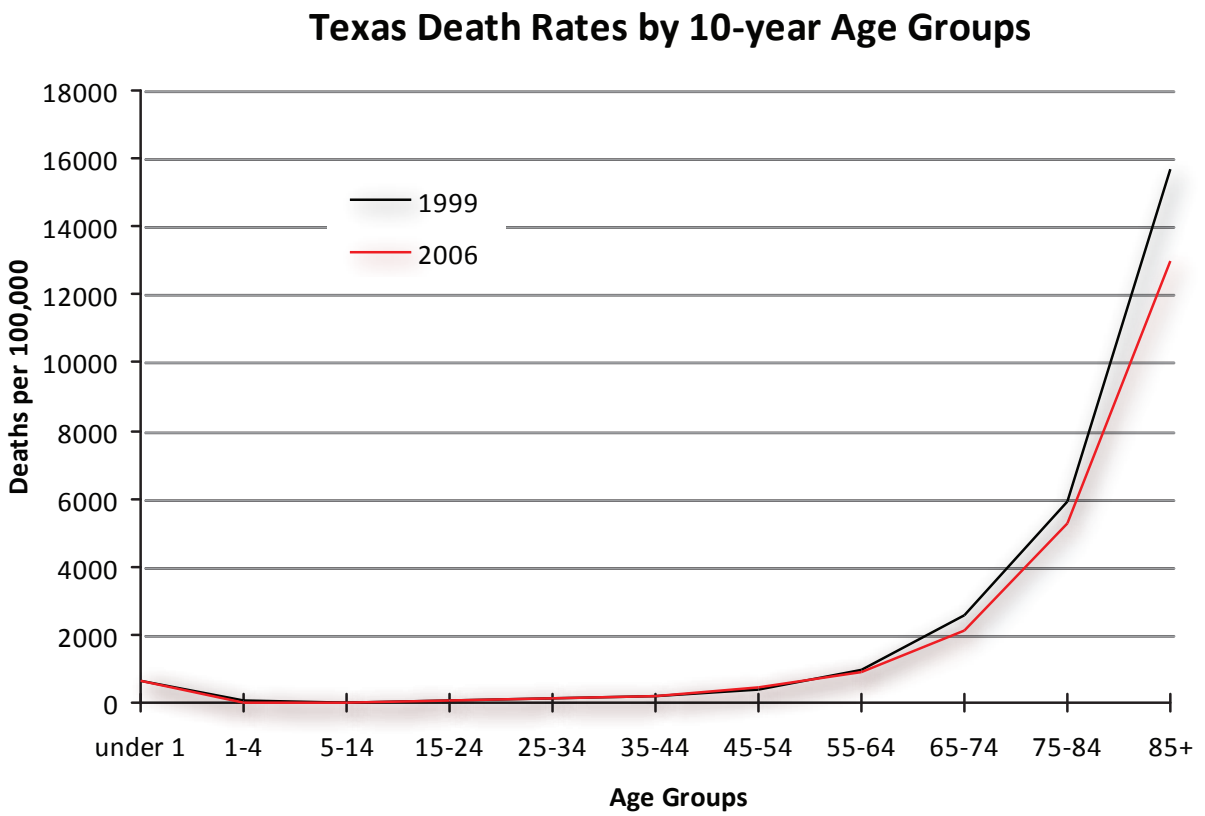


Figure 5.1. Texas death rates per 100,000 in 1999 and 2006. Data are from the Centers for Disease Control and Prevention (2013).

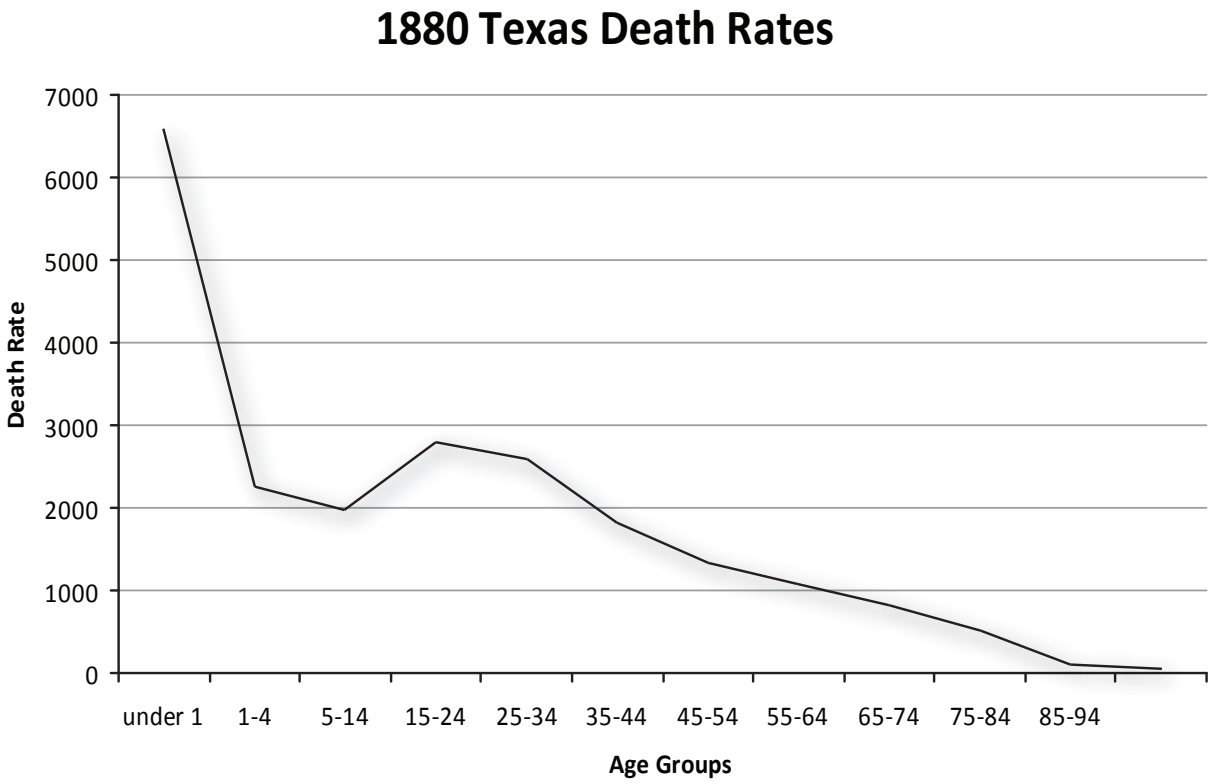


Figure 5.2. Texas death rates in 1880. Compiled from 1880 Mortality Schedule data in Billings (1885).

Table 5.3. Causes of death in Troy, Texas compared to Bell County and all of Texas, 1880, compiled from 1880 mortality schedule data (Billings 1885)

	Troy, Texas		Bell County, Texas		Texas	
Cause of Death	No.	Percent	No.	Percent	No.	Percent
Unknown	6	18.2	–	–	1,885	7.6
Cerebro Spinal Fever	3	9.1	–	–	–	–
Cholera Infantum	3	9.1	–	–	551	2.2
Malaria	3	9.1			1,489	6.0
Pneumonia	3	9.1	24	14.3	2,514	10.2
Dropsy	2	6.1	6	3.6	400	1.6
Inflammation of Bowels	2	6.1	–	–	–	–
Catarrhal Fever	1	3.0	–	–	–	–
Congestion of Bowels	1	3.0	2	1.2	–	–
Congestion of Brain	1	3.0	–	–	534	2.2
Consumption	1	3.0	11	6.5	1,602	6.5
Croup	1	3.0	7	4.2	641	2.6
Fever	1	3.0	–	–	–	
Inflammation of Brain	1	3.0	–	–	354	1.4
Internal Injuries	1	3.0	–	–	–	–
Palpitation of Heart	1	3.0	–	–	–	–
Perpural Fever	1	3.0	–	–	–	–
Apoplexy	1	3.0	1	0.6	–	–
Total	33	100.0	168	30.4	2,4735	40.3

Notes:

Cerebro spinal fever = meningitis

Dropsy = collection of fluid

Congestion of brain = brain swelling

Apoplexy = cerebral hemorrhage or stroke

cholera, pneumonia, typhoid, and "teething." For "Troy, Texas," 16 of the reported 33 deaths were children under 5 years old, representing 48.5 percent of the population. For the "Bell County Unknown District," 65 of the 168 reported deaths were children under 5 years old, representing 38.7 percent of the population.

When the four individuals excavated from Roberts Cemetery are compared with other historic cemetery and U.S. populations, they correspond with the expectations for age-at-death, exposure to infections and nonchronic illnesses, and stature. The death of the infant, Burial 4, is not unusual since up to 50 percent of the population deaths in 1880 occurred in children under 5 years of age. For the adult males in Burials, 1, 2, and 3, each represents a different age group. Hypoplasia in the Burial 1 individual (age 30–40) indicates that this person suffered from several bouts of childhood stress. When compared to causes of childhood deaths,

Table 5.4. Top 20 causes of death in Texas, 1880 compiled from 1880 mortality schedule data (Billings 1885)

Cause of Death	No.	Percent
Pneumonia	2,514	10.2
Unknown	1,885	7.6
Consumption	1,602	6.5
Dysentery	1,586	6.4
Malaria	1,489	6.0
Typhoid	1,081	4.4
Still-born	839	3.4
Enteritis	795	3.2
Croup	641	2.6
Whooping-Cough	584	2.4
Cholera Infantum	551	2.2
Brain, Disease of	534	2.2
Small-pox	517	2.1
Convulsions	488	2.0
Dropsy	400	1.6
Brain, Inflammation	354	1.4
Child-birth	327	1.3
Diarrhea	318	1.3
Premature Birth	265	1.1
Bronchitis	262	1.1
Measles	261	1.1
Total		69.9

Table 5.5. Causes of infant death in Troy and Bell County, Texas, 1880, compiled from the 1880 mortality schedules (Billings 1885)

	Troy, Texas		Bell County, Texas	
Cause of Death	Under 1 Year Old	1 to 5 Years Old	Under 1 Year Old	1 to 5 Years Old
Bold Hives	–	–	4	–
Bursitis	–	–	–	1
Cerebro-Spinal Fever	2	–	–	–
Cholera Infantum	2	1	2	1
Congestion of Bowels	1	–	1	–
Congestion of Brain	1	–	–	–
Consumption	–	–	–	2
Croup	–	1	4	1
Cyanosis	–	–	2	–
Debility	–	–	1	1
Diarrhea	–	–	–	5
Dropsy of Heart	1	–	–	2
Fever	–	–	–	–
Flux	–	–	–	1
Inflammation of Bowels	1	1	2	–
Internal Injuries	1	–	–	–
Lung Disease	–	–	1	
Malarial Fever	1	–	–	–
Meningitis	–	–	–	1
Paralysis	–	–	–	1
Perpural Fever	–	1	–	–
Premature Birth	–	–	2	–
Pneumonia	–	–	2	5
Poison	–	–	–	1
Spinal Disease	–	–	–	2
Stillborn	–		12	–
Teething	–	–	1	4
Typhoid Fever	–	1	–	3
Unknown	1	–	2	3
Total	11	5	32	33

it is highly possible he contracted one of the diseases mentioned above and survived or had several bouts of dysentery cause by poor sanitary conditions. This individual also had indications of working hard and could have been from a poor family. Cuff links and few muscle changes associated with Burial 2 (age 45–60) suggest a higher socioeconomic status. Psoriatic arthritis is rarely encountered in archeological populations and represents an important observation of a rare disease. The presence of psoriatic arthritis, along with possible partial atrophy of the upper arms and the "old age" of this individual, also suggests that he came from a higher socioeconomic status. Musculoskeletal stress markers in the skeletal remains also indicate that he did not perform strenuous labor. The Burial 3 male died in his twenties. Figure 5.2 shows a spike in age-at-deaths in the 20s to 30s for 1880, so a death at this age is not unexpected. Though the deaths of these four individuals are not necessarily representative of the Troy community at large and cannot provide interpretable demographic data, their ages-at-death do conform to the norm expected in late nineteenth- and early-twentieth-century rural Texas.

HISTORY OF THE ROBERTS CEMETERY PROPERTY AND ARCHIVAL SEARCH FOR UNMARKED GRAVES

6

Terri Myers and Douglas K. Boyd

The archival research effort for Roberts Cemetery, Bell County, Texas, was conducted by project historian Terri Myers[17]. The work had two primary goals. The first was to develop a history of Roberts Cemetery, including defining the chain of title and determining the cemetery's boundaries, how they changed over time, and why. This required the use of county deed records, marriage records, death certificates, census records, obituaries published in newspapers, and other primary sources. The second was to try to identify the people in the unmarked graves. This effort involved: (1) compiling a list of people who are or might have been buried in Roberts Cemetery using Bell County death certificates; and (2) comparing this list of people with online published inventories of graves in Roberts Cemetery and three nearby cemeteries. In this manner, it was possible to compile lists of people who were definitely or possibly buried in unmarked graves in Roberts Cemetery.

RESEARCH METHODOLOGY

The project historian conducted initial research to serve as the basis for more extensive investigation. She reviewed documents and old highway maps provided by the Texas Department of Transportation and Prewitt and Associates, Inc., and conducted online searches to learn more about the Roberts Cemetery, other cemeteries in the vicinity of Troy, about 1.4 miles south of the cemetery, and about the origins of Troy and the nearby towns of Belton and Temple. She examined Bell County census records from 1870 to 1920 to learn more about the F. H. Roberts family, for whom the cemetery is named. The inception of the cemetery is clearly linked with the Roberts family; it was carved out of one of the Roberts family farms around 1886. The Roberts' daughter Maggie appears to have been one of the two earliest burials in the cemetery, according to her 1886 headstone (Duke 2004). Census records show that many relatives and friends of the Roberts family are among the earliest graves. Census records also show that another Roberts child died at a young age, though his or her headstone has not been found in the cemetery and is not listed on the Roberts Cemetery inventory (Duke 2004; U.S. Bureau of the Census, 1900, 1910).

On her first trip to Belton, the project historian met with volunteers in the genealogical section of the public library. They described the collections and shared a book on Bell County history that discussed the origins of Troy (Bell County Historical Society 1988). It contained a 1907 photograph of F. H. Roberts' mercantile store in the town. The historian copied several items and perused the obituary files in the genealogy section. Data found in the library's vertical files, along with discussions with the volunteers, enabled the historian to compile a list of known cemeteries in the vicinity of Troy. The list became useful in later research using the county death certificates. The other cemeteries in the vicinity are:

- Shiloh Cemetery, possibly used as a "burying place" as early as 1860. Located 1.3 miles southeast of Roberts Cemetery.
- Old Troy Cemetery, established before 1882. Located 0.8 miles northwest of

[17] Myers served as the project historian. She operates Historic Preservation, Inc., in Austin, Texas.

Roberts Cemetery.

- Pleasant View Cemetery, established 1888. Located 2.8 miles south-southwest of Roberts Cemetery.
- 10.Llewellen Cemetery, established in the early- to mid-twentieth century. Located 2.5 miles east-southeast of Roberts Cemetery.
- Eddy Cemetery, established ca. 1930s. Located 4.8 miles northeast of Roberts Cemetery.

Three of these six cemeteries are located within 3 miles of Roberts Cemetery, and they contain burials dating before the turn of the century. These cemeteries became the focus of additional research, and the online burial inventories (based on transcribed headstones) were reviewed and compared with the Roberts Cemetery inventory. The sources for the online burial inventories for the cemeteries in this study are listed in Table 6.1.

Table 6.1. Burial inventory sources

Roberts Cemetery	Duke (2004); this burial inventory is reproduced in Appendix D
Shiloh Cemetery	Entrop (2013) Bell County Survey Committee (n.d.)
Pleasant View	Badovinac (2001) Bell County Survey Committee (n.d.)
Old Troy Cemetery	Todd and Todd (2006) Find a Grave (2013)

The second phase of research involved the use of primary records at the Bell County Clerk's Office in Belton and online census records (using *HeritageQuest* and *FamilySearch*) to research the Roberts family. Extensive research at the Bell County Clerk's Office in Belton focused on property deed records, marriage records, and death certificates. The deed records were examined to establish, as fully as possible, the chain of title for the Roberts Cemetery property and changes in the cemetery boundaries through time. Death certificates from 1903 through 1940 were reviewed to identify people who were buried in Roberts Cemetery or died in Troy and may have been buried in Roberts Cemetery. The deed records for cemetery plot sales from the cemetery trustees to local residents were also reviewed. Of six cemetery plot sales, only one person's name appears on the Roberts Cemetery burial inventory by Duke (2004). The fact that the other five names did not appear in the burial inventory is probably due to the recent nature of these transactions and means that the buyers are probably still alive. Finally, the researcher examined selected obituaries in Belton area newspapers for names not recorded in the inventory. The examination of county death certificates, and the comparisons of these data with published cemetery burial inventories, are discussed in more detail later in this chapter.

HISTORICAL BACKGROUND FOR ROBERTS CEMETERY

This brief narrative provides the historical context for the Roberts Cemetery, the Roberts family, and the community of Troy. It was compiled largely from secondary sources (Bell County Historical Commission 1988; Odintz 2012), along with information from the *Belton Journal-Reporter* (1899–1917), online census records, and death certificates and marriage records on file at the Bell County Clerk's Office. Several earlier cemeteries, such as Shiloh and Old Troy, served pioneer settlements in northern Bell County. A town called Troy, which later became Old Troy, was established before the Missouri, Kansas, and Texas Railroad came through Bell County in 1882. When the railroad bypassed Old Troy by several miles, a new town named Troy (initially called New Troy) grew up around the railroad station located about 7 miles north of Temple. With the advantage of a railroad terminal in its midst, New Troy supplanted the original town of that name, though the two towns coexisted for some time. Old Troy was soon abandoned, and New Troy was simply called Troy thereafter.

By 1884, the community of Troy (formerly New Troy) had 250 inhabitants, a post office, two churches, a gin and mill, three saloons, a hotel, and a cooperative association. By 1900, it boasted an estimated 500 residents and the largest school district in the county. Troy prospered as a shipping point for cotton, livestock, and the other agricultural products of the region. One of the town's merchant-farmers was Ferdinand "F. H." Roberts. Roberts likely established Roberts Cemetery on his land.

F. H. Roberts variously appears in census and deed records as Ferdinand, Ferd, or F. H. He claimed he was born in Texas, which meant that his parents were early residents who had come to the state from Tennessee by about 1852, when F. H. was born. One of the first events documenting F. H. Roberts' life in central Texas is his marriage to Ida Ellington (Bell County, Marriage Certificate F:478). F. H. was about 26 years old when he married 17-year-old Ida, whose parents were early residents of Bell County.

F. H. Roberts and his young wife, Ida, were counted in the 1880 census. They had been married one year and had no children (U.S. Bureau of the Census, Bell County 1880). The couple settled near present Troy, where F. H. already owned land. Their daughter Maggie was born in January the following year.

When the Missouri, Kansas, and Texas Railway passed through Bell County in 1882, F. H. Roberts granted the railroad company about 150 acres of right of way out of one of his farms. F. H. was listed as a farmer in the 1880, 1900, and 1910 census records (U.S. Bureau of the Census, Bell County 1880, 1900, 1910). However, Bell County historical records show that he also had a general merchandise store in Troy by 1907 (Bell County Historical Society 1988:213), and possibly earlier. Numerous deed records examined by the author show that F. H. Roberts was an industrious merchant and land developer, buying and selling many lots in Troy, Belton, and Temple.

During this time, Ida Roberts had seven children, only five of which survived by 1900. Maggie was probably their first child, born in 1881. Iva followed in 1883, and Maud in 1886. Garic or Godric was born about 1892; Ovia, about 1895; and Cecil, the baby, in 1899. In between the children who were enumerated in the 1900 census, Ida gave birth to another child who died soon afterward (U.S. Bureau of the Census, Bell County 1900 and 1910). His or her name is unknown.

Born in 1881, Maggie C. Roberts only lived for just over 5 years before she died in 1886. She was buried on the Roberts family property, and this was probably the first grave in the area that became known as the Roberts Cemetery. A Roberts family friend named Soloman O. Bowers also died and was buried there that same year. One of Maggie's siblings, who was born and died sometime before 1900 and whose name is unknown, may also be buried there. Few details are known about his/her life and death. While it is likely that this child was buried near Maggie, no headstone marks this grave (Duke 2004; see Appendix D).

That the new burial ground became known as Roberts Cemetery in the 1880s is not surprising. Aside from Maggie's burial being one of the first interments there, the Roberts family owned the cemetery land until 1887, when the land may have first been set aside as a cemetery. And the Roberts family continued to own the land surrounding it well into the twentieth century.

While Ida cared for the household, F. H. opened his mercantile store and continued to buy and sell land in Bell County. Roberts may have gone into business with his father-in-law, D. G. Ellington, who worked in a dry goods store. About 1909, however, Roberts began preparing to move his family to Johnson County. He started selling off farmland and town lots, settling his debts, and generally getting his business in order. In 1910, the family appeared in the census records for Venus, Johnson County. The Roberts household was F. H. and Ida and their children Iva (26), Godric (18), Ovia (15), and Cecil (10). Their 24-year-old daughter, Maud, had been married to a man named Davis, but in 1910 she was a widow living with her parents along with her two young children, Monroe (5) and Ferdinand (3). For the next half decade, Roberts occasionally appeared in the Bell County deed records to settle claims and clarify earlier agreements, but the family never returned to Troy.

The little cemetery where Soloman Bowers and Maggie Roberts (and possibly her sibling) lay, however, continued to grow. At first, most burials were family members or close neighbors. Family included Mary Ellington, either Ida's mother or sister-in-law, and G. D. Ellington, her brother. Husband and wife B. F. and Mary Sue Finnell were related to Ida by marriage; her brother lived with the family in 1900. Close neighbors were Soloman Bowers, Elizabeth Bowers, Ira Watson, Cleo Maegden, and Dr. D. Claywell (Duke 2004; see Appendix D). Although other cemeteries like Llewellen, Old Troy, Shiloh, Pleasant View, and Eddy also served the same region, Roberts Cemetery became known as *the* Troy Cemetery, and it is identified as such in current Bell County Tax Appraisal District records.

The inventory for Roberts Cemetery lists 633 graves, but death dates are available for only 556 of the burials (Duke 2004; see Appendix D). The death dates for these burials are plotted by decade in Figure 6.1, and the data show the intensity of use through time. At first glance, it appears that there were very few burials prior to 1900, and that the number increased suddenly after the turn of the century. The number of burials per decade generally increased through time, with notable exceptions of three decades when the number of burials decreased (i.e., the 1950s, 1970s, 1980s). The apparent decrease in the number of burials after 2000 is skewed by the fact that the inventory only represents the first four years (from 2000 to 2004) rather than a full decade.

While the burial graph would suggest limited use of Roberts Cemetery prior to the turn of the century, this interpretation must be viewed with caution. Experience with archeological grave searches in Texas demonstrates that when unmarked graves are discovered in a historic cemetery, the unmarked burials are generally old and date to the early days of the cemetery. This is not unexpected for two reasons. First, older graves are much more likely to have had ephemeral grave markers that can easily become lost through time (e.g., wooden markers that deteriorate). And second, older graves have had more time for their headstones and grave markers to disappear, sometimes falling and becoming buried by sediment, or being destroyed or removed completely (by vandals or looters). The suggestion that Roberts Cemetery probably contains additional unmarked graves that are relatively old is supported by the fact that the archeological investigations there have discov-

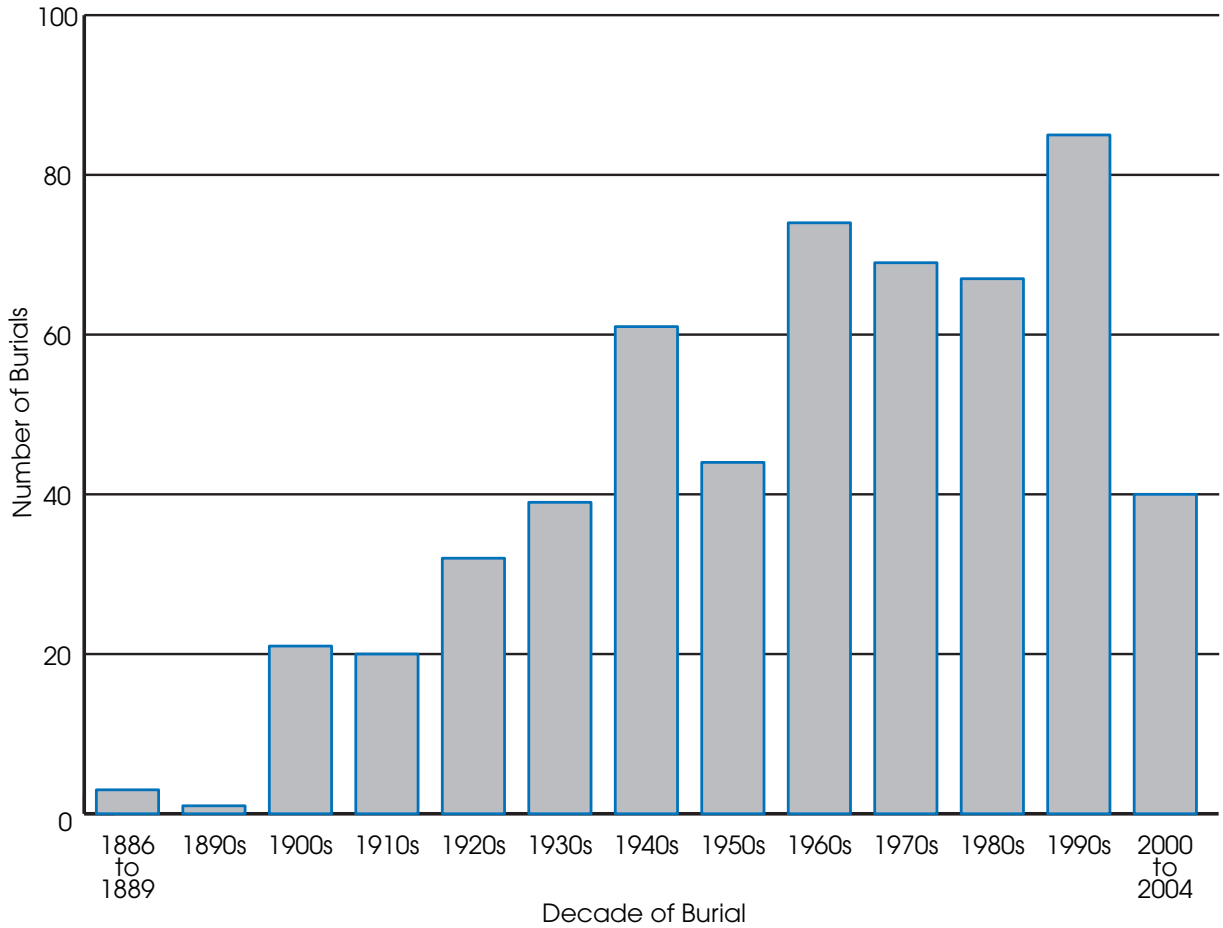


Figure 6.1. Graph of death dates by decades for 556 burials in the Roberts Cemetery. Compiled from the online inventory of graves at Roberts Cemetery (Duke 2004: see Appendix D).

ered six unmarked graves and that the four exhumed graves probably date from ca. 1895 to the 1930s (see Chapters 3 and 4). All these graves were located in the northeast corner of the cemetery, in close proximity to the oldest marked graves in the cemetery. A map of burials kept by the Roberts Cemetery Association shows that many older graves are located in the northeast corner of the cemetery. Of 17 marked graves within about 75 ft of the modern road right of way in this corner of the cemetery, 11 of the graves date between 1886 and 1916 (Roberts Cemetery Association 2012).

REVIEW OF HISTORIC HIGHWAY MAPS

At the inception of this project, TxDOT provided PAI with photocopies of sections of five historic highway maps: State Highway Department (1921), Bell County (1932), State Highway Department (1931–1932), Texas State Highway Department (1949–1952), and Texas State Highway Department (1957–1958). TxDOT provided title pages and the map sections pertaining to the road crossings at Big Elm Creek and the Roberts Cemetery property on the west side of the road and south of the creek. An examination of these maps by the project historian and PAI archeologists provides many interesting clues to the history of the Roberts Cemetery property, especially as it relates to one major roadway that began as U.S. Highway 81 and was later expanded into Interstate Highway 35. Table 6.2 is an annotated list of these maps, with comments on the historical significance of each. Figures 6.2 through 6.6 provide illustrations of the cemetery property shown on these five maps.

Based on an examination of these maps, it appears that no cemetery property was taken for the construction of U.S. Highway 81 and that the first time the state encroached on the cemetery property was for the creation of Interstate Highway 35 in the 1950s. In the 1950s, a triangular portion at the northeast corner of the cemetery was acquired by the state so that the existing U.S. Highway 81 could be expanded to the west to create the multiple lanes and access roads of Interstate Highway 35. As discussed below, the Bell County deed records provide more historical data that support this interpretation.

CHAIN OF TITLE FOR THE ROBERTS CEMETERY

It was difficult to establish a complete chain of title for the Roberts Cemetery property because modern transactions, specifically those made by Roberts Cemetery Trustees, erroneously trace the property's beginnings to an 1871 Bell County Deed Record (Vol. O:460–461) in which Joanna Scott donated two acres of land for a cemetery, church, and school. The Scott parcel was out of the Taliferro Hughes League, like the Roberts Cemetery, but Scott's donation proved to be the origin of the Shiloh Cemetery, not the Roberts Cemetery. A subsequent deed record from 1950 (BCDR Vol. 628:78) relates to land acquired by the State of Texas for the Interstate Highway 35 roadway, but it erroneously attributes the 1871 Joanna Scott deed to the beginning of the Roberts Cemetery. Since this 1950 deed record was the starting point for the historian's research, it led to much confusion until this error was discovered.

Another handicap in tracing the Roberts Cemetery deed chain stemmed from the fact that F. H. and Ida Roberts bought and sold hundreds of properties in the more than 30 years they lived in Bell County. They bought farms; purchased town lots in Belton, Troy, and Temple; took out mortgages on land and buildings; and subdivided some of their earlier purchases. The project historian concentrated on searching deed records pertaining to lands in or adjacent to the Roberts homestead. Roberts' first land purchase in Bell County consisted of a 66-acre parcel in the Rebecca Edwards League (BCDR Vol. 29:151) on February 20, 1878. Roberts Cemetery lies in the adjacent Taliferro Hughes League, however, and thus is beyond what was thought to be the original homestead.

The historian traced each deed record in both the direct and reverse indexes to deeds for Roberts, finding only a few deeds that seemed to describe the cemetery property. Numerous transactions referred to the cemetery as a landmark for surveying adjacent properties, but few deeds relate to ownership of the cemetery itself. It has been assumed that Roberts Cemetery is located on property owned by Roberts, yet none of Roberts' deeds makes reference to it except to describe it as it related to other nearby properties. One such deed for 114 acres was issued from F. H. Roberts to G. W. Porter in 1910 (BCDR Vol.

Table 6.2. Annotated list of highway maps showing the Roberts Cemetery property relative to U.S. Highway 81 and Interstate Highway 35

State Highway Department

1921 Plan and Profile of Proposed State Highway. Bell County, from Falls County to Williamson Co. Line. State of Texas, State Highway Department. Map identification numbers illegible.

PAI examined two sheets of this map. Sheet 1 is the overview map, but the copy is poor, and the map identification numbers are illegible. Sheet 11 shows a curvy road that crosses Big Elm Creek, and the property at the southwest corner of this intersection is listed as "F. H. Roberts" and the next property to the south is listed as "Carpenter." The Roberts property abuts the creek (runs west to east) on the north side and abuts the curvy road on the east side. This map does not depict the cemetery, but there are two points that were plotted by triangulation from the road centerline with a notation of a "Rocky Hill" nearby, about 300 to 400 ft south of Big Elm Creek. These two triangulation points are 100 ft and 200 ft west of the road, and they could denote the northeast and southeast corners of the cemetery property. The Rocky Hill notation is located between these points, and it probably refers to the isolated limestone hill that is located in the southeast portion of the modern cemetery property.

Bell County

1932 Right of Way Map of State Highway No. (2) US 81. F. A .P. No. 40-Rev. From Sta. 402+78 to Falls County Line. Scale 1"=400'. Office of the Resident Engineer, Waco, Texas, February 1932.

PAI examined two sheets of this map. One is the ending sheet (at the Falls/Bell County line, which is labeled "Section 3 of 3 Sections." This sheet was originally titled "HIGHWAY NO. 2," but this was changed to "HIGHWAY NO. (2)" with the handwritten parentheses added, along with the designation "US 81."

The second sheet (no number on the photocopy) runs from the start of the road at Station 402+78 on the south to Station 460 on the north. This sheet shows "Big Elm Creek" running west to east, and a "Present Hwy. No. 2" crossing the creek to the west of the highway. The map also shows the planned right of way for the bigger road, which may be U.S. Highway 81. It depicts details of the properties on either side of the right of way. The property located at the southwest corner of Big Elm Creek and the highway is labeled:

MRS. M. K. CARPENTER EST.
STA. 434+41 to 441+85
VOL. 416 PG. 576–9
2.791 ACRES

The second sheet map apparently refers to the 2.791-acre strip taken by the State out of the Carpenter Estate for the roadway. At Station 440 and heading northward to a point near the edge of Big Elm Creek, the map shows the northeast and southeast corners of a area with the Carpenter property that is labeled "CEMETERY." The east edge of this property is estimated to be about 175 ft long as depicted on this map, which corresponds with the length of the east border of the cemetery in deed records from 1931 and 1932 (see Table 6.2).

This map indicates that the cemetery tract was completely outside, and west of, the Highway 81 right of way in 1932.

Note that George Porter, who was one of the Roberts Cemetery Trustees listed in the 1930s deed records, owned the property just south of the Carpenter Estate.

Table 6.2, continued

State Highway Department 1931–1932 Plan and Profile of Proposed State Highway. Bell County From 2 MI. N. of Temple to Falls County Line. Approved July 15, 1931. Fiscal Year 1932. Scale 1 IN = 3000 FT. PAI examined three sheets of this map. One is the cover sheet from Temple to Falls County Line. A notation says the State Project No. is "64-REOP." There are no notations that would indicate this is U.S. Highway 81, but notations show that this was a "FEDERAL AID PROJECT." The next are Sheets 15 and 16 (out of 139 sheets). Sheet 16 shows the proposed road crossing at Big Elm Creek. Immediately to the south there is a strip of land labeled "NATHAN CARPENTER" that runs along the west side of the proposed road to the creek. Just west of this, three sides of a "CEMETERY" tract area are shown: the south, east, and north. All of these boundaries are at right angles. The northeast corner of this cemetery tract is shown about 20 ft south of the creek and about 75 ft west of the highway right of way. The southeast corner of this tract is about 195 ft south of the creek and 100 ft west of the highway right of way. This map suggests that entire cemetery property was outside the highway right of way in 1931–1932.
Texas State Highway Department 1949–1952 Right of Way Map. Bell County from North of Temple to Falls Co. Line. U.S. Highway No. 81. Control 15, Section 4, Job 13. Office of the Resident Engineer, Belton, Texas. District No. 9. July, 1949. PAI examined two sheets of this map. One is the cover sheet. It is signed "Correct" by Resident Engineer Joe T. Brown on July 16, 1949 and "Recommended for Approval" by District Engineer D. M. (?) Puckett on February 8, 1952. The second sheet (no number on the photocopy) shows "Big Elm Creek," the proposed road running parallel to another small north-south road to the west, and the north-south railroad tracks to the east. The proposed road right of way is shown, with notations on the property lines and owners listed. Immediately south of Big Elm Creek, three boundaries of the "ROBERTS CEMETERY" are shown: the south, west, and north. This west edge of this tract runs almost due north-south, and it is approximately 400 ft long. But the cemetery property runs at an angle to the road, which runs about 30 degrees east of north. The east boundary of the original cemetery tract is not shown, but it is clear that it extended into the proposed road right of way. The notation at the top of this sheet is: John F. Bowers (et al) Trustee for Roberts Cemetery Sta. 437+71–441+45 0.398 Acres Vol. 628 Page 78 Deed This map appears to show the existing U.S. Highway 81 right of way, and not the proposed roadway. It is presumed that it was created during the advanced planning for IH 35 work that would begin several years later.

Table 6.2, continued

Texas State Highway Department

1957–1958 Plans of Proposed State Highway Improvement, Bell County, I.H. 35 (U.S. Highway No. 81) from 2.0 Miles North Temple to Falls Co. Line. Federal Aid Project No. I 40 (16) OLD and I-35-4(3)307 NEW. Certified Correct, December 20, 1957. Recommended for Approval, January 3, 1958.

PAI examined four sheets (Title Sheet and Nos. 10, 23, and 26) from this 1957–1958 highway map.

The Title Sheet has both the old and new Federal Aid project numbers on it. The Resident Engineer certified the maps as correct on December 20, 1957, and the District Engineer Recommended for Approval on January 3, 1958. The Title Sheet indicates the "State Control No." is "15-4-16" while the other three sheets have "Control 15, Section 4, Job 16" on them. Sheet 10 has a handwritten notation "0015-04-024 ROW Acquisition" on it, but this job number may be a more recent addition. All of the sheets have notations of "IH 35."

Sheet 10 shows "Big Elm Creek" with the four lanes of proposed IH 35 crossing it. The north and south borders of the "ROBERTS CEMETERY" tract are shown, and they run due east-west while the road runs about 28 degrees east of north. The width of the cemetery tract as depicted on this sheet is approximately 380 to 390 ft.

Sheet 23 is the construction details (plan and profile) of the southbound access road bridge over Elm Creek, from Station 441+89 to 444+30. The plan view shows that the south end of the bridge has a concrete and riprap embankment on the west side of the access road, and it runs parallel to the "Proposed R. O. W." located a few feet to the west. Just west of this ROW line (at Station 441+50), the map has a "CEMETERY" label and depicts four rectangles labeled as "Graves." These plotted graves are oriented east-west and are within an area about 30 ft north-south.

Sheet 26 is the road cross-section data south of and at Big Elm Creek bridge. This sheet shows the north and south edges of the "CEMETARY" [sic] property just south of the creek, and like Sheet 10, the property boundaries are skewed relative to the road. The sheet depicts four lanes, and shows a dashed line under the proposed road. It is labeled as "Private Drive" and ends at the west side of the northbound access road. It appears that this was the original road that went from Highway 81 to the cemetery before the construction of IH 35. For the proposed IH 35 roadway, it appears that the northbound access road on the east side is part of the original U.S. Highway 81. This section of the roadway was later expanded to become IH 35.

207:129). It called out the cemetery corners for landmarks in the property description, but did not describe or explain the cemetery itself.

When the historian tracked backwards from more modern deeds, she was able to find a more relevant chain. In 1950, the cemetery trustees sold a part of the cemetery to the State of Texas, and it referred to a deed from W. B. and his wife, Sara Ford McCall (BCDR Vol. 532:523). That deed, filed in 1945, was from the McCalls to the Roberts Cemetery Trustees. It contained 2 ¼ acres and an addition 388 square yards of land. The previous owner was Sara's mother, Mrs. P. S. B. Ford, who sold it as part of a 28.66-acre parcel to her son-in-law in 1932 (BCDR Vol. 442:284).

Mrs. Ford had received the land from three men, Earl Thompson, John B. Daniel, and Roy Koos, in 1932. Part of the land was slated for sale to the State of Texas. Another part mentioned the cemetery (BCDR Vol. 416: 312). Earl Thompson obtained the land from M. L. Thompson, likely his mother, in 1931 (BCDR Vol. 416:140). She inherited the land from her husband, John Quincy Thompson, who acquired 3.75 acres of land from F. H. and Ida Roberts on December 29, 1887 (BCDR Vol. 62:639). This property, "3.75 acres, more or less," probably included the cemetery, judging by the chain of title stemming from the sale of part of the property from the cemetery trustees to the State of Texas.

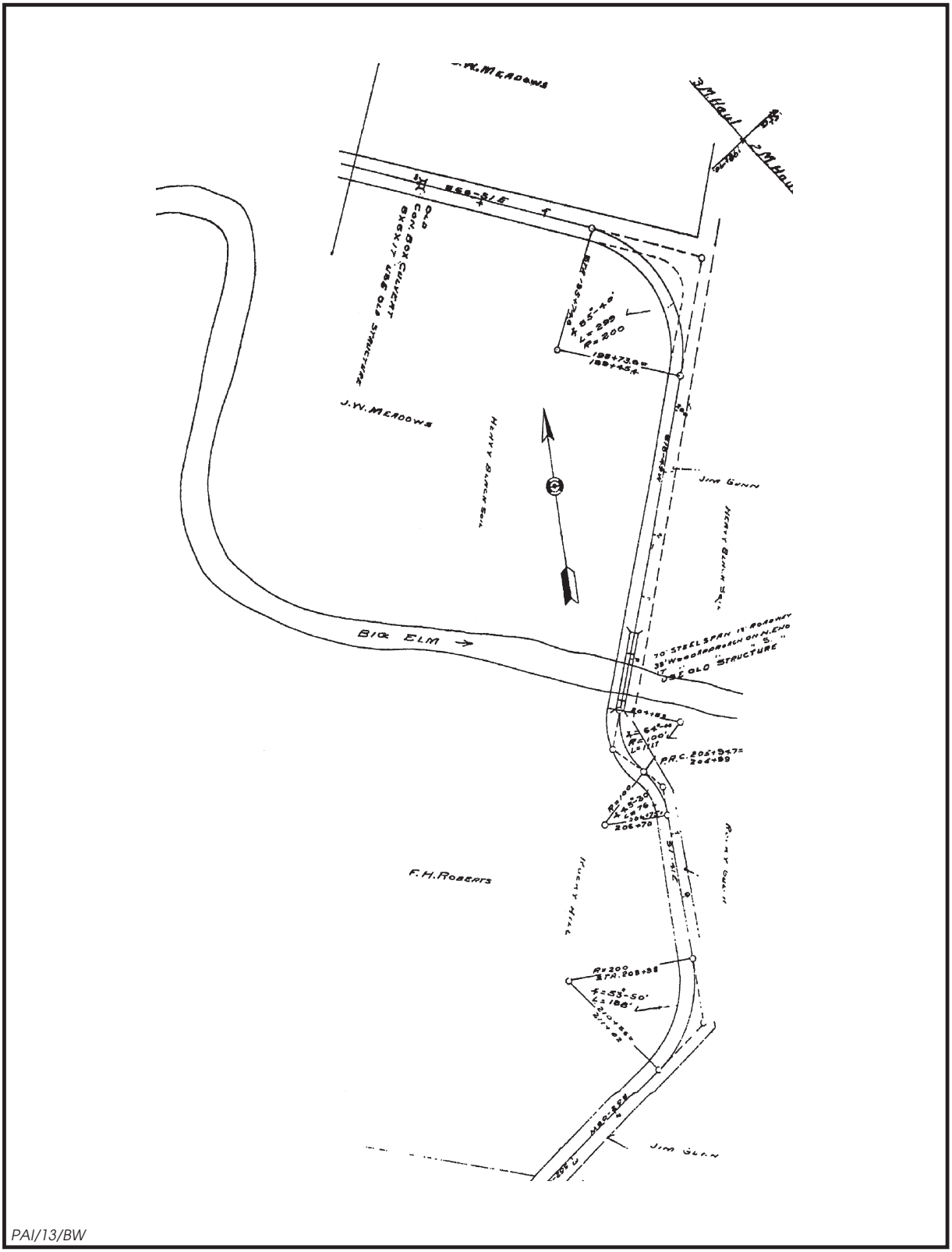


Figure 6.2. Section of the 1921 State Highway Department map, Sheet No. 11. Map data are summarized in Table 6.2.

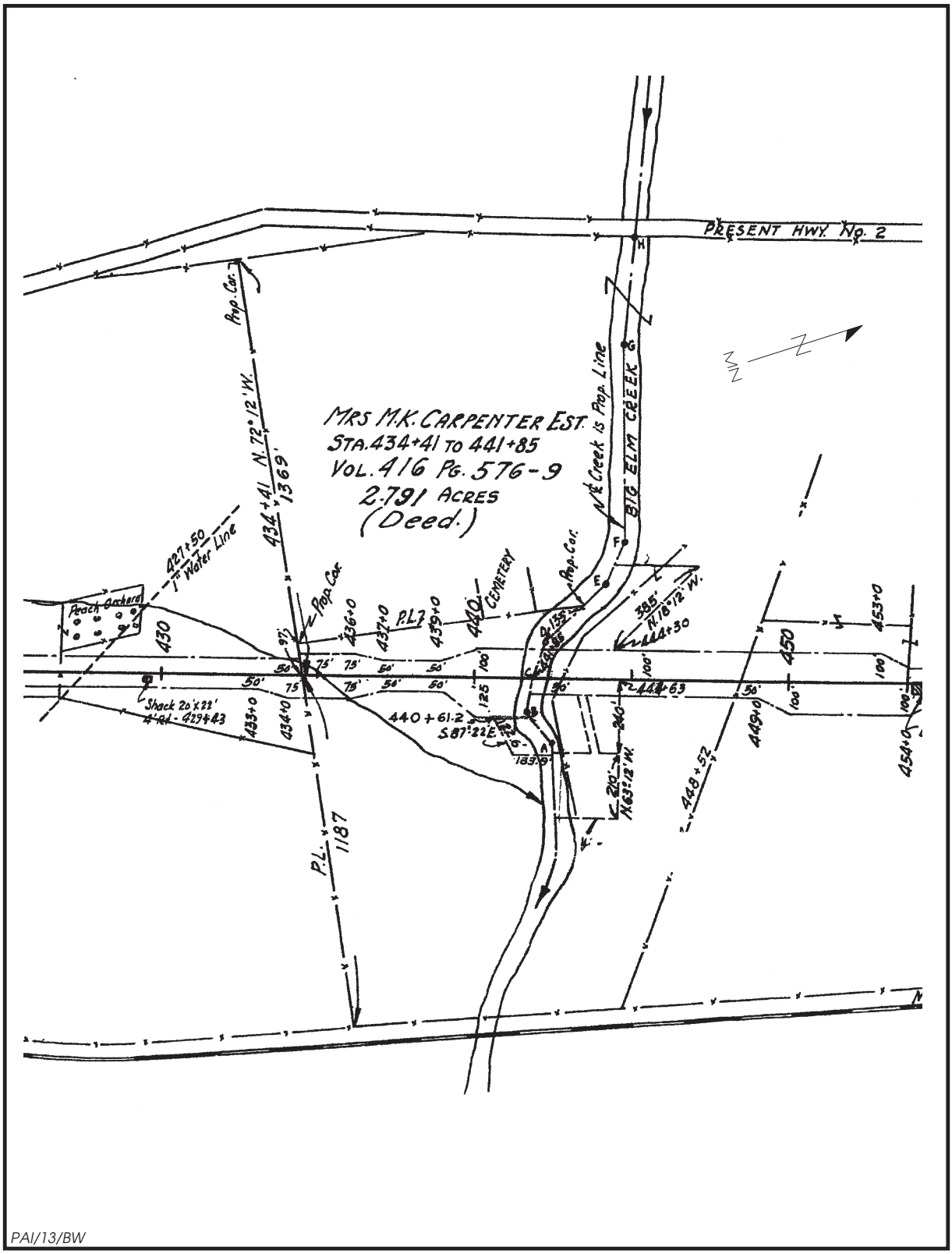


Figure 6.3. Section of the 1932 Bell County highway map, no sheet number. Map data are summarized in Table 6.2.

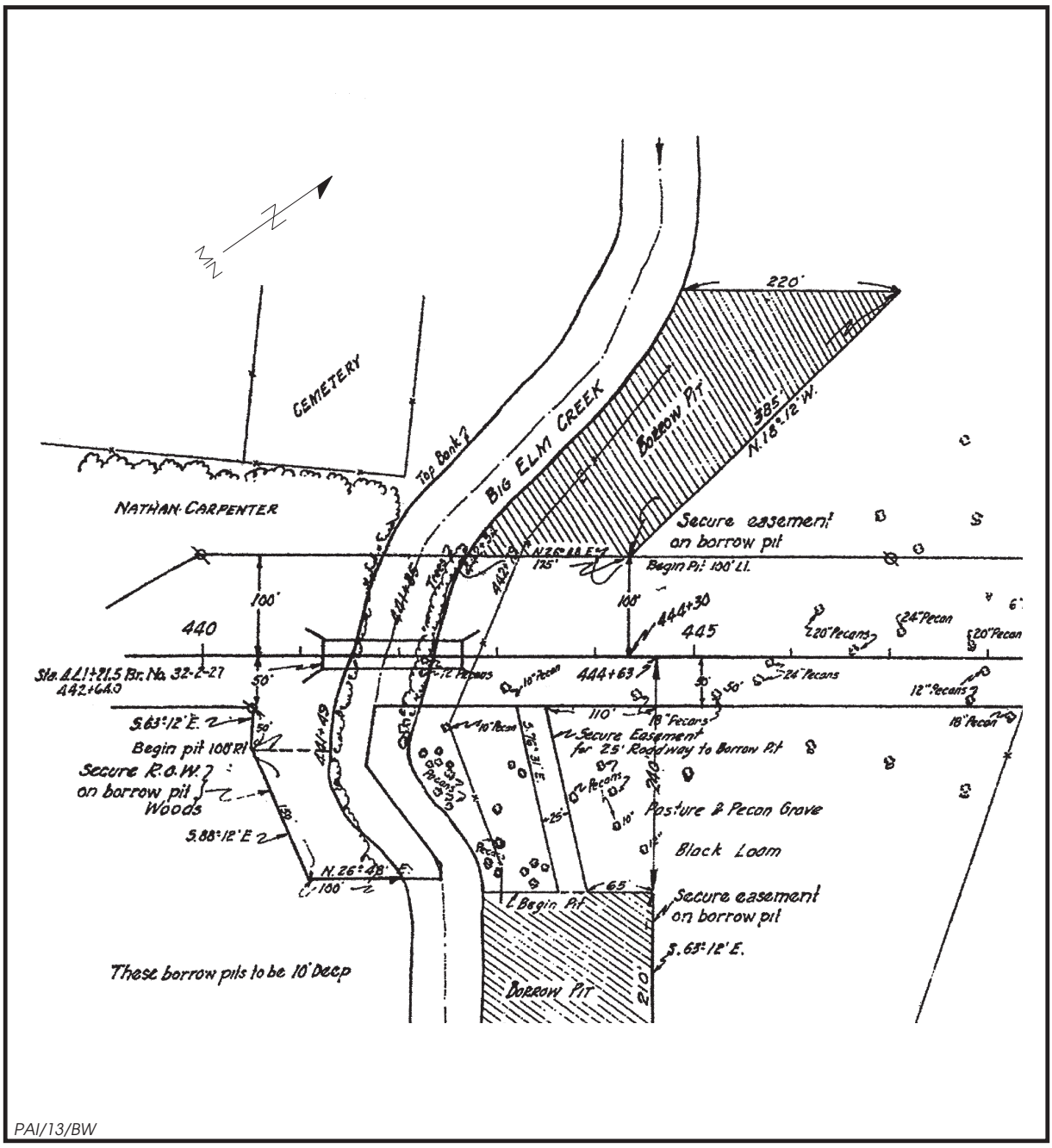


Figure 6.4. Section of the 1931–1932 State Highway Department map, Sheet 16. Map data are summarized in Table 6.2.

Despite the research setbacks, the project historian was able to construct a relatively complete chain of title for the cemetery property, from 1887 to the present. The key deed records that pertain to the cemetery property are summarized in Table 6.3.

As of 1887, some portion of the 3.75-acre property transferred from F. H. and Ida Roberts to John Quincy Thompson was being used as a burial ground. The property already contained the 1886 graves of Soloman O. Bowers and Maggie C. Roberts. The next known burial occurred three years later in 1889, suggesting that the use of the property as a burial ground was still in its infancy and it had not yet become a community cemetery.

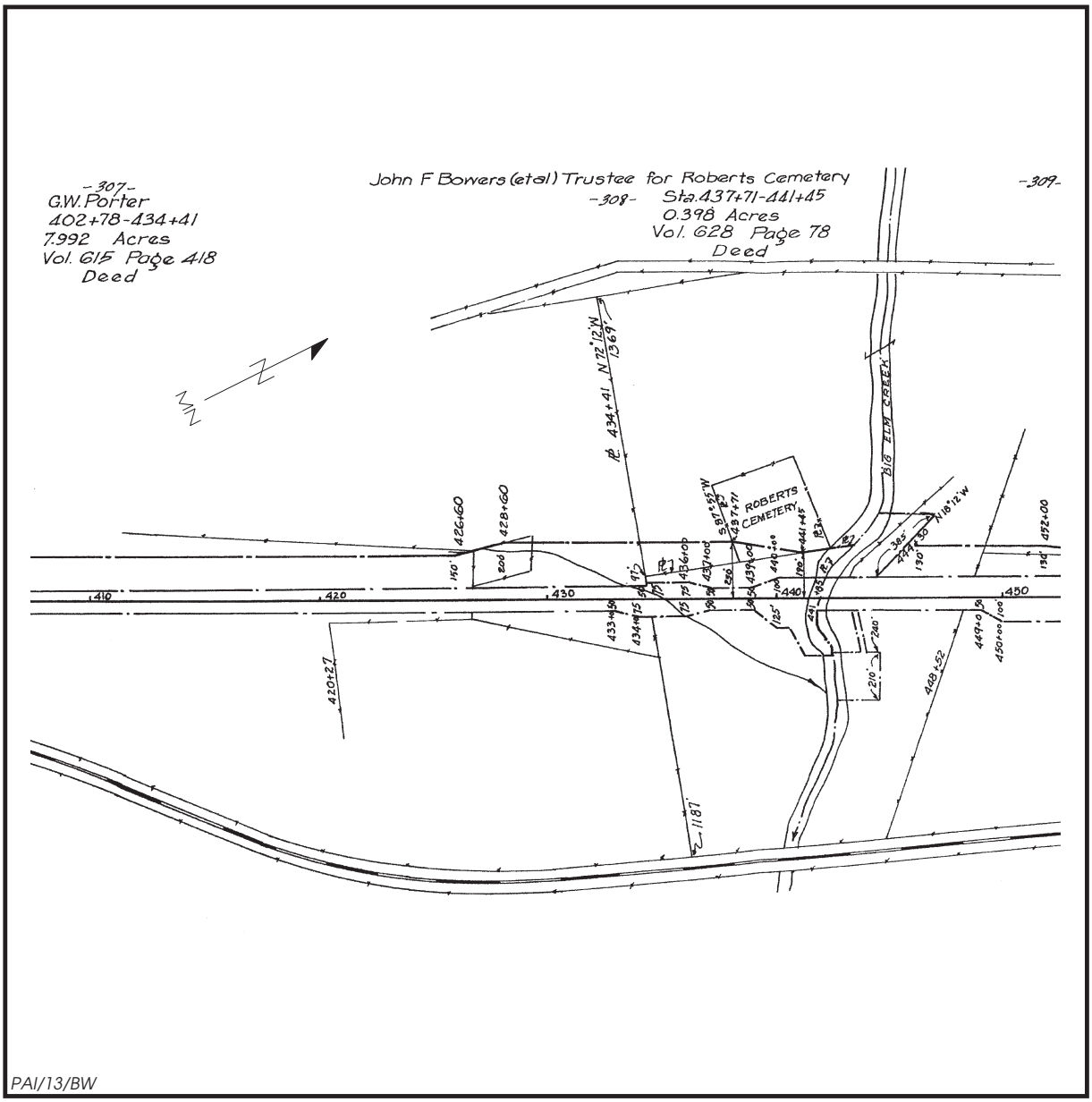


Figure 6.5. Section of the 1949–1952 Texas State Highway Department map, no sheet number. Map data are summarized in Table 6.2.

It is interesting that the 1887 transaction does not refer to the property as a cemetery or mention the burials. John Quincy Thompson could have been one of the earliest cemetery trustees because his descendants were later closely associated with the Roberts Cemetery. It is also notable that when the 1927 transaction occurred, the 3.75-acre property was still not called a cemetery despite the fact that there were at least 69 burials there (Duke 2004; see Appendix D).

The size of the Roberts Cemetery property changed through time. From 1887 through 1927, the cemetery appears to have been located on the 3.75-acre property owned by John Quincy Thompson or his estate. But it is not clear if the entire 3.75 acres was considered to be the cemetery or if the cemetery was only a portion of this tract. From 1927 to ca. 1950, there is no indication that the cemetery changed in size, but it continued to be used as a burial ground. By January of 1950, there were 177 burials on the

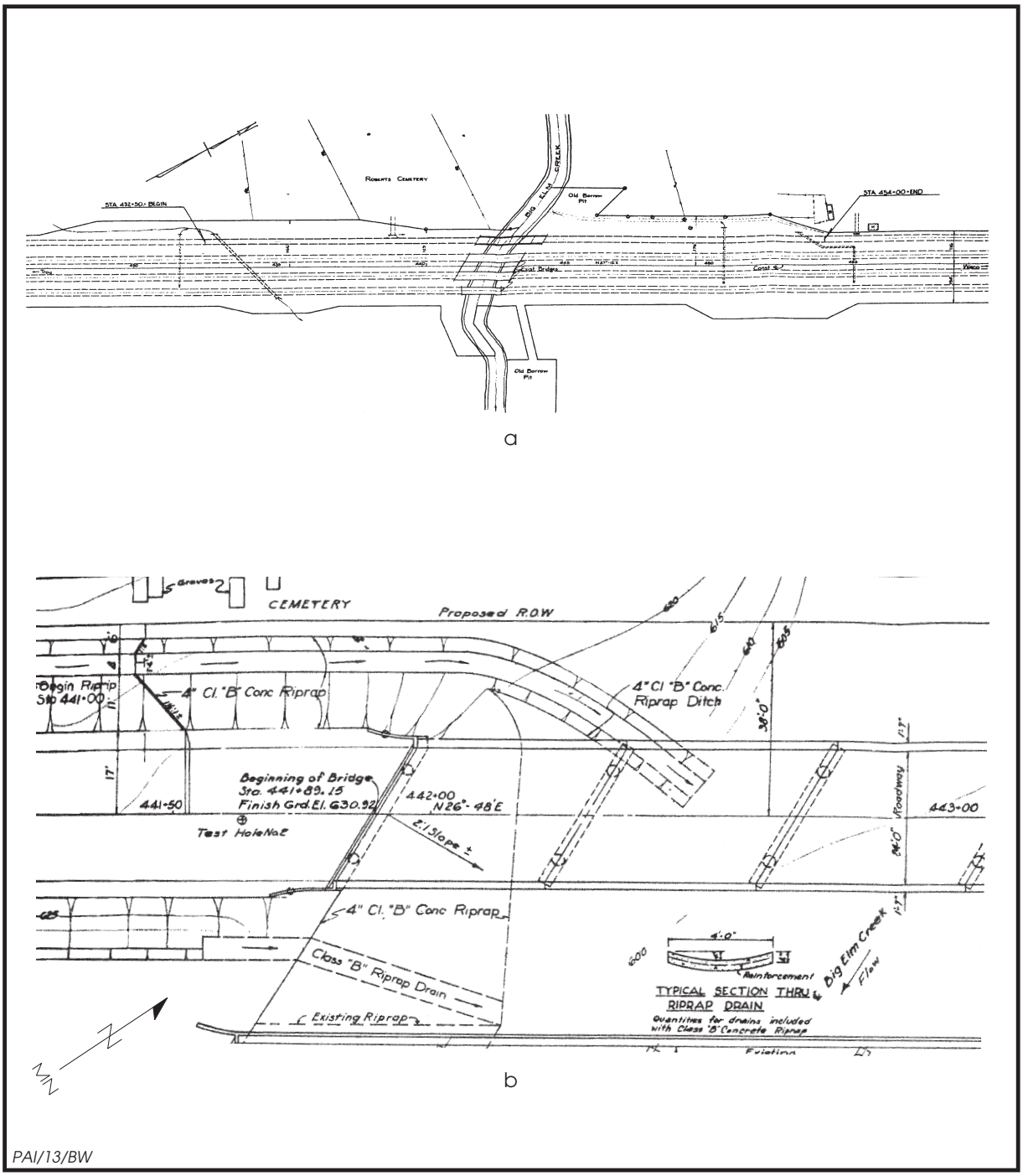


Figure 6.6. Sections of the 1957–1958 Texas State Highway Department map. (a) Sheet No. 10. (b) Sheet No. 23. Map data are summarized in Table 6.2.

Table 6.3. Chain of title summary for the Roberts Cemetery property, Bell County, Texas

1887	F. H. and Ida Roberts to John Quincy Thompson,* 3 ¾ acres (BCDR** Vol. 62:137, December 29, 1887). The deed states: Being on the waters of Big Elm Creek…Beginning at the southwest corner of a small tract of land sold by T. H. Roberts to John Spohn, Beginning at a point fifty feet from center of M. P. Rail Road from which a small Elm marked x bears S. 48? E 23 vrs. Thence S 48 ¼ E. 45 ½ vrs. To center of Kings Branch. Thence with meanders of said Branch S 48 ¾ W. 115 vrs. Thence S 56 W. 20 vrs. Thence S 34 ½ 60 vrs. Thence S 634 ¼ W 160 vrs. Thence S 76 ¼ W. 27 vrs. To Right of way of said Rail Road. Thence S 44 ¾ W. 80 vrs. Thence S. 41 W 103 ½ vrs. Thence S 49 ½ W. 100 vrs. Thence S 43 ¼ W. 110 vrs. to O. S. Carpenter's north east corner. Thence N. 71 W. 22 vrs. To said Rail Road Right of Way. Thence with the Right of Way northeasterly to the place of beginning variation 9'45 containing three and three fourth acres of land. This deed does not specifically call this property a cemetery, but some portion of this 3.75-acre property became the Roberts Cemetery. According to the list of known burials at Roberts Cemetery (Duke 2004), there was only two graves on this property as of December 1887.
1927	From John Quincy Thompson to the J. Q. Thompson Estate, 245 acres, including F. H. Roberts' 3.75-acre tract and a 4.86-acre tract (BCDR Vol. 378:622). This deed does not specifically call this 3.75-acre property a cemetery, but this is the F. H. Roberts tract mentioned in the 1887 deed, and some portion of it was being used as the Roberts Cemetery. The Roberts Cemetery burial list (Duke 2004) indicates that there were 70 burials on this property as of March 1927.
1931	M. L. (Martha, wife of John Quincy) Thompson to Earl F. Thompson (son) being a part of the 245 acres granted to J. Q. Thompson Estate (BCDR Vol. 416:140). This is the 245 acres descended to Thompson's son, but this deed does not specifically relate to or mention the cemetery. M. L. and Earl are the heirs of J. Q. Thompson, who inherited the 245-acre parcel. A portion of this parcel, being 28.66 acres, went to Earl and two other men, and some of it was eventually added to the Roberts Cemetery (see below).
1931	Earl Thompson, John B. Daniel, and Roy Koos, to Mrs. P. S. B. Ford, a feme sole, a tract (bounded by the cemetery) of 28.66 acres of land (BCDR Vol. 416:312). This deed pertains to the sale of a property that abuts the Roberts Cemetery on the south and west. The deed refers to the dimensions of the south, west, and north boundaries of the cemetery. For the property boundaries next to the cemetery, the deed states: …being the SE corner of a 7 acre tract conveyed to J. R. Gunn; Thence North 19-37 East 620 feet, with the Carpenter West line to the SE corner of old cemetery; Thence South 89-53 West with the South line of the cemetery lot 386.5 feet to the corner; Thence North 0-07 176.5 feet with the West line of cemetery lot to the NW Cor of same; Thence North 89-53 East 451 feet with the North line of cemetery to a corner in the west line of the Carpenter tract; Thence North 19-37 East 87.6 feet to center of Big Elm Creek; Thence North 30-09 West 257.5 feet with the meanders of said creek; Thence North 61-30 West 1167.4 feet up said creek to the place of beginning and containing 28.66 acres of land more or less, and being tract No. 3 of a subdivision of the J. R. Gunn Estate.
1932	Ford to W. B. McCall, her son-in-law, husband of her daughter, Sarah Ford McCall (BCDR Vol. 442:284). This is the same tract of land (28.66 acres) that was sold to her by Thompson et al. in 1931.

* John Quincy Thompson II died on the day of his birth in 1916 and is buried in the Roberts Cemetery along with many other Thompsons (Duke 2004). It is possible that John Quincy Thompson Sr. may be buried in an unmarked grave at Roberts Cemetery since his name is not listed among the burials at any of the nearby cemeteries (i.e., Old Troy, Shiloh, and Pleasant View).

** BCDR refers to Bell County Deed Record

Table 6.3, continued

1945	W. B. McCall and Sarah Ford McCall sold to O. S. Curtis, J. F. Bowers, and G. W. Porter, Trustees for the Roberts Cemetery, two and one-fourth acres and 388 square yards of land (BCDR Vol. 532:523, June 23, 1945). The deed states: …That certain tract or parcel of land lying and being in Bell County, Texas a part of the T. Hughes Survey designated and described as follows: Beginning at the north west corner of Roberts Cemetery for stake, the same being the north west corner of Lot No. 32 in Block H south with the west line of said cemetery, 175 feet to south west corner of said cemetery for stake, thence east with south line of said cemetery 387 feet to south east corner of said cemetery for stake; Thence south westerly in line with the westerly line of a plot of land owned by the heirs of O. S. Carpenter and wife, M. K. Carpenter, 221.5 feet for corner, being 208 feet south of said cemetery at right angles to the south line of said cemetery; Thence west 390 feet for corner; Thence north 354 feet for corner; Thence northeasterly 83.5 feet to place of beginning, containing two and one-fourth acres and 388 square yards of land. This deed refers to the addition of a parcel (2.25 acres plus 388 square yards) to the existing Roberts Cemetery.
1950	Trustees John F. Bowers, O. S. Curtis, and G. W. Porter sold a small tract of land, "containing 0.398 acres more or less," to the State of Texas. The tract is described as "being a part of 2 acres out of the T. Hughes Survey, 2.23 acres out of the T. Hughes Survey, conveyed by Joanna Scott to Roberts Cemetery; W. B. McCall to Roberts Cemetery by deed dated the 11 day of Aug. 1871; 23 day of June 1945…" (BCDR Vol. 628:78, May 23, 1950). This deed is confusing and contains errors. This deed correctly denotes the 0.398 acres of the Roberts Cemetery that was sold to the State of Texas. Part of this tract came out of a 2-acre property previously conveyed by Joanna Scott (by deed dated August 11, 1871; Vol. O:460) and another part came out of a 2.23-acre property previously conveyed by W. B. McCall (by deed dated June 23, 1945; Vol. 532:523). The reference to the 2.23-acre McCall property is correct (see above) but the reference to the 2-acre property being previously conveyed by Joanna Scott is incorrect. Research shows that the August 11, 1871, deed from Joanna Scott relates to the Shiloh Cemetery property, located along Elm Creek, about 1.25 miles southeast of the Roberts Cemetery. This interpretation is confirmed by personnel at the Bell County Tax Appraisal District office. Unfortunately, the correct deed reference for this 2-acre property has not been located.
1957	J. F. Bowers, O. S. Curtis, and G. W. Porter, as Trustees for Roberts Cemetery… "$55 paid by the State of Texas, grant etc. all that certain tract…conveyed by Joanna Scott to W. M. McCall and wife Sarah McCall, being two tracts out of the T. Hughes Survey" (Vol. 765:133, September 30, 1957). The deed states: Being a parcel of land along the west side of US Interstate Highway No. 81, approximately 1.3 miles north of Troy. 1) Beginning at a point which bears N62 degrees 48'W, 129 feet from Construction Center Line Sta. 440+15.50 of US 81, 2) Thence N 27 degrees 12'E, 219.90 feet to a point in the North property line, said point bears N90 degrees 12'E, 522 feet from the northwest property corner, 3) Thence N90 degrees 00'E, 12.23 feet to a point in the west ROW line of US 81, 4) Thence S18 degrees 42'W, 82.29 feet along said ROW line to a point, 5) Thence S36 degrees 18'W, 145.90 feet along said ROW line to the place of beginning and containing 0.069 acres more or less. This deed refers to the sale of a small parcel from the Roberts Cemetery to the State of Texas. The parcel is 0.069 acres on the far east side of the cemetery It mentions the previous deeds of the Scott property (BCDR Vol. O:460) and the McCalls' property (BCDR Vol. 532:523). But the reference to the Scott deed is incorrect as stated above.
1966	W. B. and Sara McCall to Trustees O. L. Randolph, E. H. Porter, and J. B. Lancaster Trustees for Roberts Cemetery Association of Troy, 0.97 acres of land (BCDR Vol. 967:610, October 25, 1966). This deed grants 0.97 additional acres to the Roberts Cemetery Trustees from the McCalls out of the 28.66-acre tract that was sold to Mrs. P. S. B. Ford in 1931 and then to her son-in-law and daughter in 1932.

property (Duke 2004; see Appendix D). The size of the cemetery property is more clearly defined in the deed records from 1950 to the present (see Table 6.3), and the pertinent information is summarized as follows:

- As of 1950, it appears that the Roberts Cemetery Association considered the cemetery to be a 4.23-acre property consisting of two parcels, a 2-acre tract (the one erroneously attributed to Joanna Scott) and a 2.23-acre tract that came from the McCalls.
- In 1950, the Cemetery Trustees sold 0.398 acres out of Roberts Cemetery to the State of Texas. Following this transaction, the cemetery size was 3.832 acres.
- In 1957, the Cemetery Trustees sold 0.069 acres out of Roberts Cemetery to the State of Texas. Following this transaction, the cemetery size was 3.763 acres.
- In 1966, the McCalls gave 0.97 acres to the Trustees of Roberts Cemetery. Following this transaction, the cemetery size was 4.733 acres.
- As of 2013, the Bell County Appraisal District listed the size of Roberts Cemetery as 4.578 acres.

Notably, the cemetery size as listed by the Bell County Appraisal District (4.578 acres) is very close to the size as calculated from 1950 to 1966 deed records (4.733 acres). The two pieces of cemetery property that were acquired by the State of Texas for road improvements are the 0.398- acre tract in 1950 and the 0.069-acre tract in 1957. Together, these tracts comprise 0.467 acres, or just short of half an acre.

SEARCH FOR DEATH CERTIFICATES AS INDICATIONS OF POSSIBLE UNMARKED GRAVES

Research Methods

The objective of this research was to examine death certificates as a means of identifying people who might be buried in unmarked graves at Roberts Cemetery. Death certificates for Bell County were available for all deaths starting in 1903. From that time to the present, informative records on the deceased were archived in bound volumes, and these books are stored in the Bell County Clerk's Office in Belton. The historian examined every entry from 1903 to 1940, comprising nearly 7,000 records in six volumes. The entries were scanned to look for notations that a person was buried in Roberts Cemetery (or the Troy Cemetery) or the person died in or near Troy with no indication of their burial location.

Notably, the death certificates changed in format through time, and the later ones were more informative than the earlier ones. Death certificates dating between 1903 and 1916 contain minimal information, including the deceased's name, age, residence, and cause of death. In these early years, the death certificates recorded only the deceased's home community, but usually not the place where he or she was buried. Rarely was a cemetery listed on the death certificates from 1903 to 1916, but some people were buried on their "home farms."

Starting in 1917, the state's official death certificates became more sophisticated and were issued on standardized forms requiring more detailed information from a doctor or the county coroner. Recorded data included a primary cause of death, mitigating circumstances (such as "old age"), the doctor or coroner involved, the undertaker's name, and the burial date and cemetery where the burial occurred. From 1917 forward, the death certificates indicated that most people were being buried in local cemeteries, and only a few burials occurred on the "home farm" during this period.

From the examination of the death records, the project historian compiled of list of names and data for people whose death certificates stated they were buried in Roberts Cemetery or the Troy Cemetery or that they died in or near Troy with no stated burial place. This list was then checked against the burial inventories for the Roberts, Shiloh, and Pleasant View Cemeteries and Old Troy.

Results of the Death Certificate Search

Based on the examination of the death certificates, the project historian estimates that as many as one-fifth to one-quarter of Troy-area

residents who died between 1903 and 1940 were buried in the Roberts Cemetery. Because the post-1917 death certificates are more detailed, the period between 1917 and 1940 was most productive for identifying people who were buried in Roberts Cemetery according to official records, but whose names do not appear in the current cemetery inventories. The death certificates in Volumes 3 and 4 of the county records clearly show that most Troy residents were buried in Roberts Cemetery after 1917. And by this time, Roberts Cemetery was commonly known as the "Troy Cemetery" because of its proximity to the town and because so many of its citizens were already buried there. For these reasons, it is believed that any Troy resident whose death certificate lacked a cemetery notation was likely to have been buried in the Roberts (or Troy) Cemetery.

The review of the Bell County Death Certificates dating from 1903 to 1940 was quite productive for identifying people who were definitely buried in Roberts Cemetery or were likely to have been buried there. The detailed data are presented in Appendix C, while Table 6.4 summarizes the results of this research. Sixty-seven people were identified and placed into one of three groups based on their likelihood of being buried at Roberts Cemetery:

- Group A consists of 28 people, each of whom had a death certificate indicating that they were buried in Roberts Cemetery. Each name also appears in the Roberts Cemetery inventory.
- Group B consists of 10 people who had a death certificate indicating that they were buried in Roberts Cemetery. However, their names do not appear in the Roberts Cemetery burial inventory (or the burial inventories for Old Troy, Shiloh, or Pleasant View). Consequently, it is assumed that these 10 people are buried in unmarked graves at Roberts Cemetery.
- Group C consists of 29 people who died in or near Troy but whose names do not appear in burial lists for Roberts, Old Troy, Shiloh, or Pleasant View. It is assumed that any of these people may be buried in an unmarked grave at Roberts Cemetery.

SUMMARY AND CONCLUSIONS

F. H. and Ida Roberts are believed to have started Roberts Cemetery with the death of their first child, Maggie, in 1886. This occurred just a few years after railroad came and caused the community of Troy to spring up and the town of Old Troy to begin its slow demise. The use of the Roberts property as a community burial ground increased through time (see Figure 6.1), and at some point in its history, Roberts Cemetery also became known as the Troy Cemetery. As of 2004, the cemetery contained more than 600 graves, and it continues to be used for the interment of local citizens of Troy and Bell County.

While its use as a cemetery is fairly documented, the precise history of the cemetery property is not as well defined. The deed research for Roberts Cemetery was difficult because an erroneous reference to Shiloh Cemetery has appeared in deed records since about 1945. It was also cumbersome because F. H. and Ida Roberts bought and sold more than 100 tracts of land in the Taliferro Hughes and adjacent Rebecca Edwards Leagues between 1878 and 1910. Despite these pitfalls, a chain of title was traced from Roberts' sale of 3 ¾ acres of land to John Q. Thompson in 1887 to the sale by his descendants to the Roberts Cemetery Trustees. Small portions of land were added or subtracted from the main property over the year, and the current cemetery property totals 4.733 acres according to deed records. The County Tax Appraisal District lists the Roberts Cemetery property as 4.578 acres (Figure 6.7), a close figure.

The planned expansion of the U.S. Highway 81 into Interstate Highway 35 in the 1950s led to the acquisition of a portion of the original Roberts Cemetery property by the State of Texas. The area that was acquired by the state for these road improvements was just under half an acre, and it forms a triangular tract removed from the northeast corner of the original cemetery. As documented in this report, the archeological investigations by PAI revealed that unmarked graves were present inside the state-owned right of way (the four unmarked graves that were exhumed) and on the cemetery property immediately to the west (two unmarked graves that were left in place).

Historical evidence indicates that there are probably many more unmarked graves elsewhere in Roberts Cemetery. The evidence is from

Table 6.4. Summary of people definitely or possibly buried in Roberts Cemetery between 1903 and 1940, according to Bell County death certificates

Bell County Death Certificates	Group A: Marked Grave in Roberts Cemetery	Group B: Unmarked Grave in Roberts Cemetery	Group C: Possible Unmarked Grave in Roberts Cemetery	Total
Vol. I: 1903–1908			13	13
Vol. I: 1903–1908	2			2
Vol. II: 1908–1917			15	15
Vol. II: 1908–1917		2		2
Vol. III: 1917–1919		4		4
Vol. III: 1917–1919			1	1
Vol. IV: 1920–1932	3			3
Vol. IV: 1920–1932		3		3
Vol. IV: 1920–1932	7			7
Vol. V: 1933–1937	10			10
Vol. VI: 1938–1939		1		1
Vol. VI: 1938–1939	6			6
Total	28	10	29	67

Notes:

Volumes I and II do not state the cemetery where a person was buried. Volumes III–VI do list the cemetery where a person was buried. This entry was usually filled in, but was sometimes left blank

Group Definitions:

Group A: Marked graves in Roberts Cemetery. Death certificate says the person died in Troy and/or was buried in Roberts Cemetery, and the person's name is listed in the Roberts Cemetery inventory by Duke (2004).

Group B: Unmarked grave in Roberts Cemetery. Death certificate shows "Roberts" as place of burial, but the person's name is not listed in the Roberts Cemetery inventory by Duke (2004). Person's name does not show up on the inventories for Old Troy Cemetery (Find A Grave 2013; Todd and Todd 2006); Pleasant View Cemetery (Badovinac 2001), or Shiloh Cemetery (Bell County Historical Survey Committee n.d.; Entrop 2013).

Group C: Possible unmarked graves in Roberts Cemetery. Death certificate does not indicated place of burial, but the person died in Troy and is not listed on the Roberts Cemetery inventory by Duke (2004). Person's name does not show up on the inventories for Old Troy Cemetery (Find A Grave 2013; Todd and Todd 2006); Pleasant View Cemetery (Badovinac 2001), or Shiloh Cemetery (Bell County Historical Survey Committee n.d.; Entrop 2013).

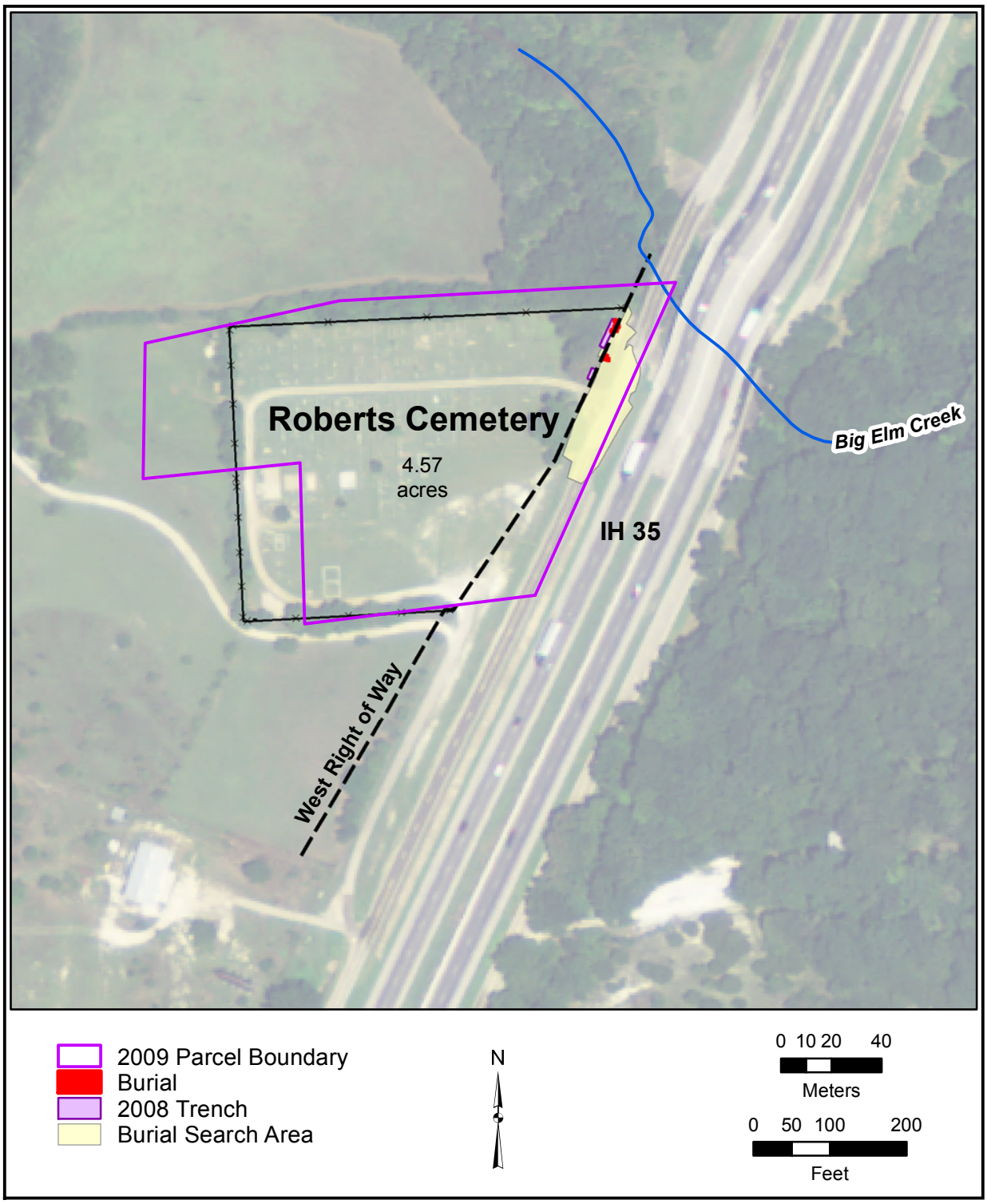


Figure 6.7. Aerial view of Roberts Cemetery with the Bell County Appraisal District outline of the 4.57-acre property.

Bell County death certificates dating from 1903 to 1940 and the comparison of the mortality data with online burial inventories for the Roberts, Shiloh, Old Troy, and Pleasant View Cemeteries. Appendix C lists the names of 10 people who are definitely buried in unmarked graves at Roberts Cemetery (Group A), along with the names of 29 others who may be buried there (Group B). Additional unmarked graves may be present in the cemetery as well, especially burials of people who died before 1903, when the use of death certificates became standard practice.

PUBLIC INVOLVEMENT, SEARCH FOR LIVING RELATIVES, AND DNA TESTING

7

Jennifer K. McWilliams, James T. Abbott, and Douglas K. Boyd

This chapter summarizes TxDOT's efforts to inform the public about the cemetery project and to identify the recovered unknown individuals. Because these remains were associated with Roberts Cemetery, which is clearly an active cemetery governed by Title 8, Chapter 711 of the Texas Health and Safety Code (General Provisions Relating to Cemeteries), and the remains were being moved to a different location within the same cemetery (per Title 13, Part 2, Chapter 22, Rule 22.5(d)), the administrative provisions governing the removal of unknown remains under an Antiquities Code permit (Title 13, Part 2, Chapter 22, Rule 22.5(c)(2)) did not apply. Consequently, the only permissions needed for the removal, genetic testing, and reburial of the remains were secured from the cemetery association. Nevertheless, the work performed was consistent with the requirements of the Title 13 statute for personnel and character of investigations. The remains were removed by professional archeologists and a professional physical anthropologist; the physical anthropologist conducted detailed physical examination of each set of remains and documented evidence of age, gender, stature, trauma, and skeletal pathologies; the casket hardware and funerary objects were examined and documented in detail; and the results are being fully reported.

PUBLIC OUTREACH AND SEARCH FOR LIVING RELATIVES

TxDOT's outreach efforts were designed to help identify the recovered individuals, if such was possible. Before the project was initiated, TxDOT discussed the project with the State Historic Preservation Officer (SHPO) and the Roberts Cemetery Association and reached an agreement in principal that if burials were found, the state would exhume them according to prevailing archeological standards, attempt to identify them, and rebury them elsewhere in the cemetery. Once it was established that burials were in fact present inside the state-owned right of way in late August 2012, the members of the cemetery association were notified (this was initially accomplished in person, as Mrs. Heroldine Early, Mr. J. C. Alston, and Mr. Wayne Randolph were all frequent visitors during the discovery phase), and the agreement to reinter the remains in the cemetery was formalized (see Appendix F).

Although TxDOT had always planned to do public outreach, the nature and timing of that outreach were adjusted in response to circumstance. TxDOT had intended to complete the prospection process and determine how many burials were present in the right of way prior to notifying the public about the finds, so that a full and comprehensive statement could be released. However, on August 29, 2012, the *Temple Daily Telegram* reported that two unmarked graves had been discovered in the highway frontage of Roberts Cemetery during construction of Interstate Highway 35 improvements (Ersland 2012). Ken Roberts, TxDOT's Waco District Public Information Officer, then produced and distributed a press release and scheduled a press conference at the cemetery for Tuesday, September 5, 2012, while the prospection effort was ongoing. This press conference was attended by several reporters and news crews. Other reporters visited the cemetery in the days that followed and were provided essentially

the same information by TxDOT archeological personnel working in the field. In addition to simply informing the public, these presentations actively encouraged individuals with knowledge about the cemetery, or who thought that there was a possibility that the recovered remains might be their ancestors, to contact the Waco District. Over the next few days, the story was run by several local television and print media, including KCEN-TV, KWTX-TV, YNN-TV (Texas cable news), and the *Waco Tribune-Herald* (Cox, 2012; Ersland 2012; KCEN-TV 2012; Robertson 2012; Smith 2012) as well as the local weekly newspaper in Troy (*Troy Country Sun* 2012). Each of these stories repeated the appeal for individuals with interest to come forward. As a result of these appeals, nine individuals contacted TxDOT's Waco District office because they believed that they have a deceased relative who might be buried in an unmarked grave at Roberts Cemetery (Table 7.1).

The next step was to begin to look for possible age and sex matches between the missing relatives and the unidentified remains in the exhumed burials. Of the six unmarked graves identified in the 2008 and 2012 archeological investigations (see Chapters 1 and 2), two were examined only at the time of their discovery and were not disinterred.[18] The four sets of human remains exhumed from unmarked graves in 2012 are summarized as follows:

UNMARKED GRAVES NOT EXCAVATED

- Unnumbered burial, child, unknown sex
- Burial 5, probable adult, unknown sex

EXHUMED GRAVES

- Burial 1, adult male, age 30–40
- Burial 2, adult male, age 45–60
- Burial 3, adult male, age 20–27
- Burial 4, child, approximately 1.5 years, sex unknown

[18] The other two unmarked graves are mentioned here because their spatial proximity to the exhumed burials could be indicative of potential family relations. If any of the exhumed burial remains could be linked to living relatives through DNA analysis, the locations of the other unmarked graves might help shed some light on other possible family members.

When the osteological analysis was completed, we knew that three exhumed graves contained the remains of adult males, and the fourth individual was an infant. Based on this evidence, the list of families that were potentially related to the burial remains was reduced considerably. Seven people whose missing relatives were females were notified that the disinterred remains were not related to them. This left three families whose missing relatives were adult males and young children: Thomas, Gibson, and Elliott. The three missing adult relatives and family contacts warranting further consideration were:

- John A. Thomas (1850–1904); contact Cindy (Thomas) Schleede (lives near Troy)
- John J. Gibson (1861–1935); contact Florence (Gibson) Boren (lives in Temple)
- Nathan Elliott (1833–1900 or 1901); contact Cindy Black (lives in Corsicana)

DNA LABS AND ANALYTICAL TECHNIQUES

DNA testing of the four unmarked burials from Roberts Cemetery was conducted in an attempt to identify genetic relations among the four burials and possible genetic matches between the burials and living descendants. DNA extracted from the bones/teeth of the four burials would be compared genetically as a group to determine if any of the deceased were related to each other. Burial 4, for example, was a child who might have been buried in close proximity to another family member. Before analyzing bone samples to determine if viable DNA was preserved, research had to be done to determine which commercial laboratory should do the DNA study.

Overview of Commercial Laboratories and DNA Research

The project archeologist (Jennifer McWilliams) talked to seven genetic labs to review their services and costs. Most labs are set up and funded by paternity cases and therefore only deal with Y-chromosome tests. Such labs are common now, and one, LabCorp, even dubbed itself the "Walmart of genetic testing" because

Table 7.1. People who contacted the Texas Department of Transportation with information about possible relatives buried in Roberts Cemetery

Informant Name	Name of Missing Ancestor	Description of Missing Ancestor and Age at Death	Death Date of Missing Ancestor	Potential Burial Matches
Cindy Schleede	John A. Thomas	Male, age 53	February 4, 1904	Burial 2
	unknown child	Young child (sex unknown)	Possibly died in February 1904	Burial 4
Florence Boren	John Gibson	Male, age 74	ca. 1935	Burial 2
Larry W. Warneke	Tamsy Jane Davis	Female, age not specified	1911	None
Alvin Brooks	Mary Polly Roberts Early	Female, age 24 years	1844	None
Johnney Williams	Martha Angeline Ledbetter	Female, age 46 years	1887	None
Randy Todd	Martha Angeline Ledbetter	Female, age 46 years	1887	None
Cindy Black	Nathan Elliott	Male, age 67 or 68	1900 or 1901	Burial 2
	Lou Ella (Richardson) Elliott	Female, age not specified	Between 1889 and 1901	None
	Laura Elliot (Nathan and Lou Ella's daughter)	Female, age 1 or 2	1900 or 1901	Burial 4
Barbara Biskup	Bessie Cook	Female, age not specified	1908	None
Dottie Tate	Rebecca Burnley Porter Shepperd	Female, age 52	November 24, 1868	None

they have a lab in almost every county in every state in the United States. These commercial labs are set up specifically for legal DNA testing, and they follow rigorous procedures that enable them to present results that "hold up in court." Alternatively, they offer what labs call "peace of mind" testing, the results of which are not legally binding or meant to stand up in a court of law.

The Roberts Cemetery project had two types of DNA sources available for comparison: bone/teeth of the four deceased individual from the unmarked graves, and buccal (cheek) swabs taken from living descendants who have missing relatives that may be buried in unmarked graves at Roberts Cemetery. The important considerations for these samples were:

- Bone/Tooth: Because the bones/teeth are old (roughly 100 years) and were in the ground, exposed to moisture and drying, DNA was difficult to extract. The labs recommend testing a 2–4-inch piece of femur, if available. The inner (cortical) portion of teeth can also be used, but such samples are small, and it is less likely that uncorrupted DNA can be extracted.
- Buccal (or cheek) swabs: These were taken from living descendants, one swab on each side of the cheek. Traditionally, samples are taken by a trained and certified professional to produce legally binding results.

Factors That Affect Bone DNA Studies

To produce conclusive DNA results, the Roberts Cemetery project had two major hurdles to overcome: differential bone preservation and the generational span between the deceased and living genetic samples.[19] Although DNA can be extracted from blood, cells, hair, sperm, and other parts of the body, bone offers the longest preservation. For historic burials, bone is the only option available, but when bone is buried in the ground, it is vulnerable to many environmental variables. Good bone preservation is critical to the success of DNA extraction; however, bone that may seem well preserved to

[19] The information regarding DNA extraction and analytical techniques in this section comes primarily from Dr. Michael Schmiederer at LabCorp.

an archeologist may actually contain poorly preserved or contaminated DNA. In short, the older the bone, the more problematic it is to extract the DNA. Groundwater intrusion can leach out bone material containing DNA and introduce microorganisms and compounds that accelerate deterioration. Tree roots and burrowing animals (e.g., earthworms) can cause physical damage and contaminate bone by adding nonhuman DNA. All of these factors may affect the state of DNA preservation in bone samples.

The next challenge was to find potential relatives for DNA comparisons. What living offspring were available to provide buccal swab DNA samples for comparison? First-generation offspring produce the best statistical comparisons, but for the Roberts Cemetery project, no first-generation descendants were still living. The DNA collected from grandchildren display a weaker genetic relationship than those DNA from children, but a group of multiple second-generation and third-generation relatives can supplement data sets. For the Roberts Cemetery project, grandchildren and great-grandchildren of potential relatives were identified and contacted. Several people agreed to provide cheek swabs to contribute to the DNA data pool of living people who might be descendants. Fourth and fifth generations of potential relatives were also available, but they were not tested because their DNA would have had an even weaker connection to their ancestor.

DNA Extraction and Profiling

The first step in DNA analysis is to determine if the sample is viable—that is, if it contains readable and repeated DNA sequences. There are various ways to extract DNA from the calcium in a bone sample using chemicals and dye to highlight sections or loci on the DNA.[20] The extraction time for various methods ranges from several days to weeks. When one method is unsuccessful, a different method may be tried, and this process may continue for several weeks. However, at LabCorp the cost is by sample, so the cost remains the same no matter how many methods of extraction are attempted. Samples from living descendents (buccal swabs) take only a day or two to process since variable preservation is not an issue. Once the lab has extracted the DNA, the computer-generated analytical comparisons are accomplished quickly, but the results may vary depending on the goals and methods used. LabCorp suggested that it was not prudent to push the turnaround time for the DNA extraction since the goal is to create repeatable alleles.

Determination of Applicable DNA Tests

McWilliams collected the following information regarding current DNA testing procedures from two sources: Dr. Melton, lab director at Mitotyping Technologies, and Dr. Schmiederer at LabCorp. Note that the accuracy percentages stated below are only rough estimates provided to give a general impression of the level of statistical confidence in the results that might be expected.

Three primary categories of DNA testing can be run: Y-chromosome, mitochondrial, and simple short tandom repeats (STRs). In all tests that attempt to compare the deceased's DNA with buccal swab DNA from living descendants, the closer the genetic relationship, the better. Father-to-son or mother-to-daughter relationships have the best chance of obtaining numerous repeats in the genetic code (something like 99.8 percent confidence). Grandparent-to grandchild tests are not as strong, but can produce good results (say, 98–99 percent confidence). And great-grandparent-to-great-grandchild comparisons are weaker still, but can produce results with a fairly high percentage of accuracy (say, 98 percent confidence) in some cases.

During Y-chromosome tests, the nuclear DNA is extracted, but only the Y-chromosome, or male alleles, are mapped. These alleles are plotted and their STRs are studied. This type of analysis, called YSTR, can produce high-accuracy results (95 percent confidence or greater). This type of analysis can be used if all relatives within a lineage are male.

Mitochondrial DNA (MtDNA) labs are less common and more specialized. MtDNA tests require a straight female lineage. Results are often inconclusive. Simple short tandom repeat tests can be run for anyone, regardless of sex. While these tests are not as conclusive in deter-

[20] Bone compaction is a recently discovered method of increasing the chances of DNA extraction. This method requires specialized machines that few DNA labs can afford, and the costs of this type of DNA extraction are significantly higher than the standard practices.

mining relationships, they can produce enough repeated alleles that a strong case can be built in regards to genetic relationship (ca. 95 percent confidence). When these tests yield strong but inconclusive results, other data such as historical evidence can lend additional support, resulting in reasonably concrete determinations in "peace of mind" cases.

Cost Comparisons for DNA Analyses

Prices for DNA testing range dramatically depending upon the goals and methods, with MtDNA being the most expensive.[21] YSTR and Simple STR ranges from $325 to $1,345 per bone/tooth sample, and $210 is fairly standard for buccal swabs. MtDNA prices range from $1,250 to $1,345 for a bone/tooth sample and $100 to $1,200 for a buccal swab sample.

DNA Laboratory Recommendation

McWilliams had in-depth discussions with experts at three commercial labs: Dr. Melton at Mitotyping Technologies; Kathy Segal at DDC DNA Diagnostic Center; and Dr. Schmiederer at LabCorp. Dr. Melton provided extensive information on MtDNA only, and Mitotyping Technologies has extensive experience in forensic and genealogy testing. Prices were expectedly high. The DDC DNA Diagnostic Center lab conducts both MtDNA and YSTR, and prices were low to average when compared with other labs. Dr. Schmiederer with LabCorp provided the most information, asked the most relevant questions, and was immediately engaged in the project. LabCorp prices were quite reasonable, and the company said it would provide DNA reports with the following information:

- Identification of each bone/tooth sample by burial number and possible relationships to living persons (e.g., Burial X is possible paternal grandfather to Person A)
- Buccal (cheek swab) sample labeled with the donor's name and his or her possible relationship to specific burials (e.g., Person A is a possible maternal granddaughter of Burial X)
- The allele calls (a list of the repeated alleles) for each sample
- The statistical probability of the proposed relationship
- A written assessment of the likelihood of genetic relationships

Although the Roberts Cemetery case was quite unusual for LabCorp—like most DNA labs, it primarily handles paternity-oriented cases and litigation—Dr. Schmiederer thoroughly described each step in the process and the choices that needed to be made regarding test options and sample selection. PAI recommended to TxDOT that working with LabCorp for the genetic testing was the best option. TxDOT concurred, and the project moved on to the next step: researching the families who had ancestors that were potential matches with the burial remains.

POTENTIAL GENETIC MATCHES BETWEEN ANCESTORS AND THE HISTORIC BURIALS

Three families—Thomas, Gibson, and Elliott—had valid reasons for believing that their ancestor may have been buried in Roberts Cemetery. Table 7.2 summarizes the missing relative and descendant family information for the three families, including the living relatives who could provide buccal swabs for DNA analysis. Family trees were created primarily to establish family relations between living persons and their ancestry in order to convey the possible genetic relations between the burials and the living DNA donors to Dr. Schmiederer (LabCorp). This work provided a visualization of the direct male lineage between a deceased ancestor and each living DNA donor. This information was necessary so that LabCorp and PAI could determine the most appropriate type of DNA testing. McWilliams constructed two family trees (for Thomas and Gibson) using Ancestry.com, and Cindy Black provided a family tree for Elliott.

For the exhumed burials, the estimated ages of the three adult males range from 20 to 60 years old. The child is estimated at 18 months old. The missing relatives from the three families were all adult males 53 years or older at the

[21] Prices for tests were obtained from Mitotyping Technologies, LabCorp, Selmark Forensics, and DDC DNA Diagnostic Center.

Table 7.2. People who may be buried in unmarked graves in Roberts Cemetery and whose living relatives are potential DNA matches with exhumed burials

Missing Ancestor	Age at Death	Informant Name	Additional Information on Missing Ancestor	Potential Burial Match	Potential DNA Donors
John A. Thomas Born June 23, 1850 Died February 4, 1904	53	Cindy Schleede	John A. Thomas is Cindy Schleede's great-grandfather.	Burial 2	(1) Cindy's father, Don Thomas, and (2) Cindy's aunt, Dorothy Thomas. Don and Dorothy are siblings and grandchildren of the deceased.
Unknown child Died ca. 1904	Infant	Cindy Schleede	An infant or young child may have been related to John A. Thomas	Burial 4	Same as above, assuming the child was related to John A. Thomas
John J. Gibson Born April 15, 1861 Died October 23, 1935	74	Florence Boren	John J. Gibson is Florence Boren's grandfather. He died when Florence was 15 or 16 years old. He was probably in his 70s, tall and thin. The family was too poor to afford a permanent grave marker.	Burial 2*	(1) Florence Boren (age 93) is the granddaughter of the deceased.
Nathan Elliott** Born March 28, 1833 Died November 1900 or 1901	67 or 68	Cindy Black	Nathan Elliot last appears in the 1900 census for Limestone County, Texas. Nathan's wife was Lou Ella (or Louella) Richardson Elliott, who died after 1910. Nathan may have died in McLennan Co., Texas. Cindy Black found some family graves in the Old Troy Cemetery, but she has not found the burial sites for Nathan or Louella or three other children.**	Burial 2*	(1) Cindy's mother, Carolyn (Elliott) Pillans and (2) Cindy's aunt, Georgia Elliott. They are sisters and great-granddaughters of the deceased.
Laura Elliott Born October 1899 Died ca. 1900 or 1901	1 or 2	Cindy Black	Laura was a daughter of Nathan and Louella Elliott. She is thought to have died about the same time as her father.	Burial 4	Same as above
Willie Elliott Born 1882 Died ca. 1883	11 months	Cindy Black	Willie was a daughter of Nathan and Louella Elliott.	Burial 4	Same as above

* The estimated age of the Burial 2 remains is older than the age of the deceased relative.

** Besides Laura and Willie, a third child of Nathan and Louella Elliott was Nathan Elliott, Jr. He was born in 1879, but his death date and place of burial are not known.

time of their death. This immediately ruled out a match with the child in Burial 4, the young adult (20–27 years old) in Burial 3, and the middle-aged adult (30–40 years old) in Burial 1. Burial 2, however, was a possible match. John Thomas died at age 53, and he is a good age match for Burial 2. Both John Gibson, who died at 74, and Nathan Elliott, who died at 67 or 68, were older than the person in Burial 2, but only by 14 and 7 years respectively. Given the inherent problems with osteological age estimation for older adults, John Gibson and Nathan Elliott were also both considered potential matches for Burial 2.

FIRST ROUND OF DNA TESTING

It was concluded that submitting samples for a DNA testing using YSTR had a reasonable chance to help these families find lost ancestors. The cost to the state would be minimal, especially when compared with the cost of MtDNA testing. For the YSTR study, each bone/tooth sample would cost $325, regardless of the number of attempts the lab has to make in extracting the DNA. Each buccal swab from a living person would cost $210. PAI identified five candidates for DNA testing in the three families: siblings Don and Dorothy Thomas; siblings Carolyn (Elliott) Pillans and Georgia Elliott; and Florence (Gibson) Boren. [22]

First Set of DNA Bone Samples

Before extracting any DNA swab samples from living people, the archeologists had to determine if DNA was preserved and could be extracted from the human remains exhumed from the unmarked graves. LabCorp had recommended that a 2- to 4-inch femur section be submitted for DNA extraction because the likelihood of success is best when using dense, weight-bearing bone. The cortical bone protected inside the enamel of a well-preserved tooth is also a candidate for testing. TxDOT preferred the use of teeth only for the initial samples because it was less destructive (i.e., less bone is destroyed to extract the DNA). So the first round of DNA testing was conducted on teeth samples from three of the four burials (all the adults). However, no teeth were submitted for the 1.5-year-old child in Burial 4 because the teeth were so small.

For the three adult males in Burials 1, 2, and 3, sets of teeth samples (two from each burial) were collected by PAI personnel (Boyd and McWilliams) on March 18, 2012. They were shipped to LabCorp in special styrofoam shipping boxes and sample envelopes provided for this purpose. The goals of this analysis were to determine the level of DNA preservation in Burials 1, 2, and 3, and, if viable DNA were recovered, to determine if there were any genetic relationships between any of these adult males.

LabCorp processed the teeth samples over several months and provided results in September 2012. As stated in the LabCorp reports (see Appendix E), the DNA extractions were not successful (i.e., no readable DNA was preserved) for Burials 3 or 4, but viable DNA was obtained from Burial 2.

Buccal Swab Collection

To test for potential matches with the DNA obtained from Burial 2, PAI obtained buccal samples to be taken from the living donors. LabCorp provided PAI with five swab test kits that contained long Q-tip-style cotton swabs, self-sealing sample envelopes, rubber gloves, and FedEx mailing envelopes. McWilliams collected the buccal swab samples on December 21, 2012. Each sample envelope was filled in with the donor's name, signature, date, and the sample collector's initials. A digital photograph of each donor was taken and emailed to LabCorp.

Comparison of DNA from Teeth and Buccal Swabs

LabCorp processed the buccal swabs and ran the comparative analyses to look for genetic relationships between living candidates in three families and Burial 2. As stated in the LabCorp reports (see Appendix E), the tests yielded negative findings for two of the three families and an inconclusive result for the third. A comparison of Florence (Gibson) Boren's DNA to Burial 2 resulted in a statistical ratio of 0.0056 to 1, which is an extremely low probability that Mrs. Boren is related to the person buried in Burial 2.

[22] In an interesting side note, when Cindy Schleede was visiting with Carolyn Pillans and her sister Georgia Elliott during the reburial ceremony (see Chapter 8), they discovered that they are related by marriage.

A comparison of DNA from the Thomas siblings with DNA from Burial 2 resulted in the absolute determination, based on numerous key DNA markers, "that the individual labeled Burial Two is not the paternal grandfather of Dorothy Thomas and Don Thomas." The unrelated individuals were informed of the negative results. This finding was disappointing to these people because they have been searching for their missing relatives for many years.

The comparison of DNA from siblings Georgia Elliott and Carolyn (Elliott) Pillans with DNA from Burial 2 was inconclusive. The evidence fails to answer the question of whether the remains from Burial 2 might be the paternal great-grandfather of Elliott and Pillans. The LabCorp results state that:

> Using the genetic markers found in the testing, the likelihood ratio for great-grandfather vs. unrelated is 0.3 to 1. This value is inconclusive as to biological relationship. A more definitive conclusion may be reached if additional relatives are submitted for testing.

From a statistical standpoint, this finding suggests that it is more likely that the people are not related, but the possibility cannot be ruled out. A discussion of this statistical relationship is provided at the end of this chapter.

MEETING TO DISCUSS DNA OPTIONS AND REBURIAL

At this point, a decision was needed to determine if additional bone samples, specifically long bone segments that might have a better chance of yielding viable DNA, should be taken before reinterring the remains. It was also time to begin planning for the reburial, so TxDOT, PAI, and Roberts Cemetery Association members arranged for a meeting to discuss these topics. The meeting was attended by TxDOT personnel (Mike Rhodes, Jim Abbott, and Ken Roberts), PAI's archeologist (McWilliams), and several Roberts Cemetery Association members (Heroldine Early, Joel Day, Betty Bullis, Wayne Randolph, and J. C. Alston). TxDOT and PAI presented an overview of the excavations, the results of the osteological analyses, and the results of the DNA analysis. Roberts Cemetery Association members agreed that the removal of a segment of femur bone from Burials 1, 3, and 4 for DNA extraction was appropriate and should be done. Plans for the reburial ceremony were also made at this meeting. The minister was selected, a burial plot was found, and backhoe services were lined up. It was decided that the remains of the four individuals would be buried in one cemetery plot. Finally, arrangements were made for the selection, creation, and installation of a headstone.

SECOND ROUND OF DNA SAMPLING AND ANALYSIS

Bone samples were taken from three of the four exhumed burials: Burials 1, 3, and 4. Since the tooth sample from Burial 2 had produced viable DNA, no bone sample was necessary. PAI lab manager Robert Thrift collected the long bone samples following sampling instructions providing by LabCorp. The samples were packaged in the special sample envelopes and styrofoam shipping boxes sent by LabCorp.

This second round of DNA testing proved inconclusive. LabCorp was unable to extract any viable DNA from the long bone samples from Burials 1, 3, and 4.

DISCUSSION OF DNA RESULTS: BURIAL 2 AND THE ELLIOTT FAMILY

As mentioned earlier, the comparisons of DNA from buccal swabs and Burial 2 yielded inconclusive results in the case of the Elliott family. In this final section, the Elliott family history is considered in more detail to see if it sheds light on the DNA testing results. The following information is based on extensive Elliott family research done by Cindy Black and her aunt, Georgia Elliott.

- Nathan Elliott married his third wife, Louella (also seen Lou Ella) in Cameron, Milam County, in 1875. The family lived in Old Troy and ran a stagecoach station and a store of some sort. Like many people in the South, they were financially ruined after the Civil War.
- The last census information for Nathan Elliott indicates that in 1900 he was living

in Prairie Hill, Limestone County. But the family thinks that he may have died in McLennan County.

- Many of Nathan Elliott's relatives were buried in Old Troy Cemetery, which became basically inactive around the turn of the century, right around the time when Elliott died (1900 or 1901). Other Elliott family relatives are buried in Corsicana and Kilgore. After 1900, most local people who died in the Troy area were buried in Roberts Cemetery, which had become the de facto Troy community cemetery (see Chapter 6).
- Nathan Elliott's name does not appear on the burial inventory for Roberts Cemetery (Duke 2004; see Appendix D) or those of the nearby cemeteries of Old Troy (Find a Grave 2013; Todd and Todd 2006), Shiloh (Bell County Survey Committee n.d.; Entrop 2013), or Pleasant View (Badovinac 2001; Bell County Survey Committee n.d.).
- Nathan Elliott's name does not appear in the list of names of people whose death certificates indicate they may be buried in unmarked graves at Roberts Cemetery (see Chapter 6 and Appendix C).
- Cindy Black has located graves of other Elliott family members in the Old Troy Cemetery, and the online burial inventory lists 11 Elliotts buried there (Find a Grave 2013). But she has not located the gravesites for Nathan Elliott, his wife, and two daughters. Nathan's wife, Louella Richardson Elliott, died ca. 1889–1901, and the couple had two daughters who died very young. Their daughter Willie was born in 1882 and died when she was 11 months old. Laura was born in 1899 and may have died around the same time as her father, in 1900 or 1901.
- Nathan Elliott died at age 67 or 68, which makes him at least 7 or 8 years older than the male in Burial 2, whose age is estimated to be 45–60 years old. However, because age estimates based on human skeletal remains are not always precise, especially in older people, the difference of 7–8 years does not rule out the possibility that Burial 2 remains are those of Nathan Elliott.

Does this historical evidence fit with the DNA results? It provides no definitive answer to the question of where Nathan Elliott, his wife, and two young daughters might be buried. Because of their family history and ties to the Troy community and Old Troy Cemetery, it is certainly possible that Nathan Elliott and his family members were buried at Roberts Cemetery, but no documents or oral history confirm this. The DNA analysis indicates that the probability that the Burial 2 remains are those of Nathan Elliott, the great-grandfather of the Georgia Elliott and Carolyn (Elliott) Pillans, is 0.3 to 1. These siblings are three generational steps removed from Nathan Elliott, and this gap is considered significant, biologically speaking. The DNA testing result does not prove or disprove a genetic relationship between the Elliott sisters and Burial 2.

PROJECT SUMMARY, REINTERMENT, AND CONCLUDING REMARKS

8

James T. Abbott, Jennifer K. McWilliams, and Douglas K. Boyd

In 2011, TxDOT contracted with the James Construction Group, L.L.C., to construct a series of improvements along Interstate Highway 35 in Bell, Falls, and McLennan Counties. As part of the planning process for this project, TxDOT conducted an archeological evaluation of the corridor, followed by a preliminary survey of several cemetery frontages in Bell and Falls County (Hatfield et al. 2009). This survey indicated that there was cause for concern at Roberts Cemetery, situated on the south bank of Big Elm Creek on the western side of Interstate Highway 35. Because the area to be affected was covered with concrete, fill, and an active southbound frontage road, no archeological work was possible until the highway project was initiated and the frontage road was closed. This report describes the process of prospecting for burials in the state-owned right of way fronting Roberts Cemetery, the archeological excavation and recovery of remains from four unmarked graves, the analyses of the remains from these graves (including human bones, mortuary hardware, and personal items), and the attempts to identify the possible relatives through historical research, public outreach, and comparative DNA analyses.

SUMMARY OF THE EXCAVATED BURIALS

The four unmarked graves that were exhumed in 2012 contained the remains of three adult males and one child, but these individual are not a representative sample of the local central Texas population or even of the population within the cemetery itself. Interpretation of the material remains in the ground is further complicated by postdepositional processes that alter the evidence that survives. Nevertheless, the bioarcheological data obtained during this project are important and contribute to a growing body of data from historic cemetery investigations across the United States. Archeological mortuary evidence and personal effects interred with individuals offer a snapshot in time that represents the interplay of social, philosophical, and religious beliefs tempered by particular historical circumstances (Carr 1995).

The three adults exhumed from Roberts Cemetery were of different ages at death: the youngest being 20–27 years old (Burial 3); one being 30–40 years old (Burial 1), and the oldest being 45–60 years old (Burial 2). The fourth burial is that of an infant about 1.5 years old (Burial 4). All four were typical Christian-tradition burials in wooden caskets oriented with the head to the west.

The mortuary hardware described in Chapter 4 provides some chronological information regarding the deaths and interments of these four individuals. The hardware indicates that all four burials date after ca. 1895, based primarily on the use of wire nails in casket construction, and the patented Type 2 casket handles in Burial 1 date this interment after 1910 (see Table 4.2). Collectively, the casket hardware styles also suggest that all three of the adult burials had occurred before 1940. The clothing items provide additional evidence that dates two of the burials after the turn of the century. The patented styles of safety pin and clothing snaps indicate that that Burial 3 postdates 1900 and Burial 4 postdates 1902 (see Table 3.3).

The combined chronological evidence, from mortuary hardware and personal items,

indicates the following as the most likely dates of interment:

Burial 1	1910 to late 1930s
Burial 2	1895 to late 1930s
Burial 3	1900 to late 1930s
Burial 4	1902 to late 1930s

Based on this evidence, three of the interments definitely occurred in the early twentieth-century, while Burial 2 could date to the last half decade of the nineteenth century. Based on the similarities in the casket hardware, however, Burial 2 likely occurred in the early twentieth century.

The osteological evidence derived from an analysis of the skeletal remains (see Chapter 5) reveals no bone anomalies, trauma, or pathological evidence that would indicate how these people might have died. However, the various ages at death fits the general pattern of late-nineteenth-century mortality in Texas. The burial of a young child is certainly not unusual since infant mortality rates were quite high in the late-nineteenth- and early-twentieth-century Texas. This child could have died from a wide range of diseases or accidents that were common in Troy and Bell County more than a century ago (see Table 5.5), many of which are preventable today. The infant was buried in a cloth or a gown held together with one button and several safety pins. It was wearing a bonnet fastened with metal snaps and probably had with a floral arrangement inside the casket. During the Victorian era, it was common for child burials to be covered in flowers. An 1886 *Harper's Bazaar* article on appropriate mourning behavior and funeral etiquette recommended:

> In dressing the remains for the grave, those of a man are usually "clad in his habit as he lived." For a woman, tastes differ; a white robe and cap, not necessarily shroud-like, are decidedly unexceptionable. For young persons and children, white cashmere robes and flowers are always most appropriate (*Harper's Bazaar* 1886:250; *Victoriana* 2012).

The remains in Burial 1 display evidence of hypoplasia, indicating that this individual suffered from bouts of childhood stress. His well-developed muscle attachments indicate that he was accustomed to hard labor. In contrast, the older man in Burial 2 may have come from a higher social status. He was buried in more elaborate clothing (wearing an eyelet-collared shirt and cuff links), his minimal muscle development indicates that he did not do hard labor, and he had psoriatic arthritis (a condition rarely seen in historic archeological populations) that may have caused partial atrophy of his upper arms.

The four burials were all clustered in the northeast corner of the Roberts Cemetery, which is the area of the cemetery where the oldest burials occurred. Since all four date before the late 1930s, they are among the oldest burials in Roberts Cemetery. Roberts Cemetery contains 633 marked burials dating from 1886 through 2004, and 21 percent of all the known burials occurred before 1940 (see Figure 6.1 and Appendix D).[23]

Because the four exhumed burials are among the easternmost graves in Roberts cemetery, they have twice been affected by road construction activities. They were covered over during road improvements in the 1950s, when State Highway 81 was expanded into Interstate Highway 35, suggesting that the graves were not marked or their grave markers had disappeared at least 60 years ago. These burials were impacted once again during the current interstate highway expansion project that led to their exhumation in 2012 and reinterment in 2013.

SUMMARY OF THE DNA RESEARCH

Attempts to establish the identity of the four individuals recovered during the project were unsuccessful. Preserved DNA was extracted from Burial 2, but no viable DNA was recovered from Burials 1, 2, or 4. Buccal swab DNA samples taken from five people in three families reveal no conclusive matches with the DNA profile of the 45–60 year old male in Burial 2. Members of the Thomas and Gibson

[23] It must also be noted that other unmarked graves probably exist in Roberts Cemetery. Archeological experiences at many historic cemeteries in Texas and across the United States teach us that older cemeteries commonly contain many unmarked graves, and that the unknown graves tend to be the older burials rather than younger ones.

families are not related, and DNA comparison of the two Elliott siblings and the Burial 2 remains is inconclusive.

LabCorp will retain the DNA samples (buccal swabs and the small amounts of bone remaining) in perpetuity, along with the DNA analysis data and comparative profiles. The bone DNA data for Burial 2 will be accessible to any other people looking for an older male relative who might have been buried at Roberts Cemetery. If new and better DNA extraction methods become available in the future, additional DNA testing could be conducted on the bones from Burials 1, 3, and 4.

REBURIAL CEREMONY

On March 26, 2013, all four sets of unidentified human remains, associated mortuary hardware, and personal items were reinterred at Roberts Cemetery. Larry Granfor (Associate Pastor at Grace Baptist Church in Temple, Texas) officiated over the short reburial ceremony (Figure 8.1). The service was attended by the members of the Roberts Cemetery Association, a Troy city official, several of the individuals who were looking for ancestors possibly buried in the cemetery, representatives of Prewitt and Associates, Inc., representatives of TxDOT's Waco District and Environmental Affairs Division, and members of the local media. Joseph Bedrich, who works at Roberts and other surrounding cemeteries, provided backhoe services for the reburial.

The remains from each unmarked grave were placed in separate wooden reburial boxes, and all four boxes were placed in an excavated shaft within a single grave plot located in the northeast corner of the cemetery. The reburial plot was not far from their original gravesites. Within the new grave shaft, Burial 1 was placed in the northeast quadrant, Burial 2 was in the southeast quadrant, Burial 3 was in the northwest quadrant, and Burial 4 was in the southwest quadrant.

In the days following the ceremony, McWilliams arranged for a headstone to be erected at the gravesite. This was coordinated by Mrs. Heroldine Early, president of the Roberts Cemetery Association, and the headstone was donated by Phipps Memorial of Waco. The headstone was installed at the reburial plot on July 26, 2013. It reads:

Unidentified Male Unidentified Male
Unidentified Male Unidentified Child
Removed from TxDOT ROW September 2012
Reinterred March 26, 2013
REST IN PEACE

CONCLUDING REMARKS

The main objective of the work at Roberts Cemetery was to locate and remove any unmarked burials from the TxDOT right of way and reinter them elsewhere in the cemetery in a responsible and respectful manner. We believe that goal was accomplished. Although it is unfortunate that we were unable to identify any of the individuals interred in the unmarked graves through historic research and DNA testing, the archived bones from Burials 1, 3, and 4 and the DNA profile associated with Burial 2 make such identification possible in the future.

Figure 8.1. Photographs of the reburial ceremony at Roberts Cemetery on March 26, 2013. (Top) Minister Larry Granfor conducting the reburial service. Note that the newly constructed bridge for the southbound frontage road, in the background on the right, is the area where the unmarked graves were found. (Bottom) Attending the ceremony were three people with missing ancestors who may be buried in unmarked graves at Roberts Cemetery. From left to right, they are Cindy (Thomas) Schleede, Carolyn (Elliott) Pillans, and Georgia Elliott.

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APPENDIX A: Tabulated Data on Mortuary Hardware: Hardware Catalogs, Historic Cemetery Reports, and Cemetery Artifact Comparisons

Compiled by Jeremy W. Pye

Table A.1. Mortuary and general hardware catalogs consulted for comparison (n = 406)

DATE	COMPANY NAME	LOCATION	TITLE OF CATALOG	# pages	LOCATION OF CATALOG	Partial/ Complete
1797 (circa)	unnamed	England	[book of coffin plates, handles, ornaments, etc. (dated by a 1797 watermark)]	119	Winterthur Museum, Winterthur, DE	complete
1853	Peck & Walter Manufacturing Co.	New Britain, CT	Illustrated Price List of Builders' and Home Owners Furnishings…	[2]	Connecticut Historical Society, Hartford, CT	partial
1859	Corbin, P. & F.	New Britain, CT	P. & F. Corbin's illustrated catalogue & Price list: manufactureres ...of coffin trimmings	[3]	University of Delaware, Newark, DE	partial
1861	Sargent & Co.	New Britain, CT	Price List of Sargent & Company,	9	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL, Chicora Foundation, Columbia, SC	partial
1865	Crane, Breed & Co.	Cincinnati, OH	Wholesale Prices of Plain Cases, Crane's Metallic Burial Casket, etc.	4	Hagley Museum, Wilmington, DE	complete
1865	Markhan & Strong	E. Hampton, CT	Revised price list of goods	47	Connecticut State Historical Society, Hartford, CT	complete
1865	Russell & Erwin Mfg. Co.	New Britain, CT	Illustrated Catalog of American Hardware of the Russell & Erwin Mfg Co.		reprint 1980	complete
1866	P. & F. Corbin	New Britain, CT	P. & F. Corbin's price list: manufacturers of ... coffin trimmings...	4 (trimmings)	University of Delaware, Newark, DE	complete
1866	Sargent & Co.	New Haven, CT	Prices of Hardware	26	Connecticut State Library, Hartford, CT	partial
1867	Crane, Breed & Co.	Cincinnati, OH	Wholesale pricelist of patent metallic burial cases and caskets, hearses, name plates and handles, plumes & sockets, etc.	56	Winterthur Museum, Winterthur, DE	complete
1869	Meriden Britannia Co	Meridan, CT	Illustrates and Descriptive Price List of Coffin and Casket Trimmings	27	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL, Chicora Foundation, Columbia, SC	complete
1869	Sargent & Co.	New Haven, CT	Appendix to Illustrated Catalog	48 [2]	Connecticut Historical Society, Hartford, CT	partial
1869	Shanahan, James M. (Firm)	New York, NY	Price List of Undertakers' Hardware	3	Smithsonian Institution (Museum of American History), Washington, D.C. [Trade Catalogues from Shanahan, James M.]	complete
1869 (circa)	Shanahan, James M. (Firm)	New York, NY	Illustrated Catalogue of Undertakers' Hardware and Trimmings	36	Smithsonian Institution (Museum of American History), Washington, D.C. [Trade Catalogues from Shanahan, James M.]	complete
1870	Johnston, Wettach & Co.	Alleghany, PA	Wholesale Prices of Untrimmed Coffins and Caskets	21	Smithsonian Institution (Museum of American History), Washington, D.C. [Trade Catalogues from Johnston, Wettach & Co.]	complete
1870 (circa)	Paxson, Comfort & Co.	Philadelphia, PA	Illustrated Catalogue of wood and metallic burial caskets, coffins, corpse oreservers and linings		Private Collection (Ebay buyer)	partial
1871	Ives & Allen Co.	Montreal, Québec, Canada	Price List and Illustrated Catalogue of Hardware	[17]	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1871	Sargent & Co.	New Haven, CT	Price List and Illustrated Catalogue of Hardware mfg and for sale by Sargent & Co.	[23]	Library of Congress; Chicora Foundation, Columbia, SC; Hagley Musem, Wilmington, DE; State Library of Pennsylvania, Harrisburg, PA; New York State Library, Albany, NY; University of Massachusetts-Amherst, Amherst, MA; Boston Athenaeum, Boston, MA	partial
1872 (circa)	Cleveland Burial Case Co.	Cleveland, OH	Revised Cleveland Burial Case Co. Catalog	42	Smithsonian (Museum of American History) [Trade Catalogues from Cleveland Burial Case Co.]	complete
1872	Taylor & Co.	Bowery, NY	The Undertakers' Guide	79	Library of Congress, Washington, D.C.	complete
1872	Taylor & Co.	Bowery, NY	Illustrated Catalogue of Caskets, Coffins, Shrouds, Trimmings, etc.	48	Library of Congress, Washington, D.C.	complete

Table A.1, continued

DATE	COMPANY NAME	LOCATION	TITLE OF CATALOG	# pages	LOCATION OF CATALOG	Partial/ Complete
1874	Sargent & Co.	New Haven, CT	Price List and Illustrated Catalogue of Hardware mfg and for sale by Sargent & Co.	812 [42]	Library of Congress, Washington, D.C.; Strong National Museum of Play, Rochester, NY	partial
1874	Wayne Hardware Co.	Cincinnati, OH	Illustrated catalogue of casket and coffin trimmings...	71	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL; Ohio Historical Society, Columbus, OH	complete
1875	Crane, Breed & Co.	Cincinnati, OH	Illustrated Catalogue and Price List of Patent Metallic Burial Cases and Caskets	64	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1875	Keystone Coffin & Casket Works	Alleghany City, PA	Illustrated Catalogue and Price List of Coffins and Caskets…	10	Personal Collection, Karissa Basse, PBS&J, Houston, TX	complete
1875	Taylor, H. E. & Co.	New York, NY	Illustrated Catalogue of Undertaker's Sundries	172	Library of Congress, Washington, D.C.	complete
1876	Cincinnati Coffin Co.	Cincinnati, OH	Reduced Wholesale Price-list [June 1, 1876]	4	Smithsonian Institution (Museum of American History), Washington, D.C.	complete
1876	Meriden Britannia Co	West Meriden, CT	Second 1876 Supplement of Wm. M. Smith's original designs of Casket Trimmings	22	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1876	Todd, Pollock & Granger	Burlington, IA	Tenth Annual Illustrated Catalogue and Wholesale Pricelist of Furniture, Etc., Manufactured and Sold by Todd, Pollock & Granger	156	Private Collection (Ebay buyer)	partial
1877	Cincinnati Coffin Co.	Cincinnati, OH	Illustrated Catalogue of Coffin Hardware, Robes, Head Linings, Etc.	64	Newberry Library, Chicago, IL [Helen Sclair Collection]	complete
1877	Crane, Breed & Co.	Cincinnati, OH	Illustrated Catalogue of Undertakers' Goods	234	Library of Congress, Washington, D.C.	complete
1878 (circa)	Paxson, Comfort & Co.	Philadelphia. PA	Illustrated Catalogue of Undertaker's Supplies	192	Private Collection (Ebay buyer)	partial
1878	Taylor, H. E. & Co.	New York, NY	Supplementary list: undertakers' sundries	32	Benson Ford Research Center, The Henry Ford Museum, Dearborn, MI	complete
1878 (circa)	Warfield & Rohr	Baltimore, MD	Illustrated catalogue of undertaker's supplies	105	Private Collection (Ebay buyer)	partial
1878 (circa)	Warfield & Rohr	Baltimore, MD	Wholesale price list of undertakers' supplies		Private Collection (Ebay buyer)	partial
1879 (circa)	Cleveland Burial Case Co.	Cleveland, OH	Illustrated Catalogue of Undertakers' Silver Plated Hardware, Robes, Linings & Undertakers' Dry Goods	90	Smithsonian (Museum of American History) [Trade Catalogues from Cleveland Burial Case Co.]; Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1879	Hamilton, Lemmon, Arnold & Co.	Pittsburgh, PA	Price List (June 20, 1879)	4	University of Delaware, Newark, DE	complete
1879	Hutton, J.M. Co.	Richmond, IN	Revised Order Blank and Price List (November 12, 1879)	1	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1880	Hamilton, Lemmon, Arnold & Co.	Alleghany, PA	Reduced Price List of Hardware and Trimmings (June 23, 1880)	1	University of Delaware, Newark, DE	complete
1880 (circa)	Hill, F. H. & Co.	Chicago, IL	Price List to Accompany Illustrated Catalogue of 1880	broadside	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1880	Meriden Britannia Co	West Meriden, CT	Illustrated catalogue of Wm. M. Smith's fine silver, bronze, etc Casket trimmings	48	Winterthur Museum, Winterthur, DE; Yale University Library	complete
1880 (circa)	Norris, C. Sidney & Co.	Baltimore, MD	Illustrated Catalogue of Coffin Handles and Undertakers' Trimmings	68	University of Delaware, Newark, DE	complete
1880 (circa)	Norris, C. Sidney & Co.	Baltimore, MD	Price List of Coffin Handles and Undertakers' Trimmings	4	University of Delaware, Newark, DE	complete
1880	Paxson, Comfort & Co.	Philadelphia, PA	Illustrated Catalogue of Hearse Trimmings and Undertakers' Specialties	47	Private Collection (Ebay buyer)	partial
1880	Paxson, Comfort & Co.	Philadelphia, PA	Price List of Hearse Trimmings and Undertakers' Specialities		Private Collection (Ebay buyer)	partial
1880	Stolts, Russell & Co.	New York, NY	Illustrated and descriptive catalogue of undertakers' supplies		Strong National Museum of Play, Rochester, New York	complete
1880	Warfield & Rohr	Baltimore, MD	Illustrated and descriptive catalogue of undertakers' trimmings and cabinet hardware	141	University of Delaware, Newark, DE	partial

Table A.1, continued

DATE	COMPANY NAME	LOCATION	TITLE OF CATALOG	# pages	LOCATION OF CATALOG	Partial/ Complete
1880 (circa)	Warfield & Rohr	Baltimore, MD	Wholesale price list of undertakers' supplies		Private Collection (Ebay buyer)	partial
1880	Zanesville Coffin Co.	Zanesville, OH	Illustrated Catalogue of Wood Coffins and Caskets, Undertakers' Hardware, Robes, Linings and Sundries	53	Smithsonian Institution (Museum of American History), Washington, D.C.	complete
1881	Cincinnati Coffin Co.	Cincinnati, OH	Reduced Wholesale Price List (January 1881)	22	Smithsonian Institution (Museum of American History), Washington, D.C. , University of Delaware, Newark, DE	complete
1881	Cincinnati Coffin Co.	Cincinnati, OH	Supplementary Price List (July 1881)	9	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1881	Hamilton, Lemmon, Arnold & Co.	Pittsburgh, PA	Revised Price List of the Excelsior Coffin and casket Works (March 8, 1881)	2	University of Delaware, Newark, DE	complete
1881	Hill, F. H. & Co.	Chicago, IL	Illustrated Catalogue of Burial Cases and Caskets, and Undertakers' Supplies	75	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1881	Lockhart, Wm. L. (firm)	East Cambridge, MA	Wholesale Price List of Caskets and Coffins	31	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1881	Paxson, Comfort & Co.	Philadelphia, PA	Illustrated and Descriptive Catalogue of Wood, Metallic, and Cloth Covered Burial Caskets and Coffins		Mitchell Family Funeral Home, Marshalltown, IA	partial
1881	Taylor, H. E. & Co.	New York, NY	[H. E. Taylor & Co's Fashion Quaterly]	>32	Private Collection (Ebay buyer)	partial
1881	Union Casket Co.	Boston, MA	Telephonic and Telegraphic Key and Wholesale Price List Combined, of Untrimmed and Cloth Covered Caskets	30	Hagley Museum, Wilmington, DE	complete
1882	Cincinnati Coffin Co.	Cincinnati, OH	Wholesale Price List (January 1882)	20	University of Delaware, Newark, DE; Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1882	Cleveland Burial Case Co.	Cleveland, OH	Illustrated Catalogue of Wood, Cloth Covered and Metallic Caskets	48	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL; Chicora Foundation, Columbia, SC	complete
1882	Columbus Coffin Co.	Columbus, OH	Illustrated Catalogue Wood & Cloth Covered Coffins & Caskets, Undertakers' Hardware and Sundries, Robes, Linings, and General Supplies	67	Winterthur Museum, Winterthur, DE	partial
1882	Hamilton, Lemmon, Arnold & Co.	Pittsburgh, PA	Illustrated Catalogue of Varnished and Cloth Covered Burial Cases and Casket	85	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1882	Hamilton, Lemmon, Arnold & Co.	Pittsburgh, PA	Excelsior Coffin and Casket Works Price List of Hardware, Robes, Linings, Trimmings, etc. (March 1, 1882)	32	University of Delaware, Newark, DE	complete
1882	Stein Manufacturing Co.	Rochester, NY	Art Designs of Fine Funeral Furniture as Originated by the Stein Manufacturing Co.	36	Rochester Public Library, Rochester, NY	complete
1882	Stein Manufacturing Co.	Rochester, NY	Telegraphic Key and Revised Wholesale Price List and Catalogue of Untrimmed Caskets	80	Smithsonian Institution (Museum of American History), Washington, D.C.	complete
1882	Sunbury Coffin & Casket Works	Sunbury, PA	Wholesale price list of untrimmed coffins and caskets (April 1, 1882)	14	University of Delaware, Newark, DE	complete
1883	Cincinnati Coffin Co.	Cincinnati, OH	Price List (March 1, 1883)	4	University of Delaware, Newark, DE	complete
1883	Lockhart, Wm. L. (firm)	East Cambridge, MA	Price list & telegraph key of solid mahogany & cloth covered caskets...	20	New York State Library, University Pub. of America, MD; Winterthur Museum, Winterthur, DE	complete
1883	Sargent & Co.	New Haven, CT	Appendix to Illustrated Catalog of Coffin and Casket Trimmings	43	Personal Collection, Alexandra Bybee, Cultural Resource Analysts, Inc., Lexington, KY	complete
1883	Stein Manufacturing Co.	Rochester, NY	The most serviceable invention of the age: our "patent fastener" for casket tops	4	Strong National Museum of Play, Rochester, NY	complete
1883	Sunbury Coffin & Casket Works	Sunbury, PA	Wholesale price list of untrimmed coffins and caskets (March 1883)	18	University of Delaware, Newark, DE	complete

Table A.1, continued

DATE	COMPANY NAME	LOCATION	TITLE OF CATALOG	# pages	LOCATION OF CATALOG	Partial/ Complete
1884	Chappell, Chase, Maxwell & Co.	Oneida, NY	Illustrated Catalogue of Cloth, Velvet-Covered, and Wood Finished Burial Caskets	105	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1884	Chicago Coffin Co.	Chicago, IL	Illustrated catalog of undertakers' goods	57	Smithsonian Institution (Museum of American History), Washington, D.C.	complete
1884	Hamilton, Lemmon, Arnold & Co.	Pittsburgh, PA	Excelsior Coffin & Casket Works Price List of Hardware, Robes, Linings, Trimmings, &C. Manufactured by Hamilton, Lemmon, Arnold & Co.		Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1884	Hamilton, Lemmon, Arnold & Co.	Pittsburgh, PA	Revised wholesale price list of varnished and cloth-covered burial cases and caskets (Jan. 16, 1884)	18	New York State Library, Albany, NY; University Pub. of America, MD; Winterthur Museum, Winterthur, DE; Cleveland Public Library, Cleveland, OH; Yale University Library; Boston Public Library, Boston, MA	complete
1884	Hawley Bros. Hardware Co.	San Francisco, CA	No. 15 Price List & Illustrated Catalog of Hardware & Agricultural Implements	5 (trimmings)	Jackson Business Library, Stanford University, Stanford, CA	complete
1884	Hill, F. H. & Co.	Chicago, IL	Prices of Wood Burial Cases and Caskets (associated with the No. 15 Catalogue)(January 16, 1884)	broadside	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1884	Hill, F. H. & Co.	Chicago, IL	Reduced Prices of Wood Burial Cases and Caskets (associated with the No. 15 Catalogue)(May 20, 1884)	broadside	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1884	Paxson, Comfort & Co.	Philadelphia, PA	Illustrated and descriptive catalogue of wood, metallic, and cloth covered burial caskets	36	Hagley Museum, Wilmington, DE	complete
1884	Paxson, Comfort & Co.	Philadelphia, PA	Undertakers; Reduced Wholesale Price-List, to Accompany Illustrated Catalogue of December, 1881 (March 1884)	4	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1884	Taylor, H. E. & Co.	New York, NY	Robes and linings	37	New York State Library, Albany, NY; University Pub. of America, MD; Winterthur Museum, Winterthur, DE; Cleveland Public Library, Cleveland, OH; Yale University Library; Boston Public Library, Boston, MA	complete
1885	Chicago Coffin Co.	Chicago, IL	Reduced Price List of Undertakers' Supplies (November 1, 1885)	8	Smithsonian Institution (Museum of American History), Washington, D.C.	complete
1885 (circa)	Harrisburg Burial Case Co.	Harrisburg, PA	Illustrated catalogue of coffins, caskets, and undertakers supplies	85	Hagley Museum, Wilmington, DE	complete
1885 (circa)	Stein Manufacturing Co.	Rochester, NY	Incontrovertible Metallic Facts [Cloth Covered Metallic Caskets]	27	Benson Ford Research Center, The Henry Ford Museum, Dearborn, MI	complete
1885	Stein Manufacturing Co.	Rochester, NY	Supplement to Our Book of Designs	23	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1886	Hamilton, Lemmon, Arnold & Co.	Pittsburgh, PA	Price list of wrappers, robes, linings, trimmings, etc. (Excelsior coffin and casket works) (Nov. 1, 1886)	25	Strong National Museum of Play, Rochester, NY	complete
1886	Hamilton, Lemmon, Arnold & Co.	Pittsburgh, PA	Revised Price List of Coffin and Casket Hardware (Excelsior Coffin and Casket Works) (Nov. 1, 1886)	15	University of Delaware, Newark, DE	complete
1886	Paxson, Comfort & Co.	Philadelphia, PA	Supplementary Catalogue of Undertakers' Hardware	35+	Alaska, Private Collection (Ebay buyer)	partial
1886	Warfield & Rohr	Baltimore, MD	Wholesale Price-List of Coffin and Casket Trimmings, Linings, Robes and Wrappers	12	University of Delaware, Newark, DE	complete
1887	Crane & Breed Mfg. Co.	Cincinnati, OH	Price List of Cloth Covered Caskets (Sept. 1, 1887)	4	Private Collection (Ebay buyer)	complete

Table A.1, continued

DATE	COMPANY NAME	LOCATION	TITLE OF CATALOG	# pages	LOCATION OF CATALOG	Partial/ Complete
1887	Hamilton, Lemmon, Arnold & Co.	Pittsburgh, PA	Price List and Telegraph Key of Varnished and Cloth Covered Burial Cases and Caskets (Jan. 1, 1887)	34	Personal Collection, James Davidson, University of Florida, Gainesville, FL; University of Delware, Newark, DE	complete
1887	Maryland Burial Case Co.	Baltimore, MD	Price List - Wood Coffins and Caskets	29	Smithsonian Institution (Museum of American History), Washington, D.C.	complete
1887	Stein Manufacturing Co.	Rochester, NY	Revised price list and telegraphic key of textile covered caskets	64	Private Collection (Ebay buyer)	partial
1888	Dorntee Casket Co.	Boston, MA	Designs 1888-1889	100	Smithsonian Institution (Museum of American History), Washington, D.C. [Warshaw Collection]	complete
1888	Hamilton, Lemmon, Arnold & Co.	Pittsburgh, PA	Price List of Wrappers, Robes, Linings, Trimmings, etc. (Feb. 1, 1888)	33	Personal Collection, James Davidson, University of Florida, Gainesville, FL, University of Delware, Newark, DE	complete
1888	Hamilton, Lemmon, Arnold & Co.	Pittsburgh, PA	Revised Price List of Coffin and Casket Hardware (Excelsior Coffin and Casket Works) (Feb. 1, 1888)	15	University of Delaware, Newark, DE	complete
1888	Sargent & Co.	New Haven, CT	Sargent & Co. Hardware [General Catalog]	1024 [1]	Newman Library, Virginia Tech, Blacksburg, VA	partial
1888	Sauter, Wm. (firm)	Baltimore, MD	Wholesale Price List (April 1888)	20	University of Delaware, Newark, DE	complete
1889	Paxson, Comfort & Co.	Philadelphia, PA	Wholesale price list of untrimmed coffins and caskets	4	New York State Library, Albany, NY; Winterthur Museum, Winterthur, DE	complete
1890	Chappell, Chase, Maxwell & Co.	Rochester, NY	Designs	185	Strong National Museum of Play, Rochester, NY; Personal Collection, Michael Beardsley, Chittenango, NY	complete
1890	Cincinnati Coffin Co.	Cincinnati, OH	Catalogue of Wood Cases, Wood Caskets, Cloth-Covered Caskets, Metal Caskets and Air-Tight Metallic Linings	185	Smithsonian Institution (Museum of American History), Washington, D.C. [Warshaw Collection]	complete
1890 (circa)	Cincinnati Coffin Co.	Cincinnati, OH	[Sample book of coffin/casket linings and cloth covering]	3	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1890 (circa)	Cincinnati Coffin Co.	Cincinnati, OH	Illustrated Casket Catalogue "D6"		Howard C. Raether Library, National Funeral Directors Association, Brookfield, WI	partial
1890 (circa)	Cincinnati Coffin Co.	Cincinnati, OH	Catalogue "D7" - Paramount	191	Commonwealth Institute of Funeral Service, Houston, TX	complete
1890 (circa)	Cleveland Burial Case Co.	Cleveland, OH	Illustrated catalogue of undertakers' silver plated hardware, casket and coffin handles, name plates, thumb screws, thumb screw plates, tacks, ornaments, escutcheons and hardware sundries, robes, linings, and undertakers' dry goods		Private Collection (Ebay buyer)	partial
1890 (circa)	Colorado Casket Co.	Denver, CO	Casket Catalog No. 12	288	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1890 (circa)	Manger, E. C. & Son Co.	Green Bay, WI	Catalogue No. 2 illustrating casket hardware, dry goods and sundries	112	Wisconsin Historical Society, Madison, WI	partial
1890 (circa)	Northern Casket Co.	Fond du Lac, WI	High Grade Cloth Covered Caskets	71	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1890 (circa)	Paxson, Comfort & Co.	Philadelphia, PA	Price List of Elegant Emblems Made from Natural Flowers, Also Preserved Flowers and Prepared Italian Wheat Adapted Especially for Funeral Purposes.		Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1890 (circa)	Paxson, Comfort & Co.	Philadelphia, PA	Catalogue of Burial Caskets for Sale to the Trade only by The Paxson &Comfort Co.	107	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1890 (circa)	Paxson, Comfort & Co.	Philadelphia, PA	Wholesale Pricelist of Burial Robes, Wrappers, Dresses, Suits, Habits, &c., &c. Manufactured by Paxson, Comfort & Co.		Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete

Table A.1, continued

DATE	COMPANY NAME	LOCATION	TITLE OF CATALOG	# pages	LOCATION OF CATALOG	Partial/ Complete
1890 (circa)	Rock Falls Mfg. Co.	Sterling, IL	Columbian Catalogue No. 7, Rocf Falls Man'fg Co. manufacturers of Hearses, Caskets and Undertakers' Supplies		Private Collection (Ebay buyer)	partial
1890 (circa)	Stein Manufacturing Co.	Rochester, NY	[Catalog of Casket Designs] (Title page missing)		Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1890 (circa)	Warfield & Rohr	Baltimore, MD	Illustrated Catalogue of Warfield & Rohr: maufactures and jobbers of wood coffins &		Strong National Museum of Play, Rochester, NY; University of Delaware, Newark, DE	complete
1890 (circa)	Warfield & Rohr	Baltimore, MD	Wholesale Price List of Untrimmed Wood Coffins and Caskets, Cloth Covered Caskets, Metallic Coffins and Caskets, lining Wood Coffins, Caskets and Cloth Covered Caskets	3	University of Delaware, Newark, DE	complete
1890 (circa)	Warfield & Rohr	Baltimore, MD	Illustrated Catalogue	74	University of Delaware, Newark, DE; Personal Collection, James Davidson, University of Flordia, Gainesville, FL	complete
1892	Belknap, W. B. & Co	Louisville, KY	Importers and jobbers of Hardware	923 (2 pages trimmings)	Private Collection (Ebay buyer)	partial
1893	Louisville Coffin Co.	Louisville, KY	Price List Wood Burial Cases and Caskets and Cloth Covered Caskets (February 15, 1893)	4	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1893	National Casket Co.	Rochester, NY	National Casket Company Bulletin, vol 1, no. 7-8, July-August		Private Collection (Ebay buyer)	partial
1893	Paxson, Comfort & Co.	Philadelphia, PA	Illustrated and descriptive catalogue of wood, metallic, and cloth covered burial caskets and coffins	54	Private Collection (Ebay buyer)	partial
1893	Warfield & Rohr	Baltimore, MD	Revised Price-List of Coffin and Casket Hardware, Robes, Linings, and Undertakers' Sundries (Nov. 1, 1893)	23	University of Delaware, Newark, DE	complete
1894	Wilmarth, W. D. & Co	Attleboro, MA	Illustrated and Descriptive Catalogue of Coffin and Casket Trimmings	58	Library of Congress, Washington, D.C.	complete
1895	Belknap, W. B. & Co	Louisville, KY	Importers and jobbers of Hardware	(3 pages of trimmings)	Chicora, Foundation, Columbia, SC	partial
1895 (circa)	Cincinnati Coffin Co.	Cincinnati, OH	[Catalog] (some pages missing or defaced - used as scrapbook)	173	Personal Collection, Michael Beardsley, Chittenango, NY	complete
1895	Crane, Breed & Co.	Cincinnati, OH	Catalogue and price list of hearse mountings	48	University of Delaware, Newark, DE; Private Collection (Ebay buyer)	partial
1895	Kregel Casket Co.	St. Louis, MO	Illustrated Catalogue	368	Strong National Museum of Play, Rochester, NY	partial
1895 (circa)	Louis J. Lamb (firm)	Attleboro, MA	Catalog of sheet metal coffins and ornaments	53	Personal Collection, James Davidson, University of Florida, Gainesville, FL; Winterthur Museum, Witerthur, DE	complete
1895 (circa)	Louis J. Lamb (firm)	Attleboro, MA	No. 2 Price List of Sheet Metal Coffin Hardware	10	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1896	Chicago Coffin Co.	Chicago, IL	Pocket Catalogue No. 18	192	Library of Congress, Washington, D.C.; Strong National Museum of Play, Rochester, NY	complete
1896	National Casket Co.	New York, NY	Complete Price List of Burial Robes, Linings, and Miscellaneous Dry Goods	49	University of Delaware, Newark, DE	complete
1896 (circa)	National Casket Co.	New York, NY	Supplement to Pocket Edition of Casket Catalogue B	20	Benson Ford Research Center, The Henry Ford Museum, Dearborn, MI	complete
1896 (circa)	Powers & Walker Casket Co.	Grand Rapids, MI	Catalogue C, High-Class Cloth Covered and Varnished Caskets	65	Private Collection (Ebay buyer)	partial
1897 (circa)	Boyertown Casket Co.	Boyertown, PA	[Catalogue]	338	Private Collection (Ebay buyer)	partial
1897	National Casket Co.	New York, NY	Catalogue No. 12, Illustrating Undertakers' Hardware	170	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete

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DATE	COMPANY NAME	LOCATION	TITLE OF CATALOG	# pages	LOCATION OF CATALOG	Partial/ Complete
1898	Paxson, Comfort & Co.	Philadelphia, PA	Illustrated and Descriptive Catalogue of Wood, Cloth-covered and Metallic Burial Caskets and Coffins For Sale to the Trade Only by Paxson, Comfort & Co.		Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1899	National Casket Co.	New York, NY	National Casket Co. Complete Price List and Telegraph Code Accompanying Pocket Catalogue "D"		Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1900 (circa)	Boyertown Casket Co.	Boyertown, PA	[Catalogue]		Private Collection (Ebay buyer)	partial
1900 (circa)	Chicago Casket Co.	Chicago, IL	Casket Catalogue "B"	255	Private Collection (Ebay buyer)	partial
1900 (circa)	Crawfordsville Casket Co.	Crawfordsville, IN	Illustrated Catalogue No. 9 of Coffins, caskets, Dry Goods, Hardware, etc.	244	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1900 (circa)	Hazleton Mfg Co.	Hartford, CT	[Catalog of Caskets]	186	Private Collection (Ebay buyer)	partial
1900 (circa)	Mitchell Casket Co.	Mitchell, IN	Cloth covered caskets	35	Benson Ford Research Center, The Henry Ford Museum, Dearborn, MI	complete
1900	Mound Coffin Co.	St. Louis, MO	Price List H of Undertakers' Supplies (Oct. 15, 1900)	38	Private Collection (Ebay buyer)	complete
1900 (circa)	Murphy, John & Co.	Pittsburgh, PA	[Catalogue]	82	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1900 (circa)	Murphy, John & Co.	Pittsburgh, PA	Price List of Hardware, Robes, Linings, and Undertakers' Supplies	18	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1901	Belknap, W. B. & Co	Louisville, KY	Catalogue No. 29 Importers and jobbers of Hardware (general hardware, with coffin trimmings)	(2 pages of trimmings)	Chicora Foundation, Columbia, SC	partial
1901	Gate City Coffin Co.	Atlanta, GA	Catalogue F	119	Personal Collection, Karissa Basse, PBS&J, Houston, TX	complete
1901	St. Louis Coffin Co.	St. Louis, MO	Souvenir Catalog, No. 20. Illustrating Highest Types of Our Art	290	Library of Congress, Washington, D.C.	complete
1901 (circa)	St. Louis Coffin Co.	St. Louis, MO	The Standard Estimated Undertaker's Selling Prices for Coffins, Caskets, Robes, Flowers, Etc. Applying to Art Book No. 20	30	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1901	Wisconsin Furniture & Coffin Co.	Lincoln, NE	Wholesale Price List applying to Catalogue "E" (January 1, 1901)	25	Private Collection (Ebay buyer)	complete
1902	Simmons Hardware Co	St. Louis, MO	Catalogue No. 421. Builders Hardware (general hardware, with some coffin trimmings)	[2]	Library of Congress, Washington, D.C.	partial
1903	Cincinnati Coffin Co.	Cincinnati, OH	Revised Price List of Metal Linings (June 25, 1903)	1	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1903	Cincinnati Coffin Co.	Cincinnati, OH	Revised Prices on Children's Caskets (June 25, 1903)	1	Personal Collection, James Davidson, University of Flordia, Gainesville, FL	complete
1903	National Casket Co.	New Haven, CT	Illustrated Price List of Caskets and Sundries (October 15, 1903)	96	National Museum of Funeral History, Houston, TX	complete
1903	Simmons Hardware Co	St. Louis, MO	Catalogue No. 443. Builders Hardware (general hardware, with some coffin trimmings)	[2]	Library of Congress, Washington, D.C.	partial
1904 (circa)	Gate City Coffin Co.	Atlanta, GA	Catalogue No. G, Illustrating Coffin and Casket Hardware and Undertakers' Supplies, Embalming Instruments, Etc.	228	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1904	St. Louis Coffin Co.	St. Louis, MO	Combined Buying and Selling Price List and Catalogue (may be used in connection with or independent of our Art Catalogue No. 20) (March 1, 1904)	76	Chicora Foundation, Columbia, SC	complete

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DATE	COMPANY NAME	LOCATION	TITLE OF CATALOG	# pages	LOCATION OF CATALOG	Partial/ Complete
1905 (circa)	Bliss-Holbrook Company, Inc.	Attleboro, MA	Catalogue of Coffin Studs, Plates and Ornaments Mfg. by Bliss-Holbrook Company, Inc.	11	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1905	Chattanooga Coffin & Casket Co	Chattanooga, TN	Catalogue No. 4. Illustrated catalogue of Undertakers' hardware, embalming instruments, etc	188	Library of Congress, Washington, D.C.	complete
1905	Chattanooga Coffin & Casket Co	Chattanooga, TN	Wholesale Pricelist of Undertaker's Hardware, Embalming Instruments and Sundry Supplies (May 1, 1905)	31	Library of Congress, Washington, D.C.	complete
1905	Cincinnati Coffin Co.	Cincinnati, OH	Revised Hardware Price Book, for use in connection with Casket Hardware Catalogue "F.3" and June Supplement (December 12, 1905)	29	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1905 (circa)	National Casket Co.	New York, NY	Catalogue "K"	384	Personal Collection, James Davidson, University of Florida, Gainesville, FL; Chicora Foundation, Columbia, SC	complete
1905 (circa)	Schmid Manufacturing Co.	Dubuque, IA	Catalogue of Coffin Studs, Plates and Ornaments	11	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1906	Cincinnati Coffin Co.	Cincinnati, OH	Catalogue "F.4", Illustrating Casket Hardware and Sundry Undertakers' Supplies	306	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1906	Western Casket Co.	Oakland, CA	Price List, Catalogue No. 1	15	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1908 (circa)	Mound Coffin Co.	St. Louis, MO	Illustrated Catalogue "K"	535	Kibbe Hancock Heritage Museum, Carthage, IL; Mitchell Family Funeral Home, Marshalltown, IA	complete
1908	National Casket Co.	Pittsburgh, PA	Catalogue "L"	442	Personal Collection, James Davidson, University of Florida, Gainesville, FL; Mitchell Family Funeral Home, Marshalltown, IA; University of Minnesota, Wangensteen Library, Minneapolis, MN	complete
1908	National Casket Co.	Boston, MA	Catalogue "L"	400	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1909	Cincinnati Coffin Co.	Cincinnati, OH	Embalmers' Instruments and Supplies	104	Newberry Library, Chicago, IL [Helen Sclair Collection]	complete
1910	Crane & Breed Mfg. Co.	Cincinnati, OH	Catalogue "D" Burial Garments, Robes, Casket Linings, Pillow and Lining Sets, Door Crapes	215	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL; Howard C. Raether Library, National Funeral Directors Association, Brookfield, WI	complete
1910 (circa)	Marsellus, John Casket Co.	Syracuse, NY	Catalog W - Caskets of quality: magogany, walnut, quartered oak, cypress, birch and chestnut	112	Smithsonian Institution (Museum of American History), Washington, D.C. [Trade Catalogs from John Marsellus Casket Company]	complete
1910	Mound Coffin Co.	St. Louis, MO	Price List Pertaining to Our Handy Book No. 3 Listing Caskets and Coffins Complete Full-Lined and With a Suitable Set of Hardware (February 1, 1910)	16	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1910	National Casket Co.	Chicago, IL	Wholesale Price List "W": for goods shown in Casket Catalogue "L", Varnished Cases and Caskets, Cloth Covered Caskets, Metallics, Metal Linings, Boxes, Etc. (January 1, 1910)	47	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1910 (circa)	Schmid Manufacturing Co	Dubuque, IA	Illustrated Catalogue of Casket Hardware	40	(Amy Earls)	complete
1911 (circa)	Hearne Brothers & Co.	Whitakers, NC	Catalogue H-6 Illustrating Coffin and Casket Hardware and Funeral Sundries - Hearne Bros. & Co.	99	Chicora Foundation, Columbia, SC; East Carolina University, Special Collections, Greenville, NC [Lawrence-Gulley General Store Records, 1903-1954]	complete
1911 (circa)	Milwaukee Casket Co.	Milwaukee, WI	Casket Catalogue D: Manufacturers & Jobbers of a complete line of....		Library of Congress, Washington, D.C.	partial

Table A.1, continued

DATE	COMPANY NAME	LOCATION	TITLE OF CATALOG	# pages	LOCATION OF CATALOG	Partial/ Complete
1911 (circa)	National Casket Co.	New York, NY	Casket Catalogue "M"	226	Winterthur Museum, Winterthur, DE; Yale University Library; Boston Public Library, Boston, MA; Cleveland Public Library, Cleveland, OH	partial
1911 (circa)	St. Louis Coffin Co.	St. Louis, MO	Catalog No. 22	329	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1912	Cincinnati Coffin Co.	Cincinnati, OH	Casket Hardware Catalogue F5	267	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1912	Des Moines Casket Co.	Des Moines, IA	Price List of Cloth-Covered, Oak and Mahogany Caskets, Metal Linings, Grave Vaults (May 1912)	16	Private Collection (Ebay buyer)	complete
1912 (circa)	Des Moines Casket Co.	Des Moines, IA	[Catalog]	175	Private Collection (Ebay buyer)	partial
1915	Cincinnati Coffin Co.	Cincinnati, OH	Paramount Metal Caskets	6	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1918	Atlantic Coffin & Casket Co.	Rose Hill, NC	Catalogue "B"	24	Univeristy of North Carolina, Chapel Hill, NC	complete
1918	Marsellus, John Casket Co.	Syracuse, NY	Price List of Caskets, Vaults, and Casket Boxes, Applying to Catalog "U" (February 4, 1918)	16	Kibbe Hancock Heritage Museum, Carthage, IL	complete
1918	Marsellus, John Casket Co.	Syracuse, NY	Price List of Caskets, Vaults, and Casket Boxes, Applying to Catalog "U" (April 10, 1918)	16	Kibbe Hancock Heritage Museum, Carthage, IL	complete
1918	Simmons Hardware Co	Philadelphia, PA	Catalogue No. P, complete catalogue. (general hardware, with a page of coffin trimmings)	[1]	Library of Congress, Washington, D.C.; Chicora Foundation, Columbia, SC	partial
1918	St. Louis Coffin Co.	St. Louis, MO	The St. Louis Patented Copper-Bearing Steel Caskets (August 1, 1918)	67	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1919	Boyertown Burial Casket Co.	New York, NY	Catalogue "I"	300	Commonwealth Institute of Funeral Service, Houston, TX	complete
1919	Boyertown Burial Casket Co.	New York, NY	Revised Price List of Pedastals Made Of Brass Tubing (November 17, 1919)	2	Commonwealth Institute of Funeral Service, Houston, TX	complete
1919	Des Moines Casket Co.	Des Moines, IA	Price List on Caskets (October 1, 1919)	2	Private Collection (Ebay buyer)	complete
1919 (circa)	Des Moines Casket Co.	Des Moines, IA	[Catalog]	159	Private Collection (Ebay buyer)	partial
1920	Cleveland Burial Case Co.	Cleveland, OH	Price List - Pedestals and Candelabras (April 1, 1920)	1	Commonwealth Institute of Funeral Service, Houston, TX	complete
1920	Marsellus, John Casket Co.	Syracuse, NY	Price List of Caskets, Casket Boxes, and Vaults, Applying to Catalogue "U" (April 1, 1920)	15	Kibbe Hancock Heritage Museum, Carthage, IL	complete
1920	Marsellus, John Casket Co.	Syracuse, NY	Price List of Caskets, Casket Boxes, and Vaults, Applying to Catalogue "U" (July 15, 1920)	15	Kibbe Hancock Heritage Museum, Carthage, IL	complete
1920	Miller Casket Co.	Scranton, PA	[Price List](June 4, 1920)	1	Private Collection (Ebay buyer)	complete
1920 (circa)	Mound Coffin Co.	St. Louis, MO	[Catalog]	88	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1920	Mountain States Casket Co	Denver, CO	The Northern Covered Line: Price List Effective June 10, 1920	4	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1920 (circa)	Owosso Casket Co.	Owosso, MI	Catalog of hardwood & finished caskets	74	Wisconsin Historical Society, Madison, WI	partial
1920	Owosso Casket Co.	Owosso, MI	Wholesale Price List (September 20, 1920)	20	Wisconsin Historical Society, Madison, WI	complete
1920 (circa)	Springfield Metallic Casket Co.	Springfield, OH	Metallic Casket Catalog No. 210	189	Private Collection (Ebay buyer)	partial
1921	Freedom Casket Company	Freedom, PA	Revised Price List Applying to Catalogue "E" (May 2, 1921)	13	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1921	Marsellus, John Casket Co.	Syracuse, NY	Price List of Caskets, Casket Boxes, and Vaults, Applying to Catalog "W" (September 15, 1921)	16	Kibbe Hancock Heritage Museum, Carthage, IL	complete
1921	Owosso Casket Co.	Owosso, MI	Wholesale Price List (April 18, 1921)	20	Wisconsin Historical Society, Madison, WI	complete
1921	Owosso Casket Co.	Owosso, MI	List of Reduced Prices of Oak, Mahogany, Walnut, Cypress and Other Finished Caskets (September 20, 1921)	2	Wisconsin Historical Society, Madison, WI	complete

Table A.1, continued

DATE	COMPANY NAME	LOCATION	TITLE OF CATALOG	# pages	LOCATION OF CATALOG	Partial/ Complete
1921 (circa)	Sargent & Co.	New Haven, CT	Catalogue No. 17: Casket Hardware, Box Hardware, and Miscellaneous Goods used by Casket Manufacturers…	205	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1921	Springfield Metallic Casket Co.	Springfield, OH	Funeral Directors' Wholesale List - Springfield Grave Vaults (effective November 28, 1921)	15	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1921 (circa)	Undertakers' Supply Co.	Chicago, IL	Catalogue No. 2	133	Vintage Literature Reproductions <http://www.vintageliterature.ca>	complete
1922			Price List (August 1, 1922)	1	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1922	Marsellus, John Casket Co.	Syracuse, NY	Price List of Caskets, Casket Boxes, and Vaults, Applying to Catalog "W" (August 7, 1922)	16	Kibbe Hancock Heritage Museum, Carthage, IL	complete
1922 (circa)	Monroe Casket Co., Inc.	Webster, NY	[Fold-out Casket Brochure] (P.L. 5-1-22)	broadside (12)	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1922	National Casket Co.	Baltimore, MD	Catalogue "Q"	231	Commonwealth Institute of Funeral Service, Houston, TX	complete
1922	National Casket Co.	Pittsburgh, PA	Price List Applying to Catalogue "Q" (March 23, 1922)	30	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1922	National Casket Co.	Pittsburgh, PA	[Supplement] New Pine Box Prices (October 30, 1922)	1	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1922	National Casket Co.	Pittsburgh, PA	Price List Applying to Catalogue "Q" (November 1, 1922)	30	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1922	United States Casket Company	Pittsburgh, PA	[Supplement] Notice: Outside Box Prices Reduced (March 20, 1922)	1	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1922	United States Casket Company	Pittsburgh, PA	Price List Applying to Catalogue "D" (May 25, 1922)	18	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1922	United States Casket Company	Pittsburgh, PA	[Supplement] Price Changes (November 1, 1922)	1	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1922	United States Casket Company	Pittsburgh, PA	Price List Applying to Catalogue "D" (December 1, 1922)	16	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1923	Boyertown Burial Casket Co.	Boyertown, PA	Metal Catalogue, Number 4	50	Commonwealth Institute of Funeral Service, Houston, TX; Nelville Public Museum of Brown County, Green Bay, WI	complete
1923 (circa)	Boyertown Burial Casket Co.	Philadelphia, PA	Catalogue "J"	314	Commonwealth Institute of Funeral Service, Houston, TX	complete
1923 (circa)	Boyertown Burial Casket Co.	New York, NY	Catalogue "J"	323	Private Collection (Ebay buyer)	partial
1923	Freedom Casket Company	Freedom, PA	Revised Price List Applying to Catalogue "E" (February 26, 1923)	13	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1923 (circa)	Hill, F. H. & Co.	Chicago, IL	Bronze, copper, steel, hardwood & cloth covered caskets, casket hardware, metal linings, dry goods and vaults	45	Wisconsin Historical Society, Madison, WI	complete
1923	Marsellus, John Casket Co.	Syracuse, NY	Price List of Caskets, Casket Boxes, and Vaults, Applying to Catalog "W" (January 1, 1923)	16	Kibbe Hancock Heritage Museum, Carthage, IL	complete
1923	Minnesota Casket Co	Minneapolis, MN	Catalogue "B", manufacturers of caskets of redwood, resist decay	143	Personal Collection, James Davidson, University of Florida, Gainesville, FL; Minnesota Historical Society, St. Paul, MN	complete
1923	Murphy, John & Co.	Pittsburgh, PA	Price List Applying to 1922 Catalogue (February 9, 1923)	16	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1923	National Casket Co.	Albany NY	Bronze Sarcophagi, Illustrating and Describing some Ancient Customs, Past Masterpieces and Present Tendencies in the Finest Types of Burial Enclosures	29	National Museum of Funeral History, Houston, TX	complete

Table A.1, continued

DATE	COMPANY NAME	LOCATION	TITLE OF CATALOG	# pages	LOCATION OF CATALOG	Partial/ Complete
1923	National Casket Co.	Pittsburgh, PA	[Supplement] [Casket and Outer Box Prices] (January 29, 1923)	2	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1923	National Casket Co.	Pittsburgh, PA	[Supplement] [Burial Robes and Linings Prices] (February 12, 1923)	6	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1923	National Casket Co.	Pittsburgh, PA	Price List Applying to Catalogue "Q" (June 11, 1923)	30	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1923	National Casket Co.	Pittsburgh, PA	Price List Applying to Catalogue "Q" (October 1, 1923)	30	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1923	Undertakers' Supply Co.	Chicago, IL	Catalogue No. 4	128	Smithsonian Institution (Museum of American History), Washington, D.C.	complete
1923	United States Casket Company	Pittsburgh, PA	Price List Applying to Catalogue "D" (July 1, 1923)	16	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1923	United States Casket Company	Pittsburgh, PA	Price List Applying to Catalogue "D" (November 1, 1923)	16	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1924	Abernathy Furniture Co.	Kansas City, MO	Price List, Applying to Catalogue E: Casket Hardware, Burial Garments, and Undertakers' Sundires (April 1924)	32	Personal Collection, Karissa Basse, PBS&J, Houston, TX	complete
1924 (circa)	House-Hasson Hardware Co.	Knoxville, TN	[Illustrated General Catalog]	[1]	Private Collection (Ebay buyer)	partial
1924	Marsellus, John Casket Co.	Syracuse, NY	Price List of Caskets, Casket Boxes, and Vaults, Applying to Catalog "W" (January 1, 1924)	16	Kibbe Hancock Heritage Museum, Carthage, IL	complete
1924	Monroe Casket Co., Inc.	Webster, NY	Price List (September 1, 1924)	1	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1924 (circa)	Monroe Casket Co., Inc.	Webster, NY	[Fold-out Casket Brochure] (L.L. 9-1-24)	broadside (4)	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1924 (circa)	Monroe Casket Co., Inc.	Webster, NY	[Fold-out Casket Brochure]	broadside (10)	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1924	Mound Coffin Co.	St. Louis, MO	Wholesale Price List (for) Metal, Cloth and Varnished Coffins; Metal Linings; Funeral dry goods, Sundries, etc. (January 1924)	43	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1924	National Casket Co.	Pittsburgh, PA	Price List Applying to Catalogue "Q" (February 23, 1924)	30	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1924	National Casket Co.	Pittsburgh, PA	Price List Applying to Catalogue "Q" (December 1, 1924)	30	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1924	United States Casket Company	Pittsburgh, PA	Price List Applying to Catalogue "D" (March 25, 1924)	16	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1925	Belknap Hardware and Mfg. Co.	Louisville, KY	Catalog No. 78 [General Catalog]	(1 page of casket hardware)	Private Collection (Ebay buyer)	partial
1925	Marsellus, John Casket Co.	Syracuse, NY	Price List No. 25, Applying to Catalogue "W" (March 1925)	16	Kibbe Hancock Heritage Museum, Carthage, IL	complete
1925	Monroe Casket Co., Inc.	Webster, NY	[Letter Price List] (March 1, 1925)	1	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1925	Monroe Casket Co., Inc.	Webster, NY	Price List of Covered Caskets, Handles, Boxes (April 1925)	8	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1925	National Casket Co.	Pittsburgh, PA	Dry Goods Price List (April 1, 1925)	21	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1925 (circa)	Sargent & Co.	New Haven, CT	Catalogue No. 18: Casket Hardware, Box Hardware, and Miscellaneous Goods used by Casket Manufacturers…	76	Sargent Manufacturing Company, Legal Department Archives, New Haven, CT	complete
1925	United States Casket Company	Pittsburgh, PA	Price List Applying to Catalogue "D" (June 20, 1925)	16	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete

Table A.1, continued

DATE	COMPANY NAME	LOCATION	TITLE OF CATALOG	# pages	LOCATION OF CATALOG	Partial/ Complete
1926	Boyertown Burial Casket Co.	Boyertown, PA	Revised Price List, Applying to Catalogue "J" and Metal Catalogue No. 3 (January 4, 1926)	47	Kibbe Hancock Heritage Museum, Carthage, IL	complete
1926	Marsellus, John Casket Co.	Syracuse, NY	Price List No. 26, Applying to Catalogue "W"	16	Kibbe Hancock Heritage Museum, Carthage, IL	complete
1926	Monroe Casket Co., Inc.	Webster, NY	[Covered Handles Price List] (February 10, 1926)	2	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1926	Monroe Casket Co., Inc.	Webster, NY	[Covered Handles Price List] (November 1926)	1	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1926	Undertakers' Supply Co.	Chicago, IL	Catalog No. 7 - The Superior Line	160	Private Collection (Ebay buyer)	partial
1927	Belknap Hardware and Mfg. Co.	Louisville, KY	Catalog No. 80 [General Catalog]	3600 (1 page of casket hardware)	Private Collection (Ebay buyer)	partial
1927	Boyertown Burial Casket Co.	Philadelphia, PA	Catalog "K"	297	Personal Collection, Michael Beardsley, Chittenango, NY; Mitchell Family Funeral Home, Marshalltown, IA; Commonwealth Institute of Funeral Service, Houston, TX	complete
1927	Monroe Casket Co., Inc.	Webster, NY	Hardwood Finished Caskets (April 1927)	1	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1927	Monroe Casket Co., Inc.	Webster, NY	[Price List] (February 1927)	1	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1927	National Casket Co.	Baltimore, MD	Price List Applying to Catalogue Q (effective December 27, 1927)	22	National Museum of Funeral History, Houston, TX	complete
1928	Monroe Casket Co., Inc.	Webster, NY	Price List Casket No. 3245 and Handle No. 32 (January 1928)	1	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1928	Monroe Casket Co., Inc.	Webster, NY	Covered Handles (March 1928)	1	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1928	National Casket Co.	Syracuse, NY	Price List Applying to Catalogue Q (effective January 6, 1928)	30	Personal Collection, Michael Beardsley, Chittenango, NY	complete
1928	National Casket Co.	Dallas, TX	Catalog "RC", Covered and Hardwood Caskets	182	Commonwealth Institute of Funeral Service, Houston, TX	complete
1928	National Casket Co.	Louisville, KY	Catalog "RH", Hardwood Caskets	92	Newberry Library, Chicago, IL [Helen Sclair Collection]; Mitchell Family Funeral Home, Marshalltown, IA	complete
1928	National Casket Co.	various	Catalog "RH", Hardwood Caskets	157	Personal Collection, Michael Beardsley, Chittenango, NY	complete
1928	National Casket Co.	Louisville, KY	National Seamless, Solid Copper Caskets	7	Newberry Library, Chicago, IL [Helen Sclair Collection]	complete
1929	Monroe Casket Co., Inc.	Webster, NY	Price List of Covered Caskets, Handles, Boxes (April 1925 cross out, handwritten Feb. 4, 1929 because of pasted in price updates)	8	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1930 (circa)	Abernathy Casket Co.	Kansas City, MO	Casket Catalogue "H"	190	Commonwealth Institute of Funeral Service, Houston, TX	complete
1930	Belknap Hardware and Mfg. Co.	Louisville, KY	Catalog No. 83 [General Catalog]	3328 (1 page of casket hardware)	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1930 (circa)	Meredith Casket Co.	Meredith, NH	Cloth covered and hardwood caskets, robes, linings, hardware; cypress and chestnut boxes, steel vaults	42	New Hampshire Historical Society	partial
1930	National Casket Co.	Syracuse, NY	Catalogue "RHC", Hardwood and Covered Caskets	205	Chicora Foundation, Columbia, SC; Personal Collection, Michael Beardsley, Chittenango, NY	complete
1930	National Casket Co.	Pittsburgh, PA	[Supplement] New Numbers for Caskets Shown in Metal Casket Catalog RM (December 1, 1930)	3	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete

Table A.1, continued

DATE	COMPANY NAME	LOCATION	TITLE OF CATALOG	# pages	LOCATION OF CATALOG	Partial/ Complete
1931	Chicago Casket Co.	Chicago, IL	General Price List (July 10, 1931)	16	Kibbe Hancock Heritage Museum, Carthage, IL	complete
1931	Meredith Casket Co.	Meredith, NH	Price List (August 1, 1931)		Private Collection (Ebay buyer)	partial
1931	Monroe Casket Co., Inc.	Webster, NY	[Letter Price List #1] (February 1931)	1	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1931	Monroe Casket Co., Inc.	Webster, NY	[Letter Price List #2] (February 1931)	1	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1931	National Casket Co.	Pittsburgh, PA	[Supplement] New Numbers for Caskets Shown in Catalog RC and RH (February 10, 1931)	4	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1931	National Casket Co.	Pittsburgh, PA	Price List - Casket Catalogues RC, RH, and RM (February 15, 1931)	56	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1931	National Casket Co.	New York, NY	Price List - Casket Catalogues RC, RH, and RM (February 24, 1931)	44	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1932	Belknap Hardware and Mfg. Co.	Louisville, KY	Catalog No. 86 [General Catalog]	3024 (1 page casket hardware)	Chicora Foundation, Columbia, SC	partial
1932 (circa)	Oregon Casket Co.	Portland, OR	Catalogue "G"	58	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1934	Boyertown Burial Casket Co.	Boyertown, PA	Boyertown's Revised Economy Line (green cover, contains letter dated July 16, 1934)	69	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1934	Champion Company	Springfield, OH	Champion Sundry Catalog No. 24	160	Private Collection (Ebay buyer)	partial
1934	Champion Company	Springfield, OH	Price List for Champion Sundry Catalog No. 24	6	Private Collection (Ebay buyer)	partial
1934 (circa)	Schmid Manufacturing Co.	Dubuque, IA	Illustrated Catalog of Casket Hardware, Catalogue No. 29		Private Collection (Ebay buyer)	partial
1934	Springfield Metallic Casket Co.	Springfield, OH	Catalog No. 235, Metallic Caskets and Vaults	192	Private Collection (Ebay buyer)	partial
1935	Boyertown Burial Casket Co.	Boyertown, PA	Supplement Casket Group to Green Catalogue Issued July 1934 (May, 1935)	broadside (14)	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1935	Boyertown Burial Casket Co.	Columbus, OH	[Brochure - "Substitution of Volume and Quantity Discount Plan to Dollar Volume Basis] (effective March 1, 1935)	3	Commonwealth Institute of Funeral Service, Houston, TX	complete
1935 (circa)	Chicago Casket Co.	Chicago, IL	Hardwood and Cloth Covered Caskets, Catalog 25	55	Kibbe Hancock Heritage Museum, Carthage, IL; Personal Collection, Michael Beardsley, Chittenango, NY	complete
1935 (circa)	Globe Casket Manufacturing Co.	Kalamazoo, MI	Casket Catalogue No. 12	275	Private Collection (Ebay buyer)	complete
1935 (circa)	Imperial Casket Co.	Kansas City, MO	[Catalog]	101	Commonwealth Institute of Funeral Service, Houston, TX	complete
1935	Imperial Casket Co.	Kansas City, MO	Price List: Wood Burial Caskets, Metal Caskets, Hardwood Caskets, Vaults, Burial Garments (April 18, 1935)	24	Commonwealth Institute of Funeral Service, Houston, TX	complete
1935 (circa)	Royal Bond, Inc.	St. Louis, MO	Royal Bond Catalog Number Three	157	Private Collection (Ebay buyer)	complete
1936	Boyertown Burial Casket Co.	Boyertown, PA	Catalog "L" Hardwood and Covered Caskets	259	Commonwealth Institute of Funeral Service, Houston, TX; Smithsonian Institution (Museum of American History), Washington, D.C. [Trade Catalogues from Boyertown Burial Casket Co.]; Personal Collection, Michael Beardsley, Chittenango, NY; Library of Congress, Washington, D.C.	complete
1936	Boyertown Burial Casket Co.	Boyertown, PA	Catalog "L" Metal Caskets	175	Library of Congress, Washington, D.C.; Mitchell Family Funeral Home, Marshalltown, IA; Personal Collection, Michael Beardsley, Chittenango, NY	complete

Table A.1, continued

DATE	COMPANY NAME	LOCATION	TITLE OF CATALOG	# pages	LOCATION OF CATALOG	Partial/ Complete
1936	Boyertown Burial Casket Co.	Boyertown, PA	Catalog "LX" Supplement to Catalog "L"	43	Chicora Foundation, Columbia, SC; Commonwealth Institute of Funeral Service, Houston, TX; Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1936	Marsellus, John Casket Co.	Syracuse, NY	Marsellus Caskets of Mahogany	56	Smithsonian Institution (Museum of American History), Washington, D.C. [Trade Catalogs from John Marsellus Casket Company]; Personal Collection, Michael Beardsley, Chittenango, NY; National Museum of Funeral History, Houston, TX; Onandaga Historical Association, Syracuse, NY (Marsellus Casket Company, Records 1888-1896); Kibbe Hancock Heritage Museum, Carthage, IL	complete
1937	Belknap Hardware and Mfg. Co.	Louisville, KY	Catalog No. 88 [General Catalog]	3330 (2 pages casket hardware)	Newberry Library, Chicago, IL; Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1937	National Casket Co.	Syracuse, NY	Catalog "SMHC", Metal, Hardwood, and Cloth Covered Caskets	216	Commonwealth Institute of Funeral Service, Houston, TX; Howard C. Raether Library, National Funeral Directors Association, Brookfield, WI; Personal Collection, Michael Beardsley, Chittenango, NY	complete
1938	Boyertown Burial Casket Co.	Boyertown, PA	Catalog "L-16", 16-Guage Metal Caskets	31	Commonwealth Institute of Funeral Service, Houston, TX; Kibbe Hancock Heritage Museum, Carthage, IL; Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1938	Boyertown Burial Casket Co.	Boyertown, PA	Folder "M" (effective September 8, 1938)	broadside (12)	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1938	Boyertown Burial Casket Co.	Boyertown, PA	Price List Applying to Hardwood & Covered Caskets, Also Metal Caskets, Catalogs "L", "LX", and "L-16" (effective December 15, 1938)	125	Chicora Foundation, Columbia, SC; Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1938	Boyertown Burial Casket Co.	Boyertown, PA	Revised Supplementary Price List (effective December 15, 1938)	4	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1938	Metal Products Co.	Fredericksburg, VA	[Product Sheet] (April 15, 1938)	2	Private Collection (Ebay buyer)	partial
1938	National Casket Co.	Boston, MA	Catalog "TM", Metal Caskets	175	National Art Library, Victoria & Albert Museum, London, England; Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1938	National Casket Co.	Boston, MA	Catalog "THC", Hardwood and Covered Caskets	237	National Art Library, Victoria & Albert Museum, London, England	partial
1940	Belknap Hardware and Mfg. Co.	Louisville, KY	Catalog No. 100 [General Catalog]	3226 (1 page casket hardware)	Private Collection (Ebay buyer)	partial
1940	Boyertown Burial Casket Co.	Boyertown, PA	Price List Applying to Hardwood & Covered Caskets, Also Metal Caskets, Catalogs "L", "LX", and "L-16" (effective February 19, 1940)	133	Kibbe Hancock Heritage Museum, Carthage, IL; Chicora Foundation, Columbia, SC; Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1940	Boyertown Burial Casket Co.	Boyertown, PA	"To Remind You of…Our 3900 Line…" (effective January, 1940)	broadside (18)	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1940	Dominion Manufacturers, Limited	Toronto, Ontario, Canada	Dominion Equipment and Sundries	235	Personal Collection, Karissa Basse, PBS&J, Houston, TX	complete
1940 (circa)	Hamilton Casket Co., Inc.	Chicago, IL	[Casket Advertising Sheet]	8	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1940	National Casket Co.	Philadelphia, PA	Catalog "T" Metal, Hardwood, and Covered Caskets	195	Library of Congress, Washington, D.C.	partial

Table A.1, continued

DATE	COMPANY NAME	LOCATION	TITLE OF CATALOG	# pages	LOCATION OF CATALOG	Partial/ Complete
1941	Boyertown Burial Casket Co.	Boyertown, PA	Booklet "L-S" - A Group of "Special" Caskets	19	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1941	Champion Company	Springfield, OH	Champion Junior Catalogue (Spring 1941)	24	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1947	Ohio Burial Case Co.	Cleveland, OH	[Letter Price List for Burial Clothes] (September 1, 1947)	2	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1947 (circa)	Ohio Burial Case Co.	Cleveland, OH	[Loose Burial Clothes Ads associated with Sept. 1, 1947 Price List]	32	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1947	Parson's Casket Hardware Co.	Belvidere, IL	49th Annual Edition Catalogue	146	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1948 (circa)	Marsellus, John Casket Co.	Syracuse, NY	Semi-Centennial Catalog	204	Commonwealth Institute of Funeral Service, Houston, TX; Waterloo Historical Society, Waterloo, NY [Genung Collection]	complete
1949	National Casket Co.	New York, NY	Price List (effective April 28, 1949)	14	Personal Collection, Michael Beardsley, Chittenango, NY	complete
1949	Parson's Casket Hardware Co.	Belvidere, IL	New Prices (October 24, 1949)	16	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1949	Philadelphia Mfg. Co.	Philadelphia, PA	Casket Hardware by Philadelphia	140	Commonwealth Institute of Funeral Service, Houston, TX	complete
1950	Belknap Hardware and Mfg. Co.	Louisville, KY	Catalog No. 111 [General Catalog]	3548 (1 page of casket hardware)	Henry Ford Museum Greenfield Village Library, MI; Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1950 (circa)	Philadelphia Mfg. Co.	Philadelphia, PA	Casket Hardware	109	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1950 (circa)	Royal Bond, Inc.	St. Louis, MO	Royal Bond Catalog Number Seven		Private Collection (Ebay buyer)	partial
1954	Merit Company	Chicago, IL	Metal Caskets (November 15, 1954)	9	National Museum of Funeral History, Houston, TX	complete
1955	National Casket Co.	various	National Cast Bronze Sarcophagi and Seamless Solid Copper Deposit Caskets	20	Personal Collection, Michael Beardsley, Chittenango, NY	partial
1956	Victor Casket Hardware Co.	Galesburg, IL	Catalog No. 6	252	Chicora Foundation, Columbia, SC; Personal Collection, James Davidson, University of Florida, Gainesville, FL [partial]	partial
1959	Victor Casket Hardware Co.	Galesburg, IL	Price List applying to Catalogue No. 6 (May 20, 1959)	34	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1961 (circa)	Champion Company	Springfield, OH	Champion Embalming Chemicals	>30	Personal Collection, Derrick Oatmeyer, Miller Funeral Home, Folsom, CA	partial
1961 (circa)	Champion Company	Springfield, OH	Sundry Products by Champion	36	Private Collection (Ebay buyer)	partial
1963	Dodge Chemical Company	Boston, MA	Catalogue of Embalming Chemicals Cosmetics, Instruments and Supplies	104	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL; Personal Collection, Derrick Oatmeyer, Miller Funeral Home, Folsom, CA	complete
1963	Dodge Chemical Company	Boston, MA	Supplementary Price List (October 1, 1963)	4	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1965	Dottridge Brothers, LTD.	London, England	Coffin Furniture (separate illustrations with price list)	4 (16)	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
1966	Eureka Fluid Works	San Francisco, CA	[Catalog]	93	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1966	Eureka Fluid Works	San Francisco, CA	Price List (October 1, 1966)	6	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1966 (circa)	Royal Bond, Inc.	St. Louis, MO	Royal Bond Catalog Number Eight	190	Commonwealth Institute of Funeral Service, Houston, TX; Personal Collection, Derrick Oatmeyer, Miller Funeral Home, Folsom, CA	complete

Table A.1, continued

DATE	COMPANY NAME	LOCATION	TITLE OF CATALOG	# pages	LOCATION OF CATALOG	Partial/ Complete
1966	Superior Funeral Supply Corp.	Cleveland, OH	1966 Catalog, Superior Funeral Supply Corp.	234	Howard C. Raether Library, National Funeral Directors Association, Brookfield, WI; Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1968	Superior Funeral Supply Corp.	Cleveland, OH	23rd Anniveraary Catalog	259	Private Collection (Ebay buyer)	partial
1974	Dodge Chemical Company	Cambridge, MA	Catalog of Embalming Chemicals & Supplies	111	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1974	Puckett Supply Company, Inc.	Greensboro, NC	Catalog Number 74-19	148	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1975	Dodge Chemical Company	Cambridge, MA	Price List (February 1, 1975)	4	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1976 (circa)	Belmont Casket Mfg. Co.	Columbus, OH	[Casket Advertising Cards]	56	Private Collection (Ebay buyer)	partial
1976	Royal Bond, Inc.	St. Louis, MO	Your Professional Catalog	>500	Personal Collection, Derrick Oatmeyer, Miller Funeral Home, Folsom, CA	partial
1976	Royal Bond, Inc.	St. Louis, MO	Price List (January 2, 1976)		Personal Collection, Derrick Oatmeyer, Miller Funeral Home, Folsom, CA	partial
1979	Royal Bond, Inc.	St. Louis, MO	"In Stock" 50th Anniversay Royal Bond Catalog	96	Personal Collection, Derrick Oatmeyer, Miller Funeral Home, Folsom, CA	partial
1979	Royal Bond, Inc.	St. Louis, MO	Price List (November 1979)	6	Personal Collection, Derrick Oatmeyer, Miller Funeral Home, Folsom, CA	partial
1990	Matthews International Corp.	Pittsburgh, PA	Sketchbook of Monument Ideas	39	Newberry Library, Chicago, IL [Helen Sclair Collection]	complete
1990 (circa)	Marsellus Casket Co.	Syracuse, NY	Marsellus Caskets	85	Private Collection (Ebay buyer)	partial
1993	Batesville Casket Co.	Batesville, IN	Batesville Caskets	>170	Private Collection (Ebay buyer)	partial
1997	Batesville Casket Co.	Batesville, IN	[Catalog of Casket Advertising Cards]	31	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1998	Batesville Casket Co.	Batesville, IN	[Catalog of Casket Advertising Cards]	79	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1999	Batesville Casket Co.	Batesville, IN	[Catalog of Casket Advertising Cards]	9	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1999 (circa)	Aurora Casket Company, Inc.	Aurora, IN	[Catalog of Casket Advertising Cards]	121	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
1999	Aurora Casket Company, Inc.	Aurora, IN	[Price List]	9	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
2002	Aurora Casket Company, Inc.	Aurora, IN	Aurora Cremation Products 2003-2004	74	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
2002	Kelco Supply Company	Minneapolis, MN	A Comprehensive Source for the Deathcare Profession (Directories A-E)	368	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
2002	Kelco Supply Company	Minneapolis, MN	Directory F - Material Safety Data Sheets	74	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
2002	Kelco Supply Company	Minneapolis, MN	Directory G - General Supply Price Guide	32	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
n.d. (1990s)	Astral Industries, Inc.	Lynn, IN	[Casket Advertising Cards]	21	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
n.d. (1930s)	Batesville Casket Co.	Batesville, IN	Monoseal	20	Private Collection (Ebay buyer)	partial
n.d. (1950s)	Belmont Casket Mfg. Co.	Columbus, OH	[Catalog]	46	Private Collection (Ebay buyer)	partial
n.d.	Boyertown Burial Casket Co.	Boyertown, PA	"The Pure Cast Iron ~ alloyed with Copper ~ Casket No. 5"	16	National Museum of Funeral History, Houston, TX	complete
n.d. (<1910s)	Boyertown Burial Casket Co.	Boyertown, PA	[Catalogue] (Boyertown and Philadelphia)	199	National Museum of Funeral History, Houston, TX	complete

Table A.1, continued

DATE	COMPANY NAME	LOCATION	TITLE OF CATALOG	# pages	LOCATION OF CATALOG	Partial/ Complete
n.d. (1880-1910)	Carr, W. S. & Co	Baltimore, MD	Price list of Undertakers Hardware, W. S. Carr & Co, manufacturers	7?	Private Collection	partial
n.d. (>1919)	Central Burial Casket Co.	Guthrie, OK	Catalogue "A" - High-Grade Burial Caskets	12	Commonwealth Institute of Funeral Service, Houston, TX	complete
n.d.	Champion Company	Springfield, OH	"A Lasting Tribute…Champion Metal Burial Vaults" [vault ads]	4	National Museum of Funeral History, Houston, TX	complete
n.d. (1920s)	Cincinnati Coffin Co.	Cincinnati, OH	Metal Caskets	63	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
n.d. (circa 1890s)	Constantine Casket Co.	Constantine, MI	Illustrated and Descriptive Catalogue of Fine Cloth Covered Burial Cases	93	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
n.d. 1900-1920	Crane & Breed Mfg. Co.	Cincinnati, OH	Illustrated Catalogue A-6 of Varnished and Cloth Covered Wood and Metallic Caskets		Private Collection (Ebay buyer)	partial
n.d. (circa 1910)	Dallas Coffin Co.	Dallas, TX	Catalogue "G" (missing several pages and back cover)	[242]	Commonwealth Institute of Funeral Service, Houston, TX	complete
n.d. (1936-1950)	Dickey-Grabler Co.	Cleveland, OH	Steel Casket and Vault Hardware	14	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
n.d.	Doddridge, John E., Inc.	Richmond, IN	[Casket Advertising Cards]	55	Commonwealth Institute of Funeral Service, Houston, TX	complete
n.d. (>1950)	Dodge Chemical Company	Boston, MA	The De-Ce-Co Catalogue of Chemicals, Cosmetics, Derma-Surgical Preparations, Instruments, Leather Goods, Rubber Goods, Operating Room Furniture, and Sundries	184	Private Collection (Ebay buyer)	partial
n.d. (>1906)	Dominion Manufacturers, Limited	Toronto, Ontario, Canada	Catalogue No. 30 Illustrating Casket Hardware designed & manufacturered by....	48	Private collection	complete
n.d. (1930s/1940s)	Dottridge Brothers, LTD.	London, England	Wholesale Coffin Furniture & Drapery List	24	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
n.d. (1930s/1940s)	Dottridge Brothers, LTD.	London, England	Wholesale Coffin Furniture & Drapery List [Price List]	5	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
n.d. (1930s/1940s)	Dottridge Brothers, LTD.	London, England	Wholesale Coffin List	40	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
n.d. (1930s/1940s)	Dottridge Brothers, LTD.	London, England	Price List of Finished Coffins, List No. 1058	4	Personal Collection, James Davidson, University of Florida, Gainesville, FL	complete
n.d.	Durfee Embalming Fluid Co.	Grand Rapids, MI	Cemetery Tents and Accessories	broadside (8)	Private Collection (Ebay buyer)	complete
n.d. (1920s)	Eastern Casket Hardware Co.	Springfield, MA	Eastern Casket Hardware Co. Manufacturers of Quality Casket Hardware	28	Smithsonian Institution (Museum of American History), Washington, D.C.	complete
n.d. (1910s-1930s)	Elgin Metal Casket Co.	Elgin, IL	[Casket Advertising Cards in Leather Salesman's Binder]	24	Private Collection (Ebay buyer)	partial
n.d. (1880-1900)	Globe Casket Manufacturing Co.	Kalamazoo, MI	Illustrated Catalogue of Cloth Covered Burial Caskets	40	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
n.d. (1910s)	Great Northern Casket Co.	Portland, OR	[Catalog]	147	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
n.d. (circa 1890)	Hazleton Mfg. Co.	Hazleton, PA	[Catalog of Coffin Plates]	[19]	Smithsonian Institution (Museum of American History), Washington, D.C. [Trade Catalogs of the Hazleton Mfg. Co.]	partial
n.d. (>1880)	Hatcher, J. & Co.	Zanesville, OH	Illustrated Catalogue and Wholesale Price List of Wood Burial Cases and Caskets, Manufactured by J. Hatcher & Co.	14	Smithsonian Institution (Museum of American History), Washington, D.C. [Trade Catalogues from Hatcher, J. & Co.]	complete
n.d. (1990s)	Haven Line Industries	Schuykill Haven, PA	[Casket Advertising Cards]	86	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
n.d. (>1900)	Hill, F. H. & Co.	Boston, MA	Price List of Metal, Hardwood, Cloth Covered, Child's Caskets, Boxes & Vaults	29	Private Collection (Ebay buyer)	partial

Table A.1, continued

DATE	COMPANY NAME	LOCATION	TITLE OF CATALOG	# pages	LOCATION OF CATALOG	Partial/ Complete
n.d. (1960s)	Hydrol Chemical Company	Philadelphia, PA	Hydrol Catalog No. 60	113	Private Collection (Ebay buyer)	partial
n.d. (1920s)	Manger, E. C. & Son Co.	Green Bay, WI	Casket Catalog "C"	111	Mitchell Family Funeral Home, Marshalltown, IA; Howard C. Raether Library, National Funeral Directors Association, Brookfield, WI	partial
n.d. (1920s)	Miller Casket Co.	Scranton, PA	Casket Catalog "A"	241	Chicora Foundation, Columbia, SC	complete
n.d. (1920s)	Monroe Casket Co., Inc.	Webster, NY	[Price List - Page of Hardwood Caskets]	1	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
n.d. (1910-1930)	Monroe Casket Co., Inc.	Webster, NY	[Casket Catalog]	123	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
n.d. (1910-1930)	Monroe Casket Co., Inc.	Webster, NY	[Loose Casket Advertisement Cards and Catalog Pages]	12	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
n.d. (<1900)	Mound Coffin Co.	St. Louis, MO	Pocket Edition Coffin and Casket Catalogue "F"	247	Private Collection (Ebay buyer)	complete
n.d. (>1936)	National Casket Co.	New York, NY	[Casket Advertising Cards]	>36	Private Collection (Ebay buyer)	partial
n.d.	National Metal Products Co.	Connersville, IN	[Casket Hardware Advertising Cards]	3	Commonwealth Institute of Funeral Service, Houston, TX	complete
n.d.	Owosso Casket Co.	Owosso, MI	[Catalogue of Metal Caskets]	124	Private Collection (Ebay buyer)	partial
n.d. (>1899)	Rockwell Casket Company	Rockwell, NC	[Advertising card of standard measurements for caskets, outside boxes and vaults]	3	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
n.d. (circa 1890)	Sargent, S. B.	Tilton, NH	[Book of Epitaphs]	31	Personal Collection, Peggy B. Perazzo, Antioch, CA [http://quarriesandbeyond.org/]	complete
n.d. (1990s)	Thacker Caskets, Inc.	Clinton, MD	[Casket Advertising Cards]	50	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
n.d.	Townsend & Townsend & Co.	Richfield Springs, NY	Italian Art Statuary	99	Cleveland Public Library [Trade Catalogs of Headstones, Mausoleums, and Accessories]	complete
n.d. (>1964)	Tri-State Electric & Novelty Supply Co.	Bronx, NY	Catalog of Funeral Supplies	152	Private Collection (Ebay buyer)	partial
n.d. (1965-1979)	Tri-State Industries, LTD.	Bronx, NY	Catalog No. 16	90	Personal Collection, Jeremy W. Pye, University of Florida, Gainesville, FL	complete
n.d. (1930s)	Undertakers' Supply Co.	Chicago, IL	[Catalog] (cover through page 2 are missing)	184	Commonwealth Institute of Funeral Service, Houston, TX	complete
n.d. (1930s)	Undertakers' Supply Co.	Chicago, IL	Red Catalogue No. 13 - The Superior Line	130	Commonwealth Institute of Funeral Service, Houston, TX	complete
n.d. (circa 1900)	Wisconsin Furniture & Coffin Co.	Lincoln, NE	Casket Catalogue	199	Private Collection (Ebay buyer)	complete

Table A.2. Historic cemetery reports consulted for comparison (n=206)

Report No.	Project	Affiliation	Temporal Range*	No. of Graves Encountered	No. of Individuals Exhumed	Location	Year Excavated	Reference
1	Ravenscraft Cemetery	Euro	1800-1825	7	7	Pennsylvania	1954	Swauger 1959
2	Wealthy Indian Burial Site	Native	1830-1840	2	2	Oklahoma	1968	Wilson 1968
3	Snow Beach Site	Native	1633-1704	7	7	Florida	1967-1968	Magoon et al. 2001
4	Rabbit Hill Site	Native	1865-1885	1	1	Oklahoma	1971	Pearson 1978
5	Las Vegas Gravel Pit Cemetery, New Mexico	Euro/Hisp	1880s-1940s*	17	17	New Mexico	1972	Mills 1979
6	General Moultrie's Grave	Euro	1805	1	1	South Carolina	1977	South 1979
7	Oakland Cemetery	Af-Am	1866-1884	17	17	Georgia	1978	Blakely and Beck 1982
8	Littler's Cemetery	*	1860-1908	5	5	North Carolina	1978	Ward and Graham 1978
	Cemetery 2	Euro	1860-1900	6	6	North Carolina	1978	Ward and Graham 1978
	Cemetery 3	*	1860-1900	23	23	North Carolina	1978	Ward and Graham 1978
9	St. Andrew's Roman Catholic Cemetery	Euro	Pre-1900	1	1	Ontario, Canada	1979	Heringer and Haywood 1980
10	Catoctin Furnace Cemetery	Af-Am	1790-1840	35	35	Maryland	1979-1980	Burnston and Thomas 1981
11	Applegate Lake Project (two cemeteries)	Euro	1886-1914	13	13	Oregon	1980	Brauner and Jenkins 1980
12	Laredo Cemetery	Euro	1880-1920	22	23	Texas	1980	McReynolds 1981
13	Fort Brooke's Cemetery	Euro	1825-1838	126 (excavated)	126 (excavated)	Florida	1980	Piper and Piper 1982
14	Millwood Plantation Cemetery	Euro	1880-1930	263	263	South Carolina	1980-1981	Orser et al. 1987
15	First African Baptist Church (8th and Vine)	Af-Am	1823-1842	140	140	Pennsylvania	1981-1984	Parrington et al. 1989
16	Irish Cemetery	Euro	1848-1871	14	14	Illinois	1981	Goldstein and Buikstra 2004
17	Choke Canyon Project (five cemeteries)	Euro	ca. 1860-1911	34	34	Texas	1981-1982	Fox 1984
18	Stirrup Court Cemetery	Euro	1840-1890	27	27	Ontario, Canada	1982	Woodley 1992
19	Cedar Grove Cemetery	Af-Am	1900-1915	79	80	Arkansas	1982	Rose 1983, 1985
20	Scisson Family Cemetery	Euro	1862-1911	3	3	South Dakota	1982	Berg 1990
21	McGee Creek Cemetery	Euro	ca. 1900-1924	11	11	Oklahoma	1983	Ferguson 1983
22	Carmouche Cemetery	Af-Am	1850-1881	26 (5 excavated)	26 (5 excavated)	Georgia	1983	Schnell 1983; Wood et al. 1984
23	Mount Pleasant Cemetery	Euro	1850-1910	35	37	South Carolina	1984	Trinkley and Hacker-Norton 1984
24	Nancy Creek Cemetery	Af-Am	1850s-1979	56	56	Georgia	1984	Garrow et al. 1985
25	Morgan Chapel Cemetery	Euro	1891-1924	21	21	Texas	1984	Taylor et al. 1986
26	Mount Gilead Cemetery	Euro	1832-ca. 1900	31	31	Georgia	1984	Wood et al. 1986
27	Rincon Cemetery	Euro	1889-1935	4 (excavated)	4 (excavated)	California	1984	Brock and Schwartz 1991
28	First Cemetery (New Orleans)	Euro	1721-1789	32	32	Louisiana	1984	Owsley et al. 1985
29	Blackburn Cemetery	Euro	1818-1910*	10	10	Tennessee	1985	Atkinson and Turner 1987
	Blackburn Cemetery (early graves: Nos. 5, 6, 8, 9)	Euro	1818-1850	4	4	Tennessee	1985	Atkinson and Turner 1987
	Blackburn Cemetery (later graves: Nos. 1, 2, 3, 4)	Euro	ca. 1900-1925	4	4	Tennessee	1985	Atkinson and Turner 1987
30	Uxbridge Almshouse Burial Ground	Euro	1831-1872	31	32	Massachusetts	1985	Elia and Wesolowsky 1989
31	St. Joseph's Cemetery	Hisp	1850-1893	11	11	New Mexico	1985	Boudreaux nd (>1989)
32	Talbot County (Big Lazer Creek) Cemetery	Euro	1825-1900	6	6	Georgia	1986	Garrow and Symes 1987
33	Tucker Cemetery	Euro	1880-1942	16	16	Texas	1986	Lebo 1988
34	Battle of Glorieta Pass	Euro	1862	31	31	New Mexico	1987	Owsley 1994
35	Voegtly Cemetery	Euro	1833-1861	727	727	Pennsylvania	1987	Beynon 1989
36	Elko Switch Cemetery	Euro	1850-1920	56	56	Alabama	1987-1988	Shogren et al. 1989
37	Stoltz Site	Euro	1830-1880	5	5	Wisconsin	1988	Meer 1990

Table A.2, continued

Report No.	Project	Affiliation	Temporal Range*	No. of Graves Encountered	No. of Individuals Exhumed	Location	Year Excavated	Reference
38	Cedar Keys Lions Club Lot	Euro	Pre-1895	2 (historic burials)	2 (historic burials)	Florida	1988	Jones 1992
39	Seven Rivers Cemetery	Euro/Hisp	1873-1899	54	54	New Mexico	1988	Ferguson et al. 1993
40	Harvie Family Burying Ground	Euro	1825-1894	15	15	Ontario, Canada	1988	Saunders and Lazenby 1991
41	Wise Family Pioneer Cemetery	Euro	1815-1858*	6	6	Ontario, Canada	1988-1989	Pearce 1989
42	Hopewell Baptist Church Cemetery	Af-Am/ Euro*	1850-1920	150	150	Georgia	1988-1989	Garrow 1989a
43	Drennan Family Cemetery	*	1900-1910	1	1	Georgia	1989	Garrow 1989b
44	Bethany Cemetery	Euro	1860-1900	1 (excavated)	1 (excavated)	Georgia	1989	Elliott and Elliott 1989
45	Weir Family Cemetery	Euro	1830s-1907	24	24	Virginia	1989	Little et al. 1992
46	Madam Felix/Hettick Cemetery	Euro	1852-1900	3	3	California	1989	Costello 1991
47	Sinclair Cemetery	Euro/Af-Am	1850s-1880s	16	16	Texas	1989	Winchell et al. 1992
48	O.H. Ivie Reservoir (Boothill Cemetery)	Euro	1870s-1880s	11	11	Texas	1989-1990	Earls et al. 1991
	O.H. Ivie Reservoir (Coffey Cemetery)	Euro	1870s-1880s	2	2	Texas	1989-1990	Earls et al. 1991
49	Spartanburg County, S. C. (38Sp105)	Euro	1870-1910	15	15	South Carolina	1989-1990	Joseph et al. 1991
	Spartanburg County, S. C. (38Sp106)	Euro	1830s-1880s	61	61	South Carolina	1989-1990	Joseph et al. 1991
50	Patuxent Point (18CV271)	Euro	1658-1680s	18	18	Maryland	1989-1990	King and Ubelaker 1996
51	Sandy Creek Cemetery	Euro	1841-1920s	13	13	Georgia	1990	Garrow 1990
52	Piggery Point Burials	Euro	1840-1890	28-37	28-37	Massachusetts	1990	King and Miller 1991
53	First African Baptist Church (10th Street, 36PH72)	Af-Am	1810-1822	89	89	Pennsylvania	1990	Crist et al. 1996
54	Cheyne Cemetery	Euro	1844-1906	3	3	Ontario, Canada	1991	Archaeological Services, Inc. 1992
55	Phillips Memorial Cemetery	Af-Am	1884-1927	53	53	Texas	1991-1992	Dockall, Powell et al. 1996
56	Freedman's Cemetery	Af-Am	1869-1907	1150	1157	Texas	1991-1994	Condon et al. 1998; Peter et al. 2000
	Freedman's Cemetery (Early Period)	Af-Am	1869-1884	64	64	Texas	1991-1994	Condon et al. 1998; Peter et al. 2000
	Freedman's Cemetery (Middle Period)	Af-Am	1885-1899	170	171	Texas	1991-1994	Condon et al. 1998; Peter et al. 2000
	Freedman's Cemetery (Pre-1900 Period)	Af-Am	1869-1899	37	37	Texas	1991-1994	Condon et al. 1998; Peter et al. 2000
	Freedman's Cemetery (Late Period)	Af-Am	1900-1907	878	884	Texas	1991-1994	Condon et al. 1998; Peter et al. 2000
57	Milwaukee County Poor Farm Cemetery	Euro	1882-1925	1649	1649	Wisconsin	1991-1992	Richards and Kastell 1993; Richards 1997
58	Deepstep A.M.E. Church	Af-Am	1860s-1920s*	79	79	Georgia	1992	Braley 1992
	Deepstep A.M.E. Church	Af-Am	1860s-1900*	39-40*	39-40*	Georgia	1992	Braley 1992
	Deepstep A.M.E. Church	Af-Am	1900-1920s*	39-40*	39-40*	Georgia	1992	Braley 1992
59	Sussex City Cemetery (site 7SF68)	Euro	1752-1799	9	9	Delaware	1992	LeeDecker et al. 1995
60	Cross Family Cemetery (Springfield, Illinois)	Euro	1829-1849	29	29	Illinois	1992	Craig and Larsen 1993
61	Cemetery 2, Colorado Mental Health Institute	Euro	1879-1899	131	131	Colorado	1992	Painter et al. 2002
62	St. James Episcopal Church Cemetery (Brandy Station)	Euro	1862-1900s*	7	7	Virginia	1992*	Owsley et al 1992
63	Cope Family Cemetery	*	1850-1900	27	27	North Carolina	1993	Garrow 1993
64	Venable Lane Cemetery	Euro	1860-1900	12 (not fully excavated)	12 (not fully excavated)	Virginia	1993	Grey et al. 1993
65	Fowler Street Cemetery (U.S. Military Cemetery 1851	Euro	1841-1865	20	17	Florida	1993	Deming et al. 1993
66	Former Wesleyan Methodist Church Cemetery	Euro	1821-1900	135 graveshafts	157	Ontario, Canada	1993	Kogon and Mayer 1995

Table A.2, continued

Report No.	Project	Affiliation	Temporal Range*	No. of Graves Encountered	No. of Individuals Exhumed	Location	Year Excavated	Reference
67	Dement Family Cemetery, Arkansas	Euro	1890, 1896	2	2	Arkansas	1993	Cande 1995
68	Quaker Burying Ground	Euro	1784-1890s	66 impacted (159 identified)	66	Virginia	1993-1995	Bromberg et al. 2000
69	Edwards-Attaway Cemetery	Euro/Native	1840-1948	63	63	Georgia	1994	Garrow and Jones 1996
70	Martin Cemetery	Euro	1830s	6	6	Georgia	1994	Garrow et al. 1994
71	Redfield Cemetery	Euro	1875-1930	80	80	Georgia	1994	Braley and Moffat 1995
72	Henry Lehman Family Cemetery	Euro	1844*-1862	15	15	New York	1994	Raemsch and Bouchard 2000
73	Texas State Cemetery (Confederate Section)	Euro	1884-1951	57	57	Texas	1995	Dockall, Boyd et al. 1996
74	Grafton Cemetery	Euro	1834-1873	252	252	Illinois	1995	Buikstra et al. 2000
75	Mother UAME Church	Af-Am	1855-1908	352	352	Delaware	1996	Thomas et al. 2000
76	Dunning Cemetery No. 2	Euro	1860-1880	26	103	Illinois	1996	Trubitt et al. 1999
77	Cool Branch Cemetery	Euro	1800-1830	5	5	Tennessee	1996	Matternes 1998
78	Meridan School for Boy Cemetery	Euro	1853-1900	1 (partial excavation)	1 (partial excavation)	Connecticut	1996	Walwer 1996
79	Givens Grave Site	Euro	1884	1	1	Texas	1996	Miller 1996
80	Morrow Cemetery	*	1867-1873	3	3	Georgia	1996	Jones et al. 1996
81	Unnamed Grave Site (9ME509)	Af-Am	1890-1910	4 (1 excavated)	4 (1 excavated)	Georgia	1996-1997	Gardner 1997
82	Shockley Cemetery	Euro	1840-1884	23	23	Georgia	1997	Wilson 1997
83	Fuller Cemetery	Euro	1856-1920	46	46	Georgia	1997	Wilson 1998a
84	Pine Ridge Cemetery	Euro	1800-1850*	14	14	Georgia	1997	Wilson 1998b
85	Oliver Family Cemetery	Euro	1831-1865*	11	11	Virginia	1997	Wilson 1998c
86	Robinson Cemetery	Af-Am	1700s-1875	47	47	Virginia	1997	McDonald and Meacham 2001
87	Beardstown Cemetery	Euro	1831-1914	47	47	Illinois	1997	McDowell 2000
88	Kaskaskia Island Cemetery	Euro	1853-1880	10	10	Illinois	1997	Cobb et al. 2000
89	Turner Cemetery	Euro	1840-1900*	12	12	Mississippi	1998	Wilson 1998d
90	Pleasant Hill Baptist Church Cemetery	*	1950-1981	13 (relocated)	13 (relocated)	Georgia	1998	Wilson 1998e
91	Ridley Cemetery	Af-Am	1885-1940	47	47	Tennessee	1998	Buchner et al. 1999
92	Third New City Cemetery (Allen Parkway Village)	Af-Am	1875-1905*	355*	355	Texas	1998	Foster and Nance 2002
93	Unmarked Historic Cemetery (44CF568)	Af-Am	1840-1940	6	6	Virginia	1998	Bowden 1999
94	Brunson-Sisson Cemetery	Euro	1836-1892	17	19	Illinois	1998	Cobb 1999
95	Vandaworker's Corners	Euro	1850-1880	10	10	Illinois	1999	Bird 2000
96	Main Street Cemetery	Euro	1858-1882	2	2	Illinois	1999	Demel et al. 2000
97	Sam Goode Cemetery	Af-Am	1840-1920s	155	155	Virginia	1999	Crist et al. 2000
98	Pioneer Cemetery (Dallas, Texas)	Euro	1880-1910	15	15	Texas	1999	Cooper et al. 2000
99	Amis Cemetery	*	1869, 1881	2	2	Georgia	1999	Thomas, B. 2000
100	Brassell Cemetery	Euro	1872-1874*	4	4	Georgia	1999	Gresham and Martin 1999
101	Fox-Abbott Family Cemetery	Euro/Af-Am	1830-1870	6	6	Georgia	1999	Wild 2001
102	Connally I. S. D. School Tract Abandoned Cemetery	Euro	Late 1800s-Early 1900s*	4	4	Texas	1999	Bradle et al. 2002
103	Howard Cemetery (39MN7)	Euro	1850s-1920s*	5	5	South Dakota	1999-2000	Boen and Taft 1999
104	Manzanar National Historic Site Cemetery	Chinese	1942-1945	15	6	California	1999-2000	Burton et al. 2001
105	Droke Cemetery	Euro*	1860s-1870s*	4	4	Arkansas	2000	Hilliard et al. n.d.

Table A.2, continued

Report No.	Project	Affiliation	Temporal Range*	No. of Graves Encountered	No. of Individuals Exhumed	Location	Year Excavated	Reference
106	Cemetery 2, Colorado Mental Health Institute	Euro	1879-1899	31	31	Colorado	2000	Painter et al. 2002
107	Kniseley Family Cemetery	Euro	1830s-1850s*	6	6	Ontario, Canada	2000	Garner et al. 2001
108	Trinity Anglican Church Cemetery	Euro	ca. 1870	1 (excavated)	1 (excavated)	Ontario, Canada	2000	Archaeological Services, Inc. ca. 2000
109	Nix Family Cemetery	Euro	1884, 1888	2	2	Georgia	2000	Thomas, L. 2000
110	Craddock Cemetery	Euro	1860-1911	6	6	Texas	2000	Turpin and Bement 2002a
111	St. Francis Regis Cemetery	Euro/Af-Am/ Native	1845-1876	47	32	Missouri	2000	Powell 2000
112	Lucy Kimball Mead Tomb	Euro	1822-1852	3	3	Massachusetts	2000-2003	Sutherland 2006
113	Elmbank Roman Catholic Cemetery (Fifth Line Cemetery)	Euro*	1832-1937	634	622	Ontario, Canada	2000-2001	Lipovitch et al. 2003
114	St. Paul's Pioneer Cemetery	Euro*	ca. 1870	1 (excavated)	1 (excavated)	Ontario, Canada	2001	Miklavcic 2001
115	Anderson Cemetery (41RT350)	Euro	1875*-1902	4	4	Texas	2001	Turpin and Bement 2002b
116	Nisbett Cemetery (41RT189)	Euro	1870*-1882	10	10	Texas	2001	Turpin and Bement 2002b
117	Varnell Family Cemetery	Euro	1860s-1880s*	20	20	Texas	2001	Gadus et al. 2002
118	Manslick Road Cemetery, Burial #34	Euro	1907-1910	1	16	Kentucky	2001	Spencer 2002
119	Reynolds Cemetery (46Ka349)	Euro	1832-1900	31	31	West Virginia	2001	Bybee 2002
120	Eddy Cemetery	Euro	1870-1900	16	16	Arkansas	2001	Mainfort and Davidson 2006
	Becky Wright Cemetery	Euro	1870-1900	10	10	Arkansas	2001	Mainfort and Davidson 2006
121	Potter's Field/Greenwood Cemetery	Euro	1878-1911	14	14	Texas	2001	Tiné et al. 2002
122	Matagorda Cemetery	Euro	1830-1860*	6	6	Texas	2001	Thoms 2001, Crow 2004
123	Thurston Cemetery	Euro	1848-1900	22	22	Illinois	2001	Bird et al. 2003
124	Nansemond Ordnance Station Burial	Af-Am	ca. 1800	1	1	Virginia	2001	Cultural Resources, Inc. 2002
125	Terre Haute Cemetery	Af-Am	1790s-1865	117	116	Virginia	2001-2002	Jones et al. 2006
126	City of Charleston Potters' Field	*	1800-1825	33	33	South Carolina	2001-2003	Shuler and Hendrix 2004
127	Burning Springs Branch Cemetery	Euro	1795-1818	9	8	West Virginia	2002	Bybee 2003a
128	Unmarked Historic Cemetery (15CP61)	Euro*	1830-1900	15	15	Kentucky	2002	Bybee 2003c
129	Bulkeley Tomb	Euro	1775-1832	27	21	Connecticut	2002	Bastis 2006
130	15Mm137	Euro/Af-Am*	ca.1830-1900	17	17	Kentucky	2002	Bybee and Richmond 2003
131	Stellwagen Cemetery	Euro	1865-1890	21	15	Illinois	2002	Kreisa et al. 2004
132	Hosier Family Cemetery	Euro	1846-1870	4	4	Ohio	2002	Lee 2002
133	Richmond County Cemetery	Af-Am*	1850-1900*	14	14	Georgia	2002	Beaty and Atz 2002
134	Nancy Creek Baptist Church Cemetery	Af-Am	?	5 (excavated)	5 (excavated)	Georgia	2002	Wild 2002
135	Obringer Cemetery	Euro	1880-1890	5	5	Illinois	2002-2003	Shah and Lence 2003
136	The Soldier's Plot, Emmanuel Lutheran Church Cemetery	Euro	ca. 1897*	5	5	Virginia	2003	Owsley et al. 2003
137	Michigan City Old Graveyard (12LE348)	Euro	1835-1864	15	15	Indiana	2003	Strezewski 2003
138	Pioneer Cemetery (41BO202)	Af-Am	1853-1910	4	4	Texas	2003	Tiné and Boyd 2003
139	Oscar Abstein Cemetery	Af-Am	1850s*-1884	3	4	Texas	2003	Broehm et al. 2004
140	St. Peter's Anglican Church Cemetery	Euro*	1828-ca.1850	25	29	Ontario, Canada	2003	Crawford 2003
141	Providence Baptist Church Cemetery (40SY619)	Af-Am	1899-1933	65	65	Tennessee	2003	Oster et al. 2005

Table A.2, continued

Report No.	Project	Affiliation	Temporal Range*	No. of Graves Encountered	No. of Individuals Exhumed	Location	Year Excavated	Reference
142	Samuel Robinson Cemetery	Euro	1830-1900	12	12	Kentucky	2003	Bybee 2003b
	Upper Prater Cemetery	Euro	1830-1920	8	8	Kentucky	2003	Bybee 2003b
143	Old Branham Cemetery	Euro/Af-Am*	ca. 1825-1900	24	24	Kentucky	2003	Bybee 2004
144	Shippenville Borough State Road 0322 Project Cemetery	Euro*	1860-1890	28	28	Pennsylvania	2003	Espenshade 2004
145	Stewart County Family Cemetery	Euro	1850-1880	6	6	Georgia	2003	Pomfret 2003
146	St. Mary's Cemetery	Euro	1868-ca. 1870	13	13	Louisiana	2003-2004	Williamson 2005
147	Pea Hill Site	Euro	1860-1900	2	2	Ontario, Canada	2004	Archaeological Services, Inc. and Gary Warrick 2005
148	Former Sacremento County Hospital Burying Ground	Euro	1891-1927	78	72	California	2004	Edwards et al. 2005
149	Meadowlark Cemetery	Euro	1860-1900	17	13	Kansas	2004	Pye 2007
150	Magnolia, Confederate Navy, and Charleston's Port Society Cemeteries (Johnson Hagood Stadium Lot)	Euro*	1851-1919	356	341	South Carolina	2004	Shuler et al. 2005
151	Crawford Cemetery	Euro	1851-1880	5	5	Georgia	2005	Atz 2005
152	Roughton-Browne Cemetery	Af-Am	1850-1900	15	15	Georgia	2005	Atz and Weaver 2006
153	Dove Cemetery	Hisp./Euro/ Native	1860-1900	18	18	California	2005	Sewell and Stanton 2008
154	St. Clair County, Alabama (1SC320)	Euro	1840s-1880s	19	19	Alabama	2005	Matternes and Serio 2005
155	Neal (Big Cove) Cemetery	Euro	1880s-1920s	68	68	Alabama	2005	Trudeau 2005
156	Court Street Cemetery (Burial 12)	Hisp	1875-1907	1 (excavated)	1 (excavated)	Arizona	2005	Beck et al. 2005
157	Pepper Hill I (Site 22LO998)	Af-Am	ca. 1850-1956	17	17	Mississippi	2005	Hogue and Alvey 2006
158	Eastern State Hospital (Mass Grave)	*	1839-1861	11	11	Kentucky	2005	Favret 2005
159	Lone Fir Cemetery (Morrison Lot)	Chinese	1866-1910	1	1	Oregon	2005	Smits and Reese 2005
160	McBride Family Cemetery	Euro	1839-1870	11	11	Illinois	2005	Hjelsand et al. 2005
161	Williams-Green Cemetery	Euro*	ca. 1800-1880	34	32	Virginia	2005-2006	Ezell and Huston 2006a
162	Quantico Corporate Center Tract Burials (Site 44ST0623)	Euro	1850-1900	5	5	Virginia	2006	Ezell and Huston 2006b
163	Historic Los Angeles Cemetery (HLAC)	Chinese	1880s-1922	118	131	California	2006	Gust et al. 2006
164	Evans Cemetery	Euro*	1875-1988	106 (15 archaeologically recovered)	106 (15 archaeologically recovered)	West Virginia	2006	Bybee 2007a
165	Mitchell Road Cemetery	Euro	1850-1900	18	19	Illinois	2006	McGowan et al. 2009
166	Tallyns' Reach Burial	Euro	ca. 1850	1	1	Iowa	2006	Schermer et. al 2006
167	Filhiol/Gerson Mound (16OU2)	Euro	1900-1920	15	16	Louisiana	2006	Jones and Shuman 2007; Manhein and Listi 2007
168	Lance Hall Cemetery	Euro	1844-1860	11	11	South Carolina	2006	Shuler 2007
169	Guinea Road Cemetery	Af-Am	1850-1875	35	35	Virginia	2006-2008	Rinehart et al. 2009
170	Alameda-Stone Cemetery	Euro/Hisp./ Native/Af-Am	1860-1881	1006	1386	Arizona	2006-2008	Heilen and Gray 2010; Pye 2010a
171	Court Street Cemetery (Burials 13-14)	Hisp.	1875-1909	2 (excavated)	2 (excavated)	Arizona	2007	Thiel and Margolis 2007
172	Barrio Libre Cemetery	Native	1600-1800	1(excavated)	1(excavated)	Arizona	2007	Thiel and McClellan 2007

Table A.2, continued

Report No.	Project	Affiliation	Temporal Range*	No. of Graves Encountered	No. of Individuals Exhumed	Location	Year Excavated	Reference
173	Wright-Whitesell-Gentry Family Cemetery	Euro	1840-1870	30	30	Indiana	2007	Ross-Stallings et al. 2009
174	Alderson-Jackson Cemetery	Euro	1833-1834	2	2	Kentucky	2007	Bybee 2007b
175	Rudy Cemetery	Euro	1836-1850	1	1	Kentucky	2007	Bybee 2007c
176	Drafts Cemetery	Af-Am	1881-1950	2 (disturbed)	2 (disturbed)	South Carolina	2007	Hacker and Trinkley 2007
177	Don Jail Cemetery	Euro*	1872-1930	3	3	Ontario, Canada	2007	Veilleux and Robertson 2008
	Don Jail Cemetery	Euro*	1872-1930	15	15	Ontario, Canada	2007-2008	Crawford et al. 2008
178	Area 1 Cemetery (9CH1168) - Hunter Army Airfield	Af-Am	1870-1916	36	40	Georgia	2007-2008	Matternes et al. 2010
	Area 2 Cemetery (9CH875) - Hunter Army Airfield	Af-Am	1870-1916	330	346	Georgia	2007-2008	Matternes et al. 2010
179	Church of the Assumption of Our Lady Cemetery	Euro*	1861-1967	2	2	Ontario, Canada	2008	Hutcheson et al. 2008
180	Wrenn-Hutchinson Cemetery	Euro	1831-1961	60	60	Virginia	2008	LeeDecker et al. 2009
181	Lackey Cemetery	Af-Am	1855-1895	32	32	Virginia	2008	Tippet et al. 2009
182	Barnes Cemetery	*	1850-1907	13	13	Georgia	2008	Wood 2008
183	Stevens Family Cemetery	Euro	1854-1879	12	4	Oregon	2008	Connolly et al. 2008, 2010
184	Handsmill Cemetery	Euro	1860-1908	11	11	South Carolina	2008	Lansdell and Gillard 2009
185	Ward Hall Cemetery	Af-Am	1830-1900	9	9	Kentucky	2008	Bybee 2009
186	Horse Park Cemetery	Euro/Af-Am	1800-1860	34	34	Kentucky	2008-2009	Pollack et al. 2011
187	Pioneer Cemetery	Af-Am	1853-1910	12 (excavated)	12 (excavated)	Texas	2008-2009	Pye 2011a
188	Gee-Cabbage Cemetery	*	1800-1874	9	9	Indiana	2009	Bybee 2010
189	Bennett Cemetery	Euro/Af-Am/ Native	1871-1940	57	57	Kentucky	2009	Bybee 2011a
190	Union Bethel AME Church Cemetery	Af-Am	1850-1950*	343	343	Georgia	2009	Gardner 2009
191	Hampstead Cemetery	Euro	1840-1860	437	437	South Carolina	2009	Bailey et al. 2009
192	St. Johannes Cemetery	Euro	1902-1920	4 (excavated)	4 (excavated)	Illinois	2009	Trinkley et al. 2009
193	Read Family Cemetery	Euro/Af-Am	1830-1870	27	27	Tennessee	2009	McKee and Sterbinsky 2012
194	Avondale Burial Place	Af-Am	1820-1960	101	101	Georgia	2009-2010	Matternes et al. 2012
195	Court Street Cemetery (Burial 15)	Euro	1875-1909	1 (excavated)	1 (excavated)	Arizona	2010	Hopkins et al. 2011
196	St. Johannes Cemetery	Euro	1902-1920	1 (excavated)	1 (excavated)	Illinois	2010	Trinkley et al. 2010
197	Bowling Cemetery	Euro/Af-Am/ Native	1813-1901	199	199	Illinois	2010	Bybee and Hope 2011
198	Douthitt Cemetery	*	1830-1900	11	11	Indiana	2010	Bybee 2011b
199	Rambo Cemetery	Euro	1853-1910	5	5	Georgia	2010	Reynolds and Kane 2010; Pye 2010b
200	Diuguid/Slack Cemetery	Euro	1840-1891	7	7	Kentucky	2010	Pokrant et al. 2011
201	Callender Court Site (40SU251)	Af-Am	1817-1880	21 (excavated)	21 (excavated)	Tennessee	2010	Weaver et al. 2010
202	Callender Court Site (40SU251)	Af-Am	1817-1880	2 (excavated)	2 (excavated)	Tennessee	2011	Weaver et al. 2011
203	Mount Olive Cemetery	Af-Am	1870-1900	1 (excavated)	1 (excavated)	Virginia	2010	Hacker and Trinkley 2010
204	Court Street Cemetery (Burials 16-35)	Euro/Hisp.	1875-1909	20 (excavated)	20 (excavated)	Arizona	2011	Thiel 2012
205	Son Cemetery	Euro	1860-1976	11	11	South Carolina	2011	Trinkley et al 2011
206	New Home Cemetery	Af-Am	1895-1960s	24	24	Texas	2011	Pye 2011b

* Indicates that the data are unknown or questionable for various reasons.

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APPENDIX B: Tabulated Osteological Data for Four Excavated Historic Burials at Roberts Cemetery, Bell County, Texas

Compiled by Catrina Whitley

This appendix presents tabulated metric and nonmetric osteological data on the human skeletal remains associated with four unmarked historic graves excavated at Roberts Cemetery. in Bell County, Texas, in September 2012. The examination of the remains was conducted at the Prewitt and Associates, Inc., laboratory in Austin on October 1 and 2, 2012, and the data analyses were completed in the following weeks. The osteology data recording methods and scoring codes are from Buikstra and Ubelaker (1994). The tables in this appendix are as follows:

REFERENCE CITED

Buikstra, Jane, and Douglas Ubelaker
1994 *Standards for Data Collection from Human Skeletal Remains.* Arkansas Archeological Survey, Fayetteville.

Table B.1. Skeletal element condition

	Burial 1		Burial 2		Burial 3		Burial 4	
Element	Left	Right	Left	Right	Left	Right	Left	Right
Frontal	1	–	3	–	1	–	1	1
Parietal	1	1	2	2	1	1	1	1
Temporal	1	1	0	2	1	1	1	1
Occipital	1	–	2	–	1	–	1	1
Sphenoid	99	–	3	–	99	–	99	99
Nasal	99	99	99	99	2	2	99	99
Zygomatic	1	1	0	1	1	0	1	1
Lacrimal	99	99	99	99	99	99	99	99
Maxilla	1	1	0	3	1	2	1	1
Palatine	3	1	0	0	1	2	1	1
Maxillary teeth	7	7	1	4	8	8	6	7
Mandibular teeth	7	7	4	5	8	8	6	7
Mandible	1	1	2	0	2	1	1	1
Clavicle	1	1	1	1	1	1	1	2
Scapula	2	2	2	2	2	2	3	3
Sternum	1	1	0	0	3		99	99
Ribs*	12/2	12/2	11/2	10/2			6/1	7/0
Humerus	2	1	1	1	1	1	1	1
Radius	1	1	1	1	1	1	1	1
Ulna	1	1	1	1	1	1	1	1
Carpals*	5/1	8/1	8/1	8/1	8/1	4/1	3/1	2/1
Metacarpals*	5/1	8/1	5/1	5/1	5/1	4/1	5/5	3/2
Phalanges*	13/1	14/1	14/1	14	26	–	5/5	9/9

Table B.1, continued

Element	Burial 1		Burial 2		Burial 3		Burial 4	
	Left	Right	Left	Right	Left	Right	Left	Right
Cervical vertebrae*	7/1	–	7/2	–	7/1	–	7/1	–
Thoracic vertebrae*	12/2	–	11/4	–	12/2	–	12/1	–
Lumbar vertebrae*	5/1	–	5/1	–	5/2	–	5/1	–
Sacrum	1	1	2	–	1	1	1	1
Ilium	2	1	2	2	2	2	1	1
Ischium	1	1	1	1	1	1	1	1
Pubis	1	1	1	2	2	1	1	1
Femur	1	1	1	1	1	1	1	1
Patella	1	1	0	2	0	1	1	1
Tibia	1	1	2	2	1	1	1	1
Fibula	1	1	1	2	1	1	1	1
Metatarsals*	5/1	5/1	5/1	5/2	5/1	5/1	0/0	5/2
Tarsals*	7/1	7/1	4/1	7/1	7/1	6/1	1/1	2/2
Phalanges*	8/1	14/1	11/1	6/2	24	–	1/1	7/2

Notes: * = grouped elements. The first number indicates the number of elements present, and the second indicates the condition of the majority of elements. Condition: 0 = missing; 1= 75–100% complete; 2= 25–75% complete; 3= <25% complete; 99 = unable to score because skeletal remains were too damaged and fragmented for assessment. See Buikstra and Ubelaker 1994 for more definitions of the scores.

Table B.2. Sex estimation scores

	Burial 1	Burial 2	Burial 3	Burial 4
Cranial Observations				
Forehead	5	–	4	–
Nuchal crest	5	–		–
Mastoid process	4	–	3	–
Supra-orbital margin	–	–	4	–
Glabella	5	–	4	–
Mental eminence	4	–	4	–
Os Coxae Morphology				
Ventral arc	5	–	5	–
Subpubic concavity	5	–	–	–
Ischiopubic ramus ridge	5	5	–	–
Greater sciatic notch	5	4	5	–
Preauricular sulcus	5	–	5	–
Ilaic blade	5	4	–	–
Diameter of femoral head	5	5	3	
Sex Estimation	male	male	male	unknown

Notes: – = unobservable; 1 = female; 2 = probable female; 3 = ambiguous; 4 = probable male; 5 = male.

Table B.3. Age estimation

	Burial 1		Burial 2		Burial 3		Burial 4	
Age Criteria	Score	Est.	Score	Est.	Score	Est.	Measurement (mm)	Est.
Auricular surface	3–4	28–35	6–7	45–60	1–2	20–29		
Suchey-Brooks–pubic symphysis	3b–4a	30–40	–	–	1b–2a	20–25		
Todd phase–pubic symphysis	P6–P7	30–40	–	–	2	20–21		
Clavicle–medial fusion					open	20–29		
Ischial crest					fused	>17/>23		
Ischial tuberosity					fused	> 20–23		
Sacrum–1st–2nd segments					open	<27		
M3 eruption					in occlusion	>20–21		
Pars basilaris							23.53	2 yr 3 mo.
Basilar part length							16.97	1 yr 3 mo.
Clavicle							65.51	1.5–2.5 yr
Humerus							113.3	1.5–2 yr
Femur							138.57	1–1.5 yr
Tooth development								1±4 mo.
Age Estimation		30–40		45–60		20–27		~1.5

Note: – = unable to score. See Buikstra and Ubelaker 1994 for definitions of the scores.

Table B.4. Biological affinity

Attribute	Burial 1	Burial 2	Burial 3*	Burial 4
Inion hook	No	slight	Yes	–
Metopic trace	No	–	No	–
Major sutures simple	No	–	No	–
Sloping eye orbits	–	–	–	–
Depressed nation	–	–	No	–
"Tower" nasals	–	–	Yes	–
Large nasal spine	Yes	–	Yes	–
Retreating zygomatics	–	–	–	–
No prognathism	Yes	–	slight	–
Carabelli's cusp	No	Yes	Yes	–
Parabolic dental arcade	–	–	No	–
Bilobate chin	slight	–	No	–
Prominent chin	Yes	No	Yes	–
Pinched & slanted ascending ramus	–	–	No	–
Straight gonial angle	Yes	No	Yes	–
Rounded external auditory meatus	oval	–	oval	–
Oval window visible	Yes	–	Yes	–
Palatine suture bulging	–	–	–	–
S–shaped zygomatic–maxillary suture	–	–	–	–
Shovel shaped incisors	No	No	Yes	–
Biological Affinity Assessment	Caucasian	Caucasian	Caucasian	Unknown

Notes: – = unobservable; * = femoral shaft flattened; distal intertrochanteric length 30.13 mm L and 30.08 mm R; shovel-shaped incisors level 2

Table B.5. Cranial metrics (in mm)

Element	Burial 1		Burial 2		Burial 3		Burial 4*	
	Left	Right	Left	Right	Left	Right	Left	Right
Adult measurements								
Mastoid length	–	–	–	–	–	–	–	–
Ascending ramus	–	–	–	–	67.16	–	–	–
Chin height	0	–	–	–	32.77	–	–	–
Height on mandibular body	–	66.95	–	–	30.4	–	–	–
Breadth of mandibular body	14.49	15.13	–	–	11.03	13.66	–	–
Bigonial width	–	–	–	–	–	–	–	–
Bicondylar breadth	126.18	–	–	–	–	–	–	–
Minimum ramus breadth	32.16	31.54	–	–	33.3	–	–	–
Maximum ramus breadth	41.74	40.01	–	–	38.58	–	–	–
Maximum ramus height	–	–	–	–	–	–	–	–
Mandibular length	–	–	–	–	–	–	–	–
Immature measurements								
Petrous and mastoid	–	–	–	–	–	–	–	61.1
Basilar part of occipital length	–	–	–	–	–	–	16.97	
Basilar part of occipital width	–	–	–	–	–	–	27.6	
Pars–basilaris	–	–	–	–	–	–	23.53	
Mandible–length of body	–	–	–	–	–	–	–	50.07
Mandible–width of arc	–	–	–	–	–	–	–	26.05
Mandible–full length of half mandible	–	–	–	–	–	–	74.75	–

Note: All measurements that are not side-specific are recorded in the left column; – = unable to measure.

Table B.6. Postcranial metrics (in mm; adults only)

Element	Burial 1		Burial 2		Burial 3	
	Left	Right	Left	Right	Left	Right
Humerus						
Maximum length	–	312	334.5	–	320	–
Maximum diameter	–	26.17	20.52	–	22.43	–
Minimum diameter	–	21.46	16.43	–	16.49	–
Vertical maximum	–	44.9	45.29	–	46.36	–
Maximum diameter of head	–	45.11	45.54	–	46.83	–
Transverse diameter of head	–	42.15	41.03	–	41.68	–
Biepicondylar width	–	63	61.5	–	53	–
Circumference	–	–	60	–	66	–

Table B.6, continued

Element	Burial 1		Burial 2		Burial 3	
	Left	Right	Left	Right	Left	Right
Radius						
Maximum length	261	–	274	–	–	242
A–p diameter	13.25	–	–	–	–	–
M–l diameter	17.83	–	–	–	–	–
Ulna		*				
Maximum length	–	277	261	–	265	–
Minimum circumference	–	40	34	–	39	–
A–p diameter	–	18.16	1361	–	13.46	–
M–l diameter	–	18.31	13.82	–	15.23	–
Physiological length	–	249	241	–	233	–
Femur	*	*				
Maximum length	450	449	–	–	447	447.5
Bicondylar length	448	447	–	–	443	441.5
Midshaft circumference	103	–	84	–	85	85
A–p diameter	32.52	–	–	–	27.35	27.56
Transverse diameter	34.22	–	–	–	26.25	25.7
Head diameter	48.4	–	47.56	49.07	43.18	44.08
Bicondylar width	86	–	83	83	72	–
A–p subtrochanteric diameter	32.01	–	25.93	–	26.21	–
M–l subtrochanteric diameter	34.82	–	31.57	–	33.51	–
Tibia					*	
Maximum length	392	–	–	–	362.61	–
Circumference (nf)	104	–	90	92	99	101
A–p diameter (nf)	36	–	32.5	33.58	34.99	35.93
M–l diameter (nf)	27.52	–	24.34	24.65	27.03	27.48
Proximal epiphyseal breadth	79	–	–	–	70	71
Distal epiphyseal breadth	52	–	–	–	–	46
Fibula						
Maximum length	383	–	–	–	–	–
Maximum diameter	16.88	–	–	–	–	–
Scapula						
Maximum height	–	–	–	–	–	–
Maximum breadth	–	–	–	–	–	–
Clavicle						
Maximum length	164	–	148.5	–	143	139.5
Anterior diameter	12.77	–	12.29	–	12.65	13.67
Superior diameter	12.5	–	9.36	–	11.01	10.68
Os coxa						
Maximum length	230.5	–	–	–	–	–
	–	–	–	–	–	–
Ischial length	–	–	–	–	–	–
Pubis length	–	–	–	–	–	–
Iliac breadth	159	–	–	–	–	–
Sacrum						
Anterior length	104.16	–	–	–	108.63	–
Anterior superior breadth	99.45	–	–	–	104.4	–
Maximum transverse diameter base	57.06	–	37.02	–	51.3	–

Notes: * = reconstructed element at one location; – = too fragmented to measure.

Table B.7. Immature postcranial metrics (in mm) for Burial 4

Element	Burial 4	
	Left	Right
Clavicle		
Length	65.51	–
Diameter	6.07	–
Ilium		
Length	49.97	49.33
Width	58.84	58.04
Ischium		
Length	34.09	–
Width	21.36	21.45
Pubis		
Length	27.77	28.23
Humerus		
Length	113.3	113.8
Width	25.97	25.61
Diameter	10.54	10.68
Ulna		
Length	–	92.98
Diameter	–	7.55
Radius		
Length	–	85.02
Diameter	–	7.13
Femur		
Length	–	138.57
Width	–	34.84
Diameter	–	10.89
Tibia		
Length	114.14	113.98
Diameter	11.41	11.26

Note: – = too fragmented to measure.

Table B.8. Nonmetric traits (adults only)

Trait	Burial 1			Burial 2			Burial 3		
	Left	Middle	Right	Left	Middle	Right	Left	Middle	Right
Metopic suture		9			9			0	
Supraorbital notch	1		2	9		9	1		1
Supraorbital foramen	0		0	9		9	1		1
Infraorbital suture	9		9	9		9	9		9
Multiple infraorbital foramina	0		2	9		9	9		9
Zygomatic-facial foramina	0		6	9		2	1		1
Parietal foramen	0		0	9		9	9		1
Epipteric bone	9		9	9		9	9		9
Coronal ossicle	9		9	9		9	9		9
Bregmatic bone		0			9			9	
Sagittal ossicle		9			9			9	
Apical bone		9			9			9	
Lambdoid ossicle	9		9	9		9	9		9
Asterionic bone	9		9	9		9	9		9

Table B.8, continued

Trait	Burial 1			Burial 2			Burial 3		
	Left	Middle	Right	Left	Middle	Right	Left	Middle	Right
Ossicle in occipito-mastoid suture	9		9	9		9	9		9
Parietal notch bone	9		9	9		9	9		9
Inca bone		9			9			0	0
Condylar canal	9		9	9		9	9		9
Divided hypoglossal canal	2		0	9		9	9		9
Flexure of superior sagittal sulcus		1			9			1	
Foramen ovale incomplete	9		9	9		9	9		9
Foramen spinosum incomplete	9		9	9		9	9		9
Pterygo-spinous bridge	9		9	9		9	9		9
Tympanic dihiscence	9		9	9		9	9		9
Auditory exostosis	9		9	9		9	9		9
Mastoid foramen location	0		0	9		1			1
Mastoid foramen number	2		0	9		1	1		2
Mental foramen	1		0	9		9	1		1
Mandibular torus	1		1	9		9	9		0
Mylohyoid bridge location	0		0	9		9	0		9
Mylohyoid bridge degree	0		0	9		9	0		9
Atlas bridging – lateral	0		0	9		9	0		0
Atlas bridging – posterior	0		0	9		9	0		0
Accessory transverse foramina	1		1	9		9	0		0
Septal aperture	0		0	9		0	0		9

Notes: 0 = absent; 1 = present; 9 = unobservable. See Buikstra and Ubelaker 1994 for more definitions of the scores.

Table B.9. Dental data for Burial 1

Variable	Presence	Resorption	Abscess Type	Abscess Size	Calculus	Hypoplasia Type	Distance to CEJ (mm)	Caries Location	Caries Size
Maxilla									
LM3	6	–	–	–	–	–	–	–	–
LM2	2	2	0	0	1	1	2.89	0	0
LM1	2	2	0	0	2	1	2.54	0	0
LP4	2	2	0	0	1	0	0	0	0
LP3	2	2	0	0	1	0	0	0	0
LC	2	2	0	0	3	2	2.84, 4.85	0	0
LI2	2	2	0	0	1	0	0	0	0
LI1	2	2	0	0	1	0	0	0	0
RI1	2	2	0	0	1	0	0	0	0
RI2	2	2	0	0	1	0	0	0	0
RC	2	2	0	0	1	1	2.92, 4.96	0	0
RP3	2	2	0	0	1	0	0	0	0
RP4	2	2	0	0	1	0	0	0	0
RM1	2	2	0	0	2	0	0	Mesial 5	3.45M/D 1.61 B/L
RM2	2	2	0	0	1	1	5.04	–	–
RM3	6	–	–	–	–	–	–	–	–

Table B.9, continued

Variable	Presence	Resorption	Abscess Type	Abscess Size	Calculus	Hypoplasia Type	Distance to CEJ (mm)	Caries Location	Caries Size
Mandible									
LM3	6	–	–	–	–	–	–	–	–
LM2	2	2	0	0	1	1	2.74	0	–
LM1	2	2	0	0	1	1	3.01	0	–
LP4	2	2	0	0	1	0	0	0	–
LP3	2	2	0	0	1	0	0	0	–
LC	2	2	0	0	1	1	5.07	0	–
LI2	2	2	0	0	1	0	0	0	–
LI1	2	2	0	0	3	0	0	0	–
RI1	2	2	0	0	2	0	0	0	–
RI2	2	2	0	0	3	0	0	0	–
RC	2	2	0	0	1	2	4	0	–
RP3	2	2	0	0	1	0	0	0	–
RP4	2	2	0	0	1	0	0	0	–
RM1	2	2	0	0	1	0	0	0	–
RM2	2	2	0	0	1	1	2.96	0	–
RM3	6	–	–	–	–	–	–	–	–

Notes: L = left; R = right; C = canine; I = incisor; M = molar; P = premolar; – = unable to score; 0 = absent. See Buikstra and Ubelaker 1994 for more definitions of the scores.

Table B.10. Dental data for Burial 2

Variable	Presence	Resorption	Abscess Type	Abscess Size	Calculus	Hypoplasia Type	Distance to CEJ (mm)	Caries Location	Caries Size
Maxilla									
LM3	3	–	–	–	–	–	–	–	–
LM2	3	–	–	–	–	–	–	–	–
LM1	3	–	–	–	–	–	–	–	–
LP4	3	–	–	–	–	–	–	–	–
LP3	3	–	–	–	–	–	–	–	–
LC	3	–	–	–	–	–	–	–	–
LI2	3	–	–	–	–	–	–	–	–
LI1	1	–	–	–	0	0	0	0	0
RI1	3	–	–	–	–	–	–	–	–
RI2	3	–	–	–	–	–	–	–	–
RC	3	–	–	–	–	–	–	–	–
RP3	1	–	–	–	1	0	0	0	0
RP4	1	–	–	–	1	0	0	0	0
RM1	3	–	–	–	–	–	–	–	–
RM2	2	1	–	–	2	0	0	0	0
RM3	2	1	–		1	0	0	3	2.83 M/D x 2.86 B/L
Mandible									
LM3	3	–	–	–	–	–	–	–	–
LM2	1	–	–	–	1	0	0	0	–
LM1	3	–	–	–	–	–	–	–	–
LP4	1	–	–	–	0	0	0	3 lingual	–

Table B.10, continued

Variable	Presence	Resorption	Abscess Type	Abscess Size	Calculus	Hypoplasia Type	Distance to CEJ (mm)	Caries Location	Caries Size
LP3	1	–	–	–	0	0	0	0	–
LC	3	–	–	–	–	–	–	–	–
LI2	1	–	–	–	0	5	7.53	0	–
LI1	1	–	–	–	0	0	0	0	–
RI1	3	–	–	–	–	–	–	–	–
RI2	1	–	–	–	0	0	0	0	–
RC	3	–	–	–	–	–	–	–	–
RP3	1	–	–	–	0	0	0	0	–
RP4	1	–	–	–	2	0	0	2	–
RM1	3	–	–	–	–	–	–	–	–
RM2	3	2	–	–	–	–	–	–	–
RM3	2	–	–	–	0	0	0	0	–

Notes: L = left; R = right; C = canine; I = incisor; M = molar; P = premolar; – = unable to score; 0 = absent; # – unable to score due to extensive calculus. See Buikstra and Ubelaker 1994 for more definitions of the scores.

Table B.11. Dental data for Burial 3

Variable	Presence	Resorption	Abscess Type	Abscess Size	Calculus	Hypoplasia Type	Distance to CEJ (mm)	Caries Location	Caries Size
Maxilla									
LM3	2	1	0	0	1	0	0	0	0
LM2	2	1	0	0	1	0	0	0	0
LM1	2	1	0	0	1	0	0	0	0
LP4	2	1	0	0	2	0	0	0	0
LP3	2	1	0	0	1	0	0	0	0
LC	2	1	0	0	1	0	0	0	0
LI2	2	1	0	0	1	0	0	0	0
LI1	2	1	0	0	1	0	0	0	0
RI1	2	1	0	0	1	0	0	0	0
RI2	2	1	0	0	1	0	0	0	0
RC	2	1	0	0	1	0	0	0	0
RP3	2	1	0	0	2	0	0	0	0
RP4	2	1	0	0	1	0	0	0	0
RM1	1	–	–	–	1	0	0	0	0
RM2	1	–	–	–	1	0	0	0	0
RM3	1	–	–	–	1	0	0	0	0
Mandible									
LM3	2	0	0	0	1		0	0	0
LM2	2	0	0	0	1		0	0	0
LM1	1	0	0	0	1		0	0	0
LP4	1	0	0	0	1		0	0	0
LP3	1	1	0	0	1		0	0	0
LC	2	1	0	0	2	1	3.78, 4.85	0	0
LI2	2	2	0	0	3		0	0	0
LI1	2	2	0	0	3		0	0	0
RI1	2	–	–	–	3		0	0	0

Table B.11, continued

Variable	Presence	Resorption	Abscess Type	Abscess Size	Calculus	Hypoplasia Type	Distance to CEJ (mm)	Caries Location	Caries Size
RI2	2	–	–	–	3		0	0	0
RC	2	–	–	–	3		#	0	0
RP3	2	–	–	–	2		0	0	0
RP4	2	–	–	–	2		0	0	0
RM1	2	–	–	–	1		0	0	0
RM2	2	0	0	0	1		0	0	0
RM3	2	0	0	0	1		0	0	0

Notes: L = left; R = right; C = canine; I = incisor; M = molar; P = premolar; – = unable to score;. 0 = absent; # = unable to score due to extensive calculus. See Buikstra and Ubelaker 1994 for more definitions of the scores.

Table B.12. Dental data for Burial 4

Tooth	Presence	Development	Caries	Calculus	Abscesses
Maxillary					
RPM1	1	3	0	0	–
RM2	1	6	0	0	–
RM1	1	9	0	0	–
RC	1	6	0	0	–
RI2	1	10	0	0	–
RI1	1	10	0	0	–
LI1	1	10	0	0	–
LI2	1	10	0	0	–
LC	1	6	0	0	–
LM1	1	9	0	0	–
LM2	1	6	0	0	–
LPM1	1	3	0	0	–
Mandibular					
RPM1	8	3	0	0	–
RM2	8	6	0	0	–
RM1	8	0	0	0	–
RC	8	9	0	0	–
RI2	6	–	0	0	–
RI1	1	10	0	0	–
PI1	8	4	0	0	–
PI1	8	4	0	0	–
LI1	1	10	0	0	–
LI2	6	–	0	0	–
LC	8	9	0	0	–
LM1	8	–	0	0	–
LM2	8	6	0	0	–
LPM1	8	3	0	0	–

Notes: L = left; R = right; C = canine; I = incisor; M = molar; P = premolar; PM = permanent molar; PI = permanent incisor; – = unable to score; 0 = absent. See Buikstra and Ubelaker 1994 for more definitions of the scores.

APPENDIX C: List of People Who May Be Buried in Unmarked Graves at Roberts Cemetery as Revealed in an Analysis of Death Certificates

Compiled by Terri Myers and
Douglas K. Boyd

Table C.1. List of people definitely or possibly buried in Roberts Cemetery between 1903 and 1940 according to Bell County death certificates. Burials are listed by probability group

DATA FROM DEATH CERTIFICATES								
Surname	Given Name	Death Year	Death Date	Residence	Cemetery	Death Certificate Volume	Notes from Other Sources	Probability Group
DEFINITE GROUP A: MARKED GRAVE IN ROBERTS CEMETERY								
Bartlett	Marion	1932	9/16/32	None given	Roberts	Vol. IV: 1920–1932		Definite Group A
Clem	Laura Jane	1931	5/14/31	Troy	Roberts	Vol. IV: 1920–1932		Definite Group A
Clem	Miss Bernice	1937	12/13/37	Troy	Roberts	Vol. V: 1933–1937		Definite Group A
Crawford	Mary Thomas	1938	6/27/38	Troy	Roberts	Vol. VI: 1938–1939		Definite Group A
Crawford	William And.	1936	11/24/36	Troy	Roberts	Vol. V: 1933–1937		Definite Group A
Downing	C.E.	1933	1/4/33	Troy	Roberts	Vol. V: 1933–1937		Definite Group A
Dyer	Patsie Jean	1938	8/2/38	Temple	Roberts	Vol. VI: 1938–1939		Definite Group A
Edwards	Kate	1922	8/14/22	Troy	Roberts	Vol. IV: 1920–1932		Definite Group A
Edwards	Robert Earl	1932	7/l29/32	Troy	None given	Vol. IV: 1920–1932		Definite Group A
Evans	Fred L.	1919	3/14/19	Troy	Roberts	Vol. IV: 1920–1932		Definite Group A
Gunn	Jeff Davis	1937	3/26/37	Temple	Roberts	Vol. V: 1933–1937		Definite Group A
Gunn	Vardell	Unk. 1920–1932	–	Troy	None given	Vol. IV: 1920–1932		Definite Group A
Hargrove	C.T.	1937	8/9/37	Troy	Roberts	Vol. V: 1933–1937		Definite Group A
Hatcher	Mrs. Maggie	1938	10/5/38	Troy	Roberts	Vol. VI: 1938–1939		Definite Group A
Johnson	Alvin Bruce	1937	7/18/37	Troy	Roberts	Vol. V: 1933–1937		Definite Group A
Johnson	Mrs. Mary Amner	1937	4/27/37	Troy	Roberts	Vol. V: 1933–1937		Definite Group A
Jordan	J.T.	1937	5/26/37	Troy	Roberts	Vol. V: 1933–1937		Definite Group A
Knowles	J.M.	1934	6/20/34	Troy	Roberts	Vol. V: 1933–1937		Definite Group A
Knowles	Mrs. Asby	1938	11/28/38	Troy	Roberts	Vol. VI: 1938–1939		Definite Group A
Lancaster	Euel Frederick	1938	5/23/38	Troy	Roberts	Vol. VI: 1938–1939		Definite Group A
McCarroll	J.W.	1934	4/9/34	Troy	Roberts	Vol. V: 1933–1937		Definite Group A
McNeeley	G.O.	1906	7/23/06	Troy	n/a	Vol. I: 1903–1908	Listed as “Little George” in the Roberts Cemetery inventory	Definite Group A
Newton	Mrs.	1903	11/10/03	Troy	n/a	Vol. I: 1903–1908		Definite Group A
Pool	Leara Eliz	Unk. 1920–1932	–	Troy	Roberts	Vol. IV: 1920–1932		Definite Group A
Porter	Horace	1919	1/25/19	Troy	Roberts	Vol. IV: 1920–1932		Definite Group A

Table C.1, continued

DATA FROM DEATH CERTIFICATES								
Surname	Given Name	Death Year	Death Date	Residence	Cemetery	Death Certificate Volume	Notes from Other Sources	Probability Group
Porter	John Henry	1939	9/3/39	Temple	Roberts	Vol. VI: 1938–1939		Definite Group A
Robinson	J. A.	1922	11/18/22	Troy	Roberts	Vol. IV: 1920–1932		Definite Group A
Robinson	Julian	1919	9/25/19	Troy	Roberts	Vol. IV: 1920–1932		Definite Group A
DEFINITE GROUP B: UNMARKED GRAVE IN ROBERTS CEMETERY								
Benson	Stella	1917	7/12/17	Troy	Roberts	Vol. III: 1917–1919		Definite Group B
Daniels	Aubrey	1917	7/2/17	Troy	Roberts	Vol. III: 1917–1919		Definite Group B
France	Ruby Jewel	Unk. 1917–1919	No date	No town	Roberts	Vol. III: 1917–1919		Definite Group B
Hughes	–	1920	12/20/20	–	Roberts	Vol. IV: 1920–1932		Definite Group B
Marshall	Lillie	1911	7/31/11	Troy	n/a	Vol. II: 1908–1917		Definite Group B
Martin	Emery	1918	3/28/18	Troy	Roberts	Vol. III: 1917–1919		Definite Group B
Martin	Julia C.	1920	5/30/20	Troy	Roberts	Vol. IV: 1920–1932		Definite Group B
Murphy	John	1912	7/1/12	Troy	n/a	Vol. II: 1908–1917		Definite Group B
Russell	Mrs. Minnie Eleanor	1939	1/2/39	Temple	Roberts	Vol. VI: 1938–1939		Definite Group B
Sims	Mrs. Virginia	1929	7/2/29	Troy	Roberts	Vol. IV: 1920–1932		Definite Group B
POSSIBLE GROUP: MAY BE IN UNMARKED GRAVE IN ROBERTS CEMETERY								
Clayton	Mrs.	1904	3/16/04	Troy	n/a	Vol. I: 1903–1908		Possible Group
Cox	Robert	1916	2/2/16	Troy	n/a	Vol. II: 1908–1917		Possible Group
Cummings	“infant”	1904	1/4/04	Troy	n/a	Vol. I: 1903–1908		Possible Group
Dunn	Susan	1912	10/14/12	Troy	n/a	Vol. II: 1908–1917		Possible Group
Elliott	Mike	1916	4/28/16	Troy	n/a	Vol. II: 1908–1917		Possible Group
Elliott	Mrs. Willie	1911	9/5/11	Troy	n/a	Vol. II: 1908–1917		Possible Group
Gray	Lizzie	Unk. 1917–1919	No date	Troy	None given	Vol. III: 1917–1919		Possible Group
Gunn	Sadie	1903	8/23/03	Troy	n/a	Vol. I: 1903–1908		Possible Group
Hammock	Robert Earl	1910	10/28/10	Troy	n/a	Vol. II: 1908–1917	A Mary Jane Hammock (d. 1971) is listed in the Roberts Cemetery inventory	Possible Group
Harrison	Wm. L.	1915	2/14/15	Troy	n/a	Vol. II: 1908–1917		Possible Group
Huber	Chris	1913	10/13/13	Troy	n/a	Vol. II: 1908–1917		Possible Group
Huffy or Holly	Annie	1906	4/4/1906	Troy	n/a	Vol. I: 1903–1908		Possible Group

Table C.1, continued

DATA FROM DEATH CERTIFICATES								
Surname	Given Name	Death Year	Death Date	Residence	Cemetery	Death Certificate Volume	Notes from Other Sources	Probability Group
Jayce	Tom	1906	9/22/1906	Troy	n/a	Vol. I: 1903–1908		Possible Group
Jennings	Homer	1911	6/5/11	Troy	n/a	Vol. II: 1908–1917		Possible Group
Johnson	Baby	1914	10/1/14	Troy	n/a	Vol. II: 1908–1917		Possible Group
Kelly	Mary Jane	1907	11/24/1907	Troy	n/a	Vol. I: 1903–1908	6 years 11 mos	Possible Group
Kelly	Mary Jane	1907	11/25/07	Troy RFD	n/a	Vol. I: 1903–1908	68 years old	Possible Group
Martin	James	1904	12/25/04	Troy 2 mile N	n/a	Vol. I: 1903–1908		Possible Group
McLaughlin	Julia	1917	1/8/17	Troy	n/a	Vol. II: 1908–1917		Possible Group
Miller	Charles Henry	1912	5/13/12	Troy	n/a	Vol. II: 1908–1917		Possible Group
Nelson	Alfred	1906	9/2/06	Troy	n/a	Vol. I: 1903–1908		Possible Group
Nelson	Ward	1908	11/7/08	Troy	n/a	Vol. I: 1903–1908		Possible Group
Porter	Kate	1915	2/20/15	Troy	n/a	Vol. II: 1908–1917		Possible Group
Rogers	Mary	1903	9/25/03	Troy	n/a	Vol. I: 1903–1908	A Mary Roger (d. 1978) is listed in the Roberts Cemetery inventory	Possible Group
Safford	Mrs.	1903	8/20/03	Troy	n/a	Vol. I: 1903–1908		Possible Group
Spohn	John	1908	12/19/08	Troy	n/a	Vol. I: 1903–1908		Possible Group
Thompson	Mrs. L. W.	1915	11/2/15	Troy	n/a	Vol. II: 1908–1917		Possible Group
Thompson	W. A.	1917	6/8/17	Troy	n/a	Vol. II: 1908–1917		Possible Group
Williams	Leslie	1913	4/16/13	Troy	n/a	Vol. II: 1908–1917		Possible Group

GROUP DEFINITIONS:

DEFINITE GROUP A includes marked graves in Roberts Cemetery.
Death Certificate says the person died in Troy and/or was buried in Roberts Cemetery, and the person's name is listed in the Roberts Cemetery inventory by Duke (2004).

DEFINITE GROUP B includes unmarked grave in Roberts Cemetery.
Death Certificate shows "Roberts" as place of burial, but the person's name is not listed in the Roberts Cemetery inventory by Duke (2004). Person's name does not show up on the inventories for Old Troy Cemetery (Todd and Todd 2006; Find A Grave 2013); Pleasant View Cemetery (Badovinac 2001), or Shiloh Cemetery (Entrop 2013; Bell County Historical Survey Committee n.d.).

POSSIBLE GROUP includes possible unmarked graves in Roberts Cemetery.
Death Certificate does not indicated place of burial, but the person died in Troy and is not listed on the Roberts Cemetery inventory by Duke (2004). Person's name does not show up on the inventories for Old Troy Cemetery (Todd and Todd 2006; Find A Grave 2013); Pleasant View Cemetery (Badovinac 2001), or Shiloh Cemetery (Entrop 2013; Bell County Historical Survey Committee n.d.)

APPENDIX D: List of Burials in Roberts Cemetery, Bell County, Texas, 1886 to 2004

Inventory compiled by Mary Duke,
April 2004, for the USGenWeb
Project

This appendix contains an inventory of 633 marked burials in Roberts Cemetery dating from 1886 through 2004. This information was compiled by Mary Duke in April 2004 and posted online as part of the USGenWeb Project. The online version presents the burial list in alphabetical order, while the table presented here is in chronological order by death date. The online inventory provides this notice regarding use of these data:

> ROBERTS CEMETERY, West side of IH 35 Troy, Texas
> Inventory taken April 2004
> Submitted By: Mary Duke, mld71124@dukenet.us
> **********
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REFERENCE CITED

Duke, Mary
2004 Roberts Cemetery, Bell County Texas. USGENWEB. Electronic document, http://files.usgwarchives.org/tx/bell/cemetery/roberts2.txt, accessed September 17, 2012.

Table D.1. List of burials in Roberts Cemetery from 1886 thorugh 2004. Burials are listed in chronological order from data compiled in Duke 2004.

Last Name	First Name	Middle	Birth	Death	Memo	Block & Lot	Death Year
Bowers	Soloman	O.	1822	1886		S74	1886
Roberts	Maggie	C	01/26/1881	06/23/1886	d/o F.H. & Ida Roberts	T79	1886
Ellington	Mary	J	No date	10/11/1889	w/o J Ellington;55y1m25d	T79	1889
Davis	Infant Son		11/18/1891	11/18/1891	s/o J.P.& S. Y. Davis	T79	1891
Knowles	Alma	O.D.	09/15/1897	07/07/1900	Sister of Mary Knowles	E20	1900
Watson	Era	Exa	1897	1900		T79	1900
Watson	Laura		1889	1900		T79	1900
Maedgen	Cleo		09/14/1875	07/07/1901	w/o J.L. Maedgen	S75	1901
Claywell	Dr. D.	W	10/31/1836	02/14/1902	Mason	T79	1902
Davis	Little	Roy	07/23/1901	12/06/1902	s/o T.C. & M. E. Davis	T79	1902
Newton	M	C	05/22/1849	11/10/1903	w/o J.A. Newton	U82	1903
Bowers	Elizabeth	J.	1829	1904		S74	1904
Cluck	W.	M.	02/08/1904	03/01/1904		T79	1904
Curtis	Alma		11/10/1896	09/27/1905	d/o A H & M C Curtis	U84	1905
Goats	Infant Daughter		08/17/1906	08/17/1906	d/o H.D. & Louisa Goats	X95	1906
McNeely	Little G	D	No date	07/23/1906	s/o E.E.McNeely;5m,15d	X96	1906
Nelson	Alfred	D.	05/01/1877	09/02/1906		R69	1906
Finnell	B	F	05/08/1885	02/26/1907		X96	1907
Finnell	Mary	Sue	01/30/1854	03/04/1907		X96	1907
Goats	John	William	12/13/1832	06/02/1907		X95	1907
Crawford	Anita	E	01/15/1947	08/30/1908		U22	1908
Porter	Infant Son		07/24/1906	06/12/1908		V86	1908
Porter	Mamas pet		07/24/1906	06/12/1908	s/o E.H. & Eula Porter	Y99	1908
Blackburn	Jessie	Lee	08/06/1902	06/15/1909		T79	1909
Curtis	Infant Daughter		1909	1909	d/o A H & M C Curtis	U84	1909
Ellington	G	D	03/30/1857	03/15/1910		T79	1910
Winfrey	Victoria		12/09/1874	05/10/1910		X96	1910
Bowers	Samuel	H.	11/29/1855	02/13/1911		S75	1911
Marshall	Lillie	E	No date	07/30/1911	age 33 years	X93	1911
Watson	J	W	07/22/1854	08/30/1911	h/o D. L. Watson	T79	1911
Murray	Fannie	Beatrice	07/15/1895	08/09/1912	d/o J.L. & E.T. Murray	T78	1912
Murray	John	Lee	10/26/1849	07/01/1912		T78	1912
Bartlett	Annie	E.	1866	1914		P61	1914
Gunn	Mary	E	02/19/1839	06/21/1914		A1	1914
Gunn	Mary	E	02/19/1839	06/21/1914		A1	1914
Murray	Elizabeth		12/02/1862	02/17/1914	w/o John Lee Murray	T78	1914
Jolly	Kate	Lee	1891	1915	w/o H J Porter	U82	1915
Newton	J	A	09/16/1838	01/13/1916	Co. A rr N. C. Rect	U82	1916
Robinson	Sarah	Binns	04/15/1849	02/27/1916		G28	1916
Thompson II	John	Quincy	07/16/1916	07/16/1916		W91	1916
Jennings	Nica	Dee	Sept 1917	Sept 1917	d/o Mr&Mrs I J Jennings	U84	1917
Green	William	Pennington	1840	1918		W89	1918

Table D.1, continued

Last Name	First Name	Middle	Birth	Death	Memo	Block & Lot	Death Year
Evans	Fred	Lee	04/30/1863	03/10/1919		D16	1919
Porter	H.	J.	1882	1919	h/o Kate Lee Jolly	U82	1919
Robinson	Julian	C	12/11/1878	09/25/1919		G28	1919
Curtis	A	H	05/20/1853	02/19/1920		U84	1920
Gunn	Vardell	P.	09/02/1918	08/01/1920		A1	1920
Johnson	Ruby	L	11/09/1919	12/15/1920	d/o C. R.& S.A. Johnson	F24	1920
Dixon	Fannie	C	04/23/1859	01/31/1921		A1	1921
Jennings	Isom	J	09/10/1870	01/14/1921		A4	1921
McNeely	J	H.	12/11/1846	09/06/1921		H29	1921
Edwards	Kate		11/21/1874	08/05/1922		A2	1922
Ludewick	Merle	Nelson	05/27/1925	08/07/1992		W13	1922
Robinson	J	Albert	12/11/1847	11/04/1922		G28	1922
Thompson	Jessie	Louvenia	11/12/1911	03/12/1922	d/o Earl&Laura Thompson	C11	1922
Hargrove	Hettie	R	1870	1923		H30	1923
Hartman	Minnie	Lee	06/18/1886	09/11/1923	w/o R L Hartman	B8	1923
Meadows	J	W	12/10/1863	02/03/1923		B5	1923
Phipps	Mary	Ann	12/22/1878	09/26/1923		J37	1923
Goates	Sarah	Ann	02/11/1834	06/13/1924		X95	1924
Lavette	C.	W.	1882	1924		V87	1924
Evans	Rose	Wheeler	01/31/1870	02/06/1925		D16	1925
Hartman	Nannie	P.	03/08/1857	01/31/1925	w/o P. C. Hartman	B8	1925
Nelson	Andy	H.	1852	1925		Q65	1925
Smith	George	Ann	1842	1925	w/o John Henry Porter	U82	1925
Blackburn	Christell	Lavern	No date	1926		H31	1926
Knowles	Louise		07/07/1917	04/05/1926		B7	1926
Phears	Sarah	Bell	05/05/1863	05/09/1926		C12	1926
Porter Sr	E	H	07/04/1874	04/28/1926		V86	1926
Watson	D	L	05/16/1866	03/05/1927	w/o J. W. Watson	T79	1927
Cluck	William	Martin	11/13/1872	04/23/1928		T79	1928
Gunn	J	R	11/17/1834	12/08/1928		A1	1928
Norwood	Infant Daughter		No date	07/16/1928	d/o O.S& Lillie Norwood	A4	1928
Wood	Pearl		1912	1928		I36	1928
Hargrove	Jesse	Austin	03/09/1836	02/29/1929	3 Tenn Cav, CSA	H30	1929
McMullen	J	W	1899	1929		W92	1929
Phears	W	T	09/27/1854	01/30/1929		C12	1929
Bowers	Mary	C.	04/25/1864	11/09/1930		S75	1930
Clem	Laura		09/29/1882	05/14/1931		I34	1931
Wood	Abram	Caleb	1885	1931		I36	1931
Bartlett	Marion		1866	1932		P61	1932
Edwards	Robert	Earl	08/29/1911	07/29/1932		A2	1932
Goates	Henry	D	12/24/1875	09/26/1932		X95	1932
Lucas	Alberta		04/20/1888	09/24/1932		K41	1932
Pool	Leora	Elizabeth	05/06/1932	10/09/1932		V88	1932

Table D.1, continued

Last Name	First Name	Middle	Birth	Death	Memo	Block & Lot	Death Year
Downing	C	E	1881	1933		J37	1933
Hargrove	Blent	F	08/14/1869	03/05/1934		I35	1934
Hartgrove	Ellen	F	08/14/1869	03/05/1934	w/o W. L. Hartgrove	I35	1934
Isaacks	Marvin	David	07/20/1907	04/03/1934	s/o Sam & Clara Isaacks	W90	1934
Knowles	J	M	01/28/1860	06/20/1934		E20	1934
McCarroll	John	Wesley	Mar 1860	Apr 1934		V85	1934
McMullen	B	W	1921	1934		W92	1934
McNeely	M	J.	07/29/1847	12/13/1934		H29	1934
Owens	Infants		1933	1934	Infants of J F Owens	P62	1934
Hargrove	Barney	William	11/02/1935	11/02/1935		T79	1935
Hartman	Annie	P	11/06/1884	06/18/1935		J38	1935
Crawford	W	A	03/18/1863	08/08/1936		D14	1936
Greenway	J	H.	01/13/1864	11/24/1936		K41	1936
Martin Jr	George	Washington	07/03/1932	01/03/1936		T79	1936
Nagle	Lillie		1889	1936		D15	1936
Stewart	Jim	J. R.	01/01/1897	01/20/1936	Pvt. US Army WWI	Q67	1936
Clem	Bernice		06/12/1916	12/13/1937		I34	1937
Gunn	J	D	1873	1937		A1	1937
Hargrove	Charlie		03/07/1857	08/09/1937		I34	1937
Humphrey	Mattie		01/16/1864	02/24/1937		Z101	1937
Humphrey	Will		07/20/1859	02/28/1937		Z101	1937
Johnson	Alvin	B	1916	1937		F24	1937
Johnson	Mary	A	1914	1937		F24	1937
Jordan	James	T	06/07/1862	05/26/1937		L45	1937
Wilcox	Shirley	Virginia	09/01/1935	02/24/1937		J39	1937
Crawford	Mary	L	08/23/1866	06/27/1938		D14	1938
Green	Jeffie		1838	1938		W89	1938
Hatcher	Maggie	Robinson	08/09/1873	10/05/1938		G28	1938
Knowles	Asby	W	1913	1938		B7	1938
Lancaster	Euel	F	1899	1938		F23	1938
Porter	John	Henry	1845	1939	h/o George Ann Smith	U82	1939
McMullen	John	M	09/13/1870	06/30/1940		W92	1940
Edwards	Edna	M	1902	1941		A4	1941
Graham	Birdie	Laughlin	03/13/1906	10/10/1941		L46	1941
Nobles	Susan	F	09/15/1870	05/20/1941		J39	1941
Painter	W B	"Bill"	08/12/1889	11/09/1941		M49	1941
Robinson	Earnest	A	06/07/1882	03/12/1941		G28	1941
Barnes	Albert	H	1879	1942		E18	1942
Braddy	Infant Daughter		1942	1942	d/o Arnold Braddy	P63	1942
Clark	Mary	E	07/27/1854	01/12/1942		L46	1942
Hargrove	Louis	A.A.	1862	1942		H30	1942
Humphrey	William		05/29/1893	12/07/1942	Pvt 142 Inf 36 Div	Z101	1942
Spohn	Frank	J	08/08/1859	01/06/1942		F21	1942

Table D.1, continued

Last Name	First Name	Middle	Birth	Death	Memo	Block & Lot	Death Year
Hood	Ruthie	M	08/11/1890	07/11/1943		L45	1943
Laminack	Vernon		07/03/1895	01/21/1943		Z101	1943
Lancaster	Frank		09/24/1867	07/26/1943		E19	1943
Maedgen	Dan	A	11/30/1882	11/08/1943		N54	1943
Maedgen	William	H.	11/17/1884	09/20/1943		N53	1943
Smith	Millie	M	12/05/1874	12/29/1943		Z101	1943
Temple	James	Elmer	1892	1943		H32	1943
Hargrove	Etta		03/27/1877	01/15/1944		I34	1944
Lavette	Mary		1883	1944		V87	1944
Payne	John	T	03/10/1877	06/16/1944		K43	1944
Thompson	Ida	M	01/23/1877	04/14/1944	Eastern Star	W91	1944
Curtis	Lucious	E	10/28/1922	01/02/1945	WWII, Purple Heart	Z03	1945
Curtis	Mollie	C	12/31/1965	05/12/1945		U84	1945
Hering	William	Curtis	05/09/1945	05/10/1945		A3	1945
Maedgen	Alice	S	07/06/1970	02/12/1945		N53	1945
Nelson	Delia		1868	1945		Q65	1945
Edwards	B	F	05/24/1896	03/05/1946		A2	1946
Edwards	George	P.	02/01/1914	06/11/1946		A2	1946
Hartman	James	W	07/03/1878	04/24/1946		J38	1946
Spoonts	Otis	A	03/28/1893	04/25/1946		J40	1946
Wood	W	"C "Bud"	01/31/1870	10/13/1946		L48	1946
Carter Jr	Shelley	K.	08/02/1926	05/15/1947	WWII	Z104	1947
Crawford	Hershell	A	10/01/1926	02/01/1947		D13	1947
Gunn	Lillie	Jane	10/28/1866	08/03/1947		C12	1947
Hargrove	William	L	10/13/1865	12/02/1947		I35	1947
Hartgrove	William	L	10/13/1865	12/02/1947		I35	1947
Kelley	Viola	Painter	01/23/1899	06/25/1947		M49	1947
Payne	Frances	E	11/02/1881	03/20/1947		K43	1947
Porter	Eula		05/02/1869	07/17/1947		V86	1947
Bartlett	Earl	B	1899	1948		Q66	1948
Edwards	A	H	09/23/1872	03/01/1948		A2	1948
Ford	Benjamin	F.	03/26/1884	12/02/1948		G25	1948
Gunn	Noma	Lee	1888	1948		A1	1948
Hartman	Robert	Lee	1883	1948		B8	1948
Hatcher	Landon	M	06/11/1874	10/25/1948		G28	1948
Maedgen	J	Frank	1879	1948		N55	1948
Martin	George	W.	10/29/1897	01/01/1948		M50	1948
Blackburn	W	Brooker	09/06/1888	01/19/1949		M51	1949
Carter	Shely	K.	08/20/1886	06/19/1949	WWI	Z104	1949
Clem	Richard	A	01/26/1881	07/29/1949		I34	1949
Davis	Joseph	P	09/13/1862	05/16/1949		K42	1949
Greenway	M	E	08/05/1871	06/14/1949		K41	1949
Gunn	John	Henry	11/01/1856	03/05/1949		C12	1949

Table D.1, continued

Last Name	First Name	Middle	Birth	Death	Memo	Block & Lot	Death Year
Gunn	Katherine		1907	1949		A1	1949
Hill	Emma	J	1870	1949		Q65	1949
Hughes	J	W	1857	1949		D16	1949
Hughes	Lem	H	02/10/1892	10/02/1949	WWI	E17	1949
McMullen	Nannie	C	12/24/1873	08/15/1949		W92	1949
Williams	Dottye F		1902	1949		Y05	1949
Benson	Roy	E	05/13/1910	02/07/1950	WWII	C9	1950
Blackburn	Mary	Sluder	09/13/1861	06/23/1950		T79	1950
Johnson	Charles	William	02/10/1931	05/14/1950		O59	1950
Johnson	Sidney	F	06/05/1890	06/17/1950		EE16	1950
Baker	Earl	L.	08/01/1923	11/17/1951	WWII	DD14	1951
Carpenter	Edward	Lee	11/14/1871	05/03/1951		FF20	1951
Graham	William	Isaac	10/14/1928	09/03/1951		L46	1951
Hill	William	F	1870	1951		Q65	1951
Benson	William	H	10/23/1908	11/17/1952	WWII	C9	1952
Braddy	Joseph	W	12/05/1868	06/04/1952		G27	1952
Collins	Bettie	Ann	04/21/1881	03/29/1953		DD14	1953
Ellis	Ethel	Bowers	08/09/1881	12/02/1953		R71	1953
Hood	James	E	02/03/1876	07/07/1953		L45	1953
Knowles	Bettie		05/04/1867	10/30/1953		E20	1953
Carpenter	Nate		09/03/1876	05/15/1954		FF20	1954
Dixon	Charles	E	01/02/1891	03/16/1954	WWI	E17	1954
Goates	Louisa		08/10/1883	08/06/1954		X95	1954
Gunn	Marjorie	A	02/22/1922	10/09/1954		GG24	1954
Randolph	Edgar	Allen	1903	1954		GG23	1954
Adams	Harold	Dean	07/26/1926	12/10/1995	WWII, Korea	V20	1955
Braddy	Lucy	B	07/14/1871	01/20/1955		G27	1955
Hughes	Luna	Claywell	05/23/1899	09/01/1955		V17	1955
Hughes	Rena	Mae	01/10/1904	05/02/1955		V17	1955
Thompson	Glenn	D	10/18/1955	10/18/1955		CC12	1955
Hartman	Edward	Riley	03/23/1887	02/13/1956		K43	1956
Carpenter	Jessie	E.	04/18/1877	10/06/1957		FF20	1957
Crawford	Ladye	L	07/10/1896	01/28/1957		U21	1957
Edwards	Luna	Graham	12/07/1877	08/24/1957		L46	1957
Hughes	Bettye	June	1927	1957		E17	1957
Randolph	Charles	Ernest	08/22/1895	10/16/1957		BB07	1957
Robinson	Turk		1887	1957		Z01	1957
Robison	Arra	O.	02/15/1886	09/18/1957		BB08	1957
Thompson	John	N	03/08/1874	02/16/1957	Mason	W91	1957
Curtis	Myrtle	Lee	06/07/1886	12/19/1958		A3	1958
Lavette	Clifford	Frank	06/05/1906	04/01/1958		V87	1958
Maedgen	James	Isaac	07/04/1874	04/10/1958		N56	1958
Porter ?	Martha	Ann	1868	1958		U82	1958

Table D.1, continued

Last Name	First Name	Middle	Birth	Death	Memo	Block & Lot	Death Year
Carpenter	Allie	Mae	08/03/1874	07/02/1959		FF20	1959
Jennings	Janie	C.	12/05/1885	06/04/1959		A4	1959
Lancaster	Julia		03/23/1877	10/26/1959		E19	1959
Porter	Farrar	B	1912	1959		V86	1959
Ray	Homer	Harris	02/20/1870	12/15/1959	SA War	G26	1959
Rickert	Grace	V	09/13/1883	01/28/1959		AA04	1959
Rickert	Oliver	E	05/08/1878	04/27/1959		AA04	1959
Benson	Burnell		05/01/1914	03/04/1960	WWII	C9	1960
Gunn	John	B	08/31/1877	09/18/1960		GG24	1960
Gunn	Ollie	Claywell	12/31/1889	08/30/1960		I33	1960
Spohn	Clara		03/01/1876	04/08/1960		F21	1960
Bishop	Samuel	Ernest	03/28/1939	05/19/1961		O58	1961
Davis	Sallie	K	07/05/1873	12/21/1961		K42	1961
Hughes	Fannie	Ore	1892	1961		E17	1961
Maedgen	Mary	E	02/09/1882	01/11/1961		N54	1961
Watson	G	C	1885	1961		T79	1961
Downing	Mrs. C	E	1891	1962		J37	1962
Dyer	Samuel	C	1901	1962		W92	1962
Hamilton	James	Allan	09/07/1915	01/24/1962		Z01	1962
Kay	Ronald	W.	04/14/1942	02/18/1962		Y06	1962
Maedgen	D	W	10/17/1886	01/02/1962		M52	1962
Norwood	Obid	Scott	03/24/1889	12/04/1962		A4	1962
Porter	Ira	G	07/03/1879	08/17/1962		U81	1962
Porter ?	Thomas	M	1872	1962		U82	1962
Ray	Fannie	E	11/16/1879	10/31/1962		G26	1962
Carpenter	A. J.	(Harry)	12/14/1886	11/08/1963		FF20	1963
Humphrey	James	Gordie	01/26/1906	03/06/1963		Z101	1963
Jordan	Martha	Samuel	10/27/1882	11/07/1963		L45	1963
Lancaster	Sarah Mae	(Kirkman)	1908	1963		X10	1963
Spray	Patricia	L	03/09/1960	05/03/1963		N55	1963
Thompson	Laura	L	09/14/1884	03/06/1963		C11	1963
Winfrey	Ben	F	08/19/1905	11/30/1963		CC10	1963
Bostick	Ada		1895	1964		Z03	1964
Bowers	Leo	Nora	02/10/1884	06/17/1964		DD15	1964
Carter	Maude	Lee	05/31/1909	07/26/1964		Z104	1964
Perry	Baby	Joe	04/04/1964	07/11/1964	s/o Nellie Schneider	I36	1964
Schneider	Nellie	Alice	06/01/1917	07/11/1964		I36	1964
Spray	Donna	F	05/30/1964	05/30/1964		N55	1964
Spray	James	G.	05/20/1950	08/01/1964		N55	1964
Spray	Johnny	R	12/06/1947	08/01/1964		N55	1964
Cluck	Sarah	Elizabeth	09/28/1885	08/15/1965		T79	1965
Curtis	James	M.	01/13/1904	06/15/1965		W14	1965
Evans	Julian	O.	07/21/1893	01/09/1965		K41	1965

Table D.1, continued

Last Name	First Name	Middle	Birth	Death	Memo	Block & Lot	Death Year
Evans	Nettie	Victoria	01/01/1892	07/15/1965		K41	1965
Gunn	Prentiss	Ottis	1881	1965		A1	1965
Hatcher	I W	(Switt)	08/24/1900	01/29/1965		G28	1965
Nelson	Joe	Houston	11/16/1895	02/03/1965	WWI	X13	1965
Roming	Maud		1886	1965		Z101	1965
Elkins	Ronald	Paul	12/21/1965	07/10/1966		Y06	1966
Goates	David	E	01/31/1905	07/21/1966		X95	1966
Lavette	Buehla		06/10/1924	03/18/1966		V88	1966
Maedgen	E E	"Dick"	01/29/1892	03/07/1966		N56	1966
Robinson	Mary		1892	1966		Z01	1966
Temple	Beulah	Mae	1894	1966		H32	1966
Ellis	John	E	03/01/1904	10/21/1967		I33	1967
Fikes	Arthur	Dewey	01/19/1905	03/18/1967		N56	1967
Griffin	Eva	W	04/20/1896	03/23/1967		O60	1967
Gunn	Grover	G	10/27/1884	12/11/1967		X09	1967
Knowles	Ly (Dick)	Hugh	01/23/1889	07/08/1967		E20	1967
Bostick	John	Grady	1892	1968		Z03	1968
Darnell	Margaret		1918	1968	Eastern Star	Y97	1968
Griffin	Martha	Daisy	01/08/1879	11/18/1968		O60	1968
Hartman	John	Harlis	09/18/1908	04/26/1968		C10	1968
Hatcher	Velma	G	06/30/1902	10/10/1968		G28	1968
Johnson	Bertha	E	06/22/1894	05/12/1968		EE16	1968
Ludewick Jr	Daniel	Webb	08/18/1920	03/27/1968	WWII	W13	1968
Maedgen	Kate		06/09/1891	04/26/1968		N56	1968
Martin Jr	Jake	B	12/14/1926	07/29/1968	WWII	O58	1968
Porter	George	Wallace	04/07/1884	06/21/1968		U82	1968
Arthur	Julius	J	06/21/1914	04/17/1969	Pvt US Army WWII	Z104	1969
Braddy	Arnold	Lee	02/18/1903	08/11/1969		P63	1969
Collins	Joseph	Robert	07/24/1877	01/11/1969		DD14	1969
Curtis	Owen	Southerland	10/15/1883	06/21/1969		A3	1969
Ellis	Ira	David	08/04/1878	10/06/1969		R71	1969
Hinds	Eileen	Bowers	01/09/1906	09/03/1969		DD15	1969
Johnson	Carrie	M	06/15/1884	10/24/1969		B6	1969
Miller	Bess	R	1895	1969		X10	1969
Porter Jr	Edwin	H	09/07/1908	01/22/1969		V86	1969
Robison	Clarence	O	05/07/1884	10/31/1969		BB08	1969
Spoonts	Belle		04/22/1898	01/06/1969		J40	1969
Winfrey	Claude	"Hopo"	09/28/1896	01/04/1969		CC10	1969
Curtis	Susan	Ester	10/31/1895	07/30/1970		Z02	1970
Danner	Clarence	R	1902	1970		S76	1970
Gunn	Etta	Petty	03/15/1888	10/14/1970		X09	1970
Hughes	Lee	A	05/14/1880	12/13/1970	Brother of Lena M Cox	D16	1970
Johnson	Bedford	M	05/10/1887	10/01/1970		B6	1970

Table D.1, continued

Last Name	First Name	Middle	Birth	Death	Memo	Block & Lot	Death Year
Pippel	Myrtle		1881	1970		N55	1970
Spohn	Margaret	Ivlee	09/26/1898	03/03/1970		CC11	1970
Spohn Jr	Frank	Joseph	12/29/1894	02/06/1970		CC11	1970
Crawford	Clarence	A	08/09/1894	04/10/1971		U21	1971
Ford	Pearl	A	07/12/1889	11/03/1971		G25	1971
Hammack	Mary	Jane	08/29/1922	01/11/1971		I36	1971
Miller	Mary	Lee	1918	1971		X10	1971
Murray	Morris	Roscoe	1892	1971		T78	1971
Scott	Edna	Neva	07/22/1906	01/15/1971		U82	1971
Sonnenburg	Madgie	L	1909	1971		B5	1971
Bowers	John	E	07/22/1878	01/08/1972		DD15	1972
Bowers	Paul		05/31/1922	05/08/1972	WWII	DD15	1972
Ellis	John	Edwin	03/21/1944	12/31/1972		I33	1972
Fisher	Charles		10/06/1913	12/22/1972	WWII, Korea, Vietnam	AA03	1972
Hargrove	Sarah	Meadows	1885	1972	Eastern Star	B5	1972
Krause	Julius	G	04/25/1891	02/08/1972		Y97	1972
Spohn	Adela	A	07/18/1913	07/30/1972		M52	1972
Thompson	Earl	P. L	01/17/1881	01/27/1972		C11	1972
Wyatt	Revis	Kenneth	09/30/1910	08/10/1972		K44	1972
Goss	R	L	12/03/1919	07/04/1973	T Sgt US Army; WWII	AA03	1973
Hastings	Glenn	W	04/23/1932	05/29/1973		B5	1973
Maedgen	J	B	04/24/1908	09/09/1973		N54	1973
Miller	Rayburn		1893	1973		X10	1973
Moore	L. R.	Buddy	06/23/1926	01/15/1973	PFC US Marine Corp	AA02	1973
Murray	Elia	McNeil	1885	1973		T78	1973
Reat	Gwendolyn	D	10/04/1922	02/22/1973		J38	1973
Robinson	Horace		11/17/1903	07/03/1973		B8	1973
Dannar	Walter	W	1933	1974		S76	1974
Graham	Guy	Ellis	02/01/1904	01/05/1974		L46	1974
Knowles	Ly (Dick) Jr	Hugh	06/23/1921	08/13/1974		E20	1974
Maedgen	James	R	09/14/1913	05/23/1974		N56	1974
Maples	Alvin	M	05/30/1905	01/31/1974		CC12	1974
Porter	Mida	Nora	10/14/1882	01/20/1974		U82	1974
Fikes	Nancy	Pope	11/17/1916	02/10/1975		N56	1975
Gunn	Delia	O.	1889	1975		I33	1975
Hargrove	Belton	David	1890	1975		H30	1975
Smith	Laura	D	1949	1975		O58	1975
Clem	Mitchell		10/31/1909	06/28/1976		I34	1976
Crawford	Morris	B	06/02/1908	11/29/1976		D14	1976
Dixon	Charleen		01/04/1921	10/16/1976		E17	1976
Goss	Jewel	M	06/25/1926	04/30/1976		AA03	1976
Johnson	Emery	W	03/29/1904	02/14/1977		O59	1977
Moore	Paul	Fletcher	11/23/1916	01/05/1977		CC09	1977

Table D.1, continued

Last Name	First Name	Middle	Birth	Death	Memo	Block & Lot	Death Year
Porter	Albert	L	04/05/1904	07/18/1977		V86	1977
Porter II	John	H	03/24/1902	08/31/1977		V86	1977
Ratliff	James	Clifford	12/26/1921	08/22/1977	US Navy WWII	W92	1977
Spohn	Nora	May	10/08/1908	11/11/1977		S30	1977
Spray	John	Lawrence	04/25/1912	10/16/1977		O57	1977
Curtis	Lucious	Edwin	08/14/1890	08/15/1978		Z02	1978
Johnson	Charley	E	07/27/1881	07/31/1978		F24	1978
Johnson	Susan	A	01/10/1884	09/22/1978		F24	1978
Moss	Lelia	V	04/29/1904	06/24/1978		BB05	1978
Owens	Jesse	T.	08/23/1923	10/20/1978		P62	1978
Randolph	Vernie	Leona	05/12/1897	01/18/1978		BB07	1978
Rogers	Mary	J.	01/22/1904	11/02/1978	d/o Nate Carpenter	FF20	1978
Temple	Mildred	Edna	1930	1978		AAA04	1978
Thompson	Aubrey	Lee	12/01/1897	06/17/1978		V18	1978
Winfrey	Lena		02/08/1908	05/10/1978		CC10	1978
Crawford	Emmett	E	10/29/1897	02/08/1979		U21	1979
Krause	Lucy		09/17/1892	12/27/1979		Y97	1979
Moss	L	B	08/23/1926	02/14/1979		BB05	1979
Peachey	Ruby	Moore	01/27/1907	10/12/1979		AA02	1979
Scott	Francis	Albert	11/11/1903	06/18/1979		U82	1979
Styczynski	Joseph	D	06/25/1979	12/13/1979		FF19	1979
Barnes	Myrtle		1883	1980		E18	1980
Blackburn	Mamie	Estelle	04/22/1898	05/22/1980		H31	1980
Carter	Robert	W	10/02/1928	01/14/1980	WWII US Air Force	Z104	1980
Cook	Martin	W	08/13/1959	03/19/1980		BB06	1980
Goates	Thelma	P	12/25/1902	01/22/1980		X95	1980
Ingram	Lettricia	B	07/30/1951	09/07/1980		AAA03	1980
Johnson	Samuel	Leonard	12/19/1932	03/27/1980	SP3 US Army Korea	O59	1980
Martin Jr	Ila	Olean	02/02/1902	01/05/1980		M50	1980
Randolph	Wilma	Catherine	1902	1980		GG23	1980
Block Jr	William	A	12/12/1929	05/19/1981		S31	1981
Bullock	Peggy	Clem	02/18/1935	02/12/1981		I34	1981
Cox	Lena	M	11/15/1894	02/18/1981	Sister of Lee A Hughes	D16	1981
Curtis	Lucille		09/12/1906	03/26/1981		W14	1981
Holt	Ward		12/22/1909	01/14/1981		B8	1981
Sonnenburg	Oscar	P.	1906	1981		B5	1981
Dry	David	Lee	03/29/1928	07/09/1982	married: July 2, 1949	CC12	1982
Gunn	Floyd	M	07/16/1888	05/02/1982		GG24	1982
Neatherlin	Willie	Thelma	09/01/1908	09/25/1982		X09	1982
Shook	William R	(Bill)	09/04/1900	01/02/1982		W90	1982
Watson	Claywell	R.	10/19/1924	04/11/1982	Sgt. U.S.Army WWII	T79	1982
Wimberly	Fred	D	12/02/1917	07/07/1982		GG24	1982
Early	Catherine	F	04/13/1922	12/21/1983		AA04	1983

Table D.1, continued

Last Name	First Name	Middle	Birth	Death	Memo	Block & Lot	Death Year
Griffin	Joda	M	12/21/1896	11/20/1983		O60	1983
Hinds	Gordon	Wilburn	03/07/1904	03/04/1983		DD15	1983
Knowles	Lee	W	12/10/1886	11/12/1983		B7	1983
McClain	Hallet		03/30/1904	02/09/1983		ZZ4	1983
Neatherlin	John	Virgil	03/19/1909	05/23/1983		X09	1983
Spohn	Ed	W	1897	1983		F22	1983
Brown	Molly	Temple	1932	1984		H32	1984
Creech Sr	Sidney	Vernon	1906	1984		AAA02	1984
Dixon	Flossie	A	08/30/1898	11/19/1984		E17	1984
Ludewick III	Daniel	Webb	06/24/1947	09/26/1984		W13	1984
McConnell	Sandy		12/20/1963	10/22/1984		Y07	1984
Randolph	Oris	Lynn	10/04/1909	08/07/1984		BB07	1984
Zinn	Eula	S	07/07/1908	02/21/1984		AA03	1984
Crawford	Clayton	W	07/29/1900	08/30/1985		D15	1985
Davis	Edna		07/23/1901	06/24/1985		K42	1985
Forman	Alice	I	12/07/1901	04/13/1985		Q68	1985
Goates Jr	David	E	06/25/1924	02/14/1985	US Navy WWII	X95	1985
Modglin	Alvin	R	07/11/1922	12/30/1985		L47	1985
Norwood	Lillie	Dina	08/02/1891	07/09/1985		A4	1985
Ray	Dewitt	C	09/13/1901	12/27/1985		G26	1985
Smith	Eugene M.	Gene	06/20/1901	11/11/1985		N53	1985
Terry	Humberto	A	06/20/1905	09/10/1985		Y98	1985
Blackburn	John	Michael	10/18/1897	02/13/1986		H31	1986
Cormany	James	Edward	05/30/1911	03/31/1986		X15	1986
Hinze	Harold	H.	11/06/1901	05/26/1986	WWII	ZZ4	1986
Leos	Marie	Taft	07/07/1927	07/06/1986		P64	1986
Mars	Arthur	H.	04/13/1913	06/02/1986		P63	1986
Bartlett	Nannie	L	1900	1987		Q66	1987
Carpenter	"E "Tut"	R	09/25/1908	10/16/1987		FF20	1987
Crawford	Averill		07/27/1902	01/27/1987		D13	1987
Juroska	Julia	P	05/11/1917	11/22/1987		AA01	1987
Spohn	John	H	11/09/1893	02/05/1987		F21	1987
Spohn	Virgle	Albert	02/22/1896	12/30/1987		S30	1987
Cothran	Arthur	Dean	09/01/1938	12/23/1988	Pvt. US Marine Corps	N56	1988
Edwards	Mattie	H	12/05/1896	11/14/1988		A2	1988
Maedgen	Annie	C	09/26/1890	01/01/1988		M52	1988
McKee	Lloyd	E	08/13/1929	03/19/1988		E18	1988
Moore	Jesse	David	05/13/1908	10/14/1988	Married: Sept 17,1936	C11	1988
Smith	Gilbert	"Gib"	11/18/1947	09/26/1988		N53	1988
Gunn	Royce	Wilson	02/15/1913	12/13/1989		X11	1989
Hayes	Charlie	Ray	09/18/1924	04/01/1989		AAA01	1989
Moss	Bonnie	E	11/09/1905	04/11/1989		BB05	1989
Orr	Linda	Sue	01/05/1952	03/28/1989		V87	1989

Table D.1, continued

Last Name	First Name	Middle	Birth	Death	Memo	Block & Lot	Death Year
Spohn	Minnie	B	1897	1989		F22	1989
West	Marge		01/30/1938	02/06/1989		DD13	1989
Baker Sr	Norman	Linwood	08/13/1918	01/07/1990	WWII	DD14	1990
Crawford	Iva	Spohn	07/24/1903	02/18/1990		D13	1990
Ford	Martin	Frank	02/25/1911	12/31/1990		G25	1990
Hinze	Lena	Huber	02/24/1904	05/15/1990		ZZ01	1990
Juroska	Willie	J	07/11/1914	04/25/1990		AA01	1990
Lindberg	Kimberlyn	Grace	09/20/1990	09/20/1990		U23	1990
Machalek	Joe	Warren	07/12/1926	04/11/1990	WWII	V19	1990
Pilgrim	Wilbin	Vincent	07/17/1925	09/01/1990		G27	1990
Robinson	James	D	11/06/1928	09/19/1990	US Army Korea	BB08	1990
Robinson	Lila		09/26/1909	03/27/1990	D.A.R.	B8	1990
Sammons	Robert	L	08/06/1922	02/17/1990	WWII	Y08	1990
Temple	Jack	Curtis	1929	1990	US Navy	AAA04	1990
Thompson	Lennie F.	Bow	12/07/1897	03/20/1990		V18	1990
Cooper	Joel	Carl	05/23/1943	08/24/1991		H30	1991
Crawford	Wayne		01/28/1923	01/18/1991	h/o Mary E Crawford	U22	1991
Duncan	Eldon "E.	"Butch"	08/06/1938	10/03/1991		W16	1991
Gunn	Louie	N	1915	1991		H32	1991
Knowles	Sallie	C	04/05/1893	04/18/1991		E20	1991
May	Martha	Roberson	05/05/1929	02/24/1991		ZZ4	1991
McConnell	Ricky	Lynn	05/21/1965	11/24/1991		Y07	1991
Murphy	Grover	A	04/22/1910	09/13/1991		Y07	1991
Ray	Mary	C	05/08/1906	03/10/1991		G26	1991
Sanders	Lawrence	H	06/12/1917	03/10/1991		T25	1991
Spohn	Ely	I	09/22/1901	10/09/1991		S29	1991
Burleson	Margaret	Ruth	05/28/1917	10/24/1992		T27	1992
Burleson	Ruth	Bowmer	1919	1992		T27	1992
Cooper	Minnie	Floy	02/10/1901	12/22/1992		X09	1992
Early	Howard	Eugene	12/20/1927	09/08/1992		ZZ01	1992
Evans	Donald	Wayne	03/05/1922	09/08/1992		R72	1992
Ford	Lester	Harlan	03/27/1929	11/11/1992		G25	1992
Forrest	Dorothy	Siddall	03/21/1922	02/17/1992		W14	1992
Greer	Bert	Edward	07/15/1922	03/21/1992	WWII	Y08	1992
Griggs	Howard	Hayden	08/17/1929	12/11/1992		X11	1992
Gunn	Carline S.		01/18/1905	07/31/1992		C12	1992
Pitts	Steven	"Crook"	07/22/1961	08/06/1992		P64	1992
Shook	Rena	Gladys	09/18/1902	08/11/1992		W90	1992
Smith	Fern	Morris	03/23/1913	01/19/1992		N53	1992
Spray	Velda	Rhea	10/12/1925	06/26/1992		O57	1992
Williams	Betty	N.	12/27/1943	10/23/1992		X12	1992
Bexley	Joel	Dan	01/12/1913	08/28/1993		M50	1993
Blackburn	Gladys L.	Clem	09/22/1911	07/19/1993	w/o James S Blackburn	M51	1993

Table D.1, continued

Last Name	First Name	Middle	Birth	Death	Memo	Block & Lot	Death Year
Clary	L. R.	(Rock)	03/07/1919	09/28/1993		B7	1993
Clary	Louie	Ray	1919	1993	WWII, Purple Heart	B7	1993
Griffin	Laughlin Bessie	Daisy	01/24/1899	02/14/1993		O60	1993
Knowles	Maggie	May	08/29/1891	12/18/1993		B7	1993
Nelson	Melisa	E	11/24/1897	03/09/1993		X13	1993
Newman	Sam	P.	09/22/1932	05/02/1993		W16	1993
Owens	Hazel	Beatrice	04/28/1922	09/24/1993		P62	1993
Randolph	Mary	Evelyn	12/23/1912	09/12/1993		BB07	1993
Charter III	George	J	03/17/1921	01/23/1994		DD13	1994
Griffin	Carolyn Jo	Clark	07/22/1907	11/26/1994	"Polly"	O60	1994
Modglin	Rosa	Mae	12/14/1924	11/07/1994		L47	1994
Schleide	Raymond	A	01/12/1909	04/27/1994		M50	1994
Ellington	James	M	1909	1995		Y98	1995
Fisher	Dorothy	M	09/08/1924	03/09/1995		AA02	1995
Forrest	R Ted	D	01/10/1909	05/15/1995		W14	1995
Kitchens	John	Monroe	01/19/1918	02/06/1995	WWII, Korea	S32	1995
Bulls	Johnny	Lynn	09/18/1953	09/29/1996		Y08	1996
Casey	Minnie	M	1905	1996		FF21	1996
Clary	Sybil	Y	09/23/1926	11/20/1996		B7	1996
Creech	Margaret	Gilliland	1920	1996		AAA02	1996
Derry	Clarice	(Tate)	06/25/1924	10/20/1996		CC12	1996
Holcomb	James	David	05/03/1993	10/24/1996		Z101	1996
Leatherwood	Coy	Delaine	10/05/1959	08/11/1996		T26	1996
Shackleford	Ginger	Gunn	09/17/1946	12/23/1996		X11	1996
Thompson	Bert	Darrell	11/03/1935	08/25/1996		W91	1996
Buchanan	Norval	Bryant	04/23/1919	05/17/1997		R72	1997
Clayton	Lane	Thomas	09/26/1997	10/02/1997		U83	1997
Pilgrim	Allie	Braddy	01/26/1901	01/19/1997		G27	1997
Spohn	William	N	05/04/1912	06/26/1997		M52	1997
Talarico	Clessie	Spoonts	04/29/1919	06/11/1997		J40	1997
Allen	Bernard	I	10/01/1913	12/17/1998	US Army WWII	U21	1998
Bexley	Mildred	Martin	11/20/1922	11/05/1998		M50	1998
Blasingame	Walter	B	08/10/1923	09/02/1998	US Navy WWII	U84	1998
Casey	Luther		1903	1998		FF21	1998
Clayton	Joel	E	12/05/1973	04/13/1998		U81	1998
Crawford	Gero	Tomerlin	04/05/1905	07/16/1998		D15	1998
Lancaster	J	B. "Beck"	10/29/1910	04/16/1998		X10	1998
Lancaster	Ollie	M	1898	1998		F23	1998
Spohn	Flossie	L	08/31/1904	05/05/1998		S29	1998
Blackburn	James	Samuel	11/02/1909	02/19/1999	married: Oct 8, 1932	M51	1999
Downing	Chester		05/31/1911	12/27/1999		X11	1999
Eitel Jr	Richard	Jerry	07/28/1952	01/28/1999	married: Jan 31, 1981	Z102	1999
Maples	Dovie	B	11/08/1904	12/12/1999		CC12	1999

Table D.1, continued

Last Name	First Name	Middle	Birth	Death	Memo	Block & Lot	Death Year
West	Barbara	Petty	12/12/1950	11/10/1999		DD13	1999
Bethke	Robert	Bob	09/03/1945	10/06/2000		U82	2000
Larkiewick	Mikola		09/17/1912	11/20/2000		S31	2000
Moore	Mary E.	Knowles	06/06/1919	09/12/2000		CC09	2000
Pitts	Levi	A	02/10/1939	08/17/2000	married; Aug 2, 1960	P64	2000
Ray	Sue		10/29/1938	03/02/2000		Y08	2000
Smith	Billye	Dean	12/27/1945	03/08/2000		Y100	2000
Spohn	Clyde	G	03/27/1933	08/30/2000	PFC US Army Korea	CC11	2000
Allison	Dennis	Woodard	06/02/1934	10/03/2001		S32	2001
Bulls	Terry	Ray	11/29/1962	02/19/2001		DD13	2001
Charter	Doris	A	05/15/1922	04/20/2001		DD13	2001
Curtis	Katherine	M	01/15/1919	10/20/2001		EE18	2001
Ford	Charlie	Oliver	04/30/1915	04/09/2001	WWII, Korea	G28	2001
Gilliland	Jim	C	12/05/1945	04/13/2001	married: Nov 27, 1974	Y99	2001
Graham	Martha	Leete	01/23/1930	04/28/2001		L46	2001
Griggs	Bennie	Doris	08/18/1933	08/08/2001		X11	2001
Gunn	Marjorie	Hobbs	04/06/1924	04/10/2001	w/o Thomas E Gunn	GG24	2001
Prince	John	R	11/20/1933	04/14/2001	U.S.Army	DD13	2001
Wandelt	George	Edward	04/18/1920	02/14/2001		V19	2001
Downing	Nell	Parker	08/19/1907	06/23/2002		X11	2002
Ellis	Rosalie	M	05/16/1912	03/27/2002		I33	2002
Hamilton	Patricia	Curtis	09/23/1919	03/15/2002		Z01	2002
Hartgrove	Alvin	Winston	07/01/1924	02/18/2002		I35	2002
Hartman	Lanora	Rea	03/22/1911	04/02/2002		C10	2002
Hering	Albert "W.	"Bill"	05/03/1918	09/26/2002		A3	2002
Knowles	Mary	Alice	11/01/1903	05/03/2002	Sister of Alma Knowles	E20	2002
Maedgen	Earl	Edwin	11/02/1925	01/07/2002		N56	2002
McConnell	Christine	F	1970	2002		Y07	2002
Murphy	Edna	M	07/31/1922	08/23/2002		Y07	2002
Painter	Willie	Lenard	06/28/1918	06/18/2002	US Navy WWII	M49	2002
Schleide	La Faun	M	10/09/1912	02/23/2002		M50	2002
Wandelt	Nannie	Aveline	06/29/1923	04/05/2002		V19	2002
Burleson	Robert	C	06/29/1911	07/11/2003	WWII	T27	2003
Fisher	Josephine	V	08/18/1922	04/11/2003	Pvt US Army WWII	Y100	2003
Johnson	Tina	A	08/26/1911	09/07/2003		O59	2003
Kay Jr.	H.	D.	08/19/1916	02/22/2003	U.S. Army	Y06	2003
McGregor	B. C.	"Mac"	03/03/1929	04/07/2003		V17	2003
Stewart	Edith	Johnson	11/07/1914	01/29/2003		F24	2003
Stewart	I	Louis	04/04/1916	01/29/2003	"Shorty"	F24	2003
Wyatt	Alma	B	07/02/1914	03/01/2003		K44	2003
Brandstetter	Danny		09/24/1955	03/02/2004		BB07	2004
Crawford	Nora	R	10/07/1907			U21	>1907
Holt	Leta	Hartman	10/24/1907		w/o Ward Holt	B8	>1907

Table D.1, continued

Last Name	First Name	Middle	Birth	Death	Memo	Block & Lot	Death Year
Barnes	Maggie	Mae	1910			E18	>1910
Brauchle	Edith D.	Spohn	02/18/1910			F22	>1910
Reat	Phillip	O	06/06/1912			J38	>1912
Casey	Albert	D	06/19/1915			T26	>1915
Curtis	A	H	04/09/1915			EE18	>1915
Moore	Laura	Earline	01/05/1915		w/o Jesse D Moore	C11	>1915
Braddy	Marie	Johnson	12/23/1916			P63	>1916
Cormany	Mary Louise	Maedgen	03/03/1916			X15	>1916
McClain	Virginia		10/05/1916			ZZ4	>1916
Allen	Christell	C	05/24/1917		w/o Bernard Allen	U21	>1917
Wimberly	Jamie	G	10/02/1917			GG24	>1917
Early	Edgar	V	08/06/1918		Mason, WWII	AA04	>1918
Gunn	Minnie	F	01/11/1918			H32	>1918
Leos Sr.	Alvin		11/10/1920			P64	>1920
Baker	Owen Ruth	Curtis	11/05/1921			DD14	>1921
Casey	Jacqueline	Doris	08/17/1922			T26	>1922
Greer	Catherine	Marie	09/14/1922			Y08	>1922
Ellis	Claude	William	01/27/1923		married: Jan 5, 1948	L48	>1923
Oliver	John	M	09/19/1923			GG24	>1923
Gunn	Thomas	Edwin	01/16/1924		married: July 26, 1947	GG24	>1924
Mars	Ella	Mae	02/12/1924			P63	>1924
Baker	Clara	Bierbower	02/18/1925			DD14	>1925
Crawford	Mary	E	10/19/1925		w/o Wayne Crawford	U22	>1925
Hayes	Jane	Knowels	02/15/1925			AAA01	>1925
Spohn	Eddie		1925			F22	>1925
Buchanan	Beulah	M	02/02/1926			R72	>1926
Miller	Mary	Lou	1927			X10	>1927
Crawford	Theda	Quay	03/16/1928			D13	>1928
Dry	Dovie	Louise	03/06/1928			CC12	>1928
Machalek	Doris	Jean	09/28/1928			V19	>1928
Oliver	Ramona	G	06/06/1928			GG24	>1928
Ellis	Inus Louise	Winiger	07/23/1929		w/o Claude W Ellis	L48	>1929
Spohn	Louise		1930			F22	>1930
Eakin	Betty Jean	Mauldin	03/31/1931	No date		U80	>1931
Early	Haroldine	Hinze	08/16/1931			ZZ01	>1931
Hastings	Paula	A	06/17/1931			B5	>1931
Newman	Nina	C	11/26/1932			W19	>1932
West	Joe		09/08/1932			DD13	>1932
Adams	Annie	Lee (Liles)	07/10/1933		w/o Harold Dean Adams	V20	>1933
McGregor	Anna	Thompson	01/19/1933			V17	>1933
McKee	Joan		09/07/1933			E18	>1933
Ray	D.L.	Dee Dee	02/04/1934			Y08	>1934
Pilgrim	Lena	Wynell	03/18/1935			G27	>1935

Table D.1, continued

Last Name	First Name	Middle	Birth	Death	Memo	Block & Lot	Death Year
Prince	Pauline	Crosby	10/08/1935			DD13	>1935
Allison	Jerrie	LaVonne	02/09/1936			S32	>1936
Berndt	Harold	Dean	03/03/1936			T28	>1936
Dyer	Patsy	Jean	1938			W92	>1938
Duncan	Quata	"Ann"	03/12/1939			W16	>1939
Thompson	Doris	Templeton	09/19/1939			W91	>1939
Williams	Billy	D.	08/15/1943			X12	>1943
Berndt	Elizabeth	Ribitzki	03/18/1944		d/o Anton & Veronica T28		>1944
Pitts	Joyce	M	11/10/1945		w/o Levi A. Pitts	P64	>1945
Carmichael	Thomas	W	09/28/1946		h/o Gwendolyn Carmichael	Z106	>1946
Ratliff	Judy	Dianna	1946			W92	>1946
Atkins	Kenneth	Cuz	09/27/1950		married: July 8, 1972	Y08	>1950
Carmichael	Gwendolyn	J	08/29/1950		w/o Thomas Carmichael	Z106	>1950
Lavette	James	H	09/27/1951			V88	>1951
Atkins	Peggy	Peg	04/05/1952		w/o Kenneth Atkins	Y08	>1952
Gilliland	Virgie Nell	Chappell	06/26/1953			Y99	>1953
Ratliff	Pamela	Gail	1953			W92	>1953
Couch	Reta	Lee	02/05/1954			A4	>1954
Eitel	Virginia	V	10/30/1956		w/o Richard Eitel Jr	Z102	>1956
Hering	Naomi	Curtis	08/13/1970			A3	>1970
Gurley	W	S			Unmarked grave	BB08	unknown
Springfield	Aunt	Dicey	No date	No date		I36	unknown
Watson	E	M			Unmarked Grave	U83	unknown
Wells	Georgia Ann	Porter	No date	No date		V86	unknown
Unknown					White Cross Only	AA03	unknown
Unknown	Unknown				Broken marker	V85	unknown
Unknown	Unknown				no top on marker	O58	unknown
Unknown	Unknown				temp marker	S31	unknown
Unknown	Unknown				temp marker	S32	unknown
Unknown	Unknown				Temp marker no name	W92	unknown
Unknown	Unknown				Unmarked Stone	Y99	unknown
Unmarked	Unknown					FF20	unknown

APPENDIX E: DNA Analysis Reports

This appendix contains the official DNA analysis reports provided to Prewitt and Associates, Inc. by the Laboratory Corporation of America. These reports are as follows [to be paginated in final report]:

Pages 216 and 217	Results of comparison between DNA from teeth of Burial 2 with DNA from siblings Don and Dorothy Thomas
Pages 218 and 219	Results of comparison between DNA from teeth of Burial 2 with DNA from siblings Georgia Elliott and Carolyn (Elliott) Pillans
Page 220	Negative results on the extraction of DNA from Burial 3 teeth (for comparison with Thomas siblings' DNA)
Page 221	Negative results on the extraction of DNA from Burial 3 teeth (for comparison with Elliott siblings' DNA)
Page 222	Negative results on the extraction of DNA from Burial 3 teeth (for comparison with Florence Boren's DNA)
Page 223	Negative results on the extraction of DNA from Burial 1 teeth (for comparison with Thomas siblings' DNA)
Page 224	Negative results on the extraction of DNA from Burial 1 teeth (for comparison with Elliott siblings' DNA)
Page 225	Negative results on the extraction of DNA from Burial 1 teeth (for comparison with Florence Boren's DNA)
Page 226	Negative results on the extraction of DNA from Burial 1 long bone (femur) section.
Page 227	Negative results on the extraction of DNA from Burial 3 long bone (femur) section.
Page 228	Negative results on the extraction of DNA from Burial 4 long bone (femur) section.

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Account Information
Account Number: **42609035**
Tx Private Paternity Account
Acct Ref 1:
Acct Ref 2:
Acct Ref 3:
Lubbock, TX 79417

LabCorp Case # **C0Q-019416**

Relationship	Party		Race	Date(s) Drawn
Acked. Son 1	THOMAS, DON	2CR-5006-0	None given	12/21/2012
Acked. Daughter 1	THOMAS, DOROTHY	2CR-5005-0	None given	12/21/2012
Unknown 1	BURIAL, TWO	2CO-5001-0	None given	09/21/2012

DNA Analysis

	D3S1358	D7S820	vWA	FGA	D8S1179	D21S11	D18S51	D5S818	D13S317	D16S539
ASI	16, 17	11, 13	18	20, 22	11, 13	29	19	11, 12	11, 14	11, 13
ADI	15, 16	11, 13	17, 19	22, 25	12, 13	30	19	12	11, 14	9, 12
UMI	15, 16	9, 10	17, 18	20, 24	13, 14	29, 30	16, 18	11, 12	11, 12	12, 13

DNA Analysis

	TH01	D2S1338	Penta D	F13B	LPL	Penta E	FESFPS	Penta C	D22S1045
ASI	7	17, 25	9, 12	9, 10	10	7, 12	10, 13	12	11, 15
ADI	7	17, 25	9, 12	10	10	13, 16	10	12, 13	11, 15
UMI	8	20, 21	11, 13	6, 7	10, 12	8, 15	11	7, 10	11, 15

DNA Analysis

	D1S1656
ASI	15.3, 17.3
ADI	14, 15.3
UMI	14

ABI Y-Chromosome

	DYS389I	DYS390	DYS458	DYS19	DYS385a/b	DYS393	DYS392
ASI	13	25	14	14	11, 14	13	13
UMI	13	24	19	16	11	13	11

ABI Y-Chromosome

	Y-GATA-H4	DYS437	DYS448
ASI	12	15	19
UMI	11	14	22

Conclusion:
See Page 2 for conclusion.

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Acct Ref 2:
Acct Ref 3:
Lubbock, TX 79417

LabCorp Case # C0Q-019416

Relationship	Party		Race	Date(s) Drawn
Acked. Son 1	**THOMAS, DON**	2CR-5006-0	None given	12/21/2012
Acked. Daughter 1	**THOMAS, DOROTHY**	2CR-5005-0	None given	12/21/2012
Unknown 1	**BURIAL, TWO**	2CO-5001-0	None given	09/21/2012

Conclusion:

The purpose of this study is to determine if the remains of the individual labeled Burial Two is the paternal grandfather of DOROTHY THOMAS and DON THOMAS. Using the genetic markers found in the testing, there are exclusions in the following systems: Penta E, DYS390, DYS458, DYS19, DYS385a/b, DYS392, Y-GATA-H4, DYS437, DYS448. These results indicate that the individual labeled Burial Two is not the paternal grandfather of DOROTHY THOMAS and DON THOMAS.

I, the undersigned Director, upon being duly sworn on oath, do depose and state that I read the foregoing report on the analysis of specimens from the above named individuals, signed by myself, and under penalties for perjury it is my belief that the facts and results therein are true and correct.

Michael W Schmiederer, Ph.D., MT, Director

PAMELA DANN
Notary Public, North Carolina
Alamance County
My Commission Expires
June 21, 2015

State of North Carolina
County of Alamance

I, Pamela Dann, certify that Michael W Schmiederer, Ph.D., MT personally came before me this day and acknowledged that he (or she) is an employee of Laboratory Corporation of America Holdings, a corporation, and that as an employee being authorized to do so, executed the foregoing on behalf of the corporation.

Subscribed and sworn to [or affirmed] before me this JAN 23 2013 at Burlington, NC.

Notary Public

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Account Information
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Acct Ref 3:
Lubbock, TX 79417

LabCorp Case # C0Q-019415

Relationship	Party		Race	Date(s) Drawn
Acked. Daughter 1	ELLIOTT, GEORGIA	2CR-5003-0	None given	12/21/2012
Acked. Daughter 2	PILLANS, CAROLYN J	2CR-5007-0	None given	12/21/2012
Unknown 1	BURIAL, TWO	2CO-5001-0	None given	09/21/2012

DNA Analysis

	D3S1358	D7S820	vWA	FGA	D8S1179	D21S11	D18S51	D5S818	D13S317	D16S539
AD1	14, 17	9, 11	17, 18	23, 24	13	30, 32.2	14, 17	11, 13	8, 12	10, 11
AD2	14, 17	8, 9	17, 18	21	13, 14	30, 31.2	15, 17	9, 11	10, 14	10, 13
UM1	15, 16	9, 10	17, 18	20, 24	13, 14	29, 30	16, 18	11, 12	11, 12	12, 13
PI	0.71	1.08	1.34	0.96	1.34	0.91	0.60	0.81	0.72	0.97

DNA Analysis

	TH01	D2S1338	Penta D	F13B	LPL	Penta E	FESFPS	Penta C	D22S1045	D1S1656
AD1	6	19, 21	12, 13	8, 10	11, 12	7, 11	10, 12	9, 12	11	12, 16
AD2	6, 7	17, 21	12, 13	6, 10	10, 11	7, 11	10, 13	9, 12	11	13, 18
UM1	8	20, 21	11, 13	6, 7	10, 12	8, 15	11	7, 10	11, 15	14
PI	0.60	2.60	1.07	1.26	1.01	0.58		0.71	1.73	0.50

Conclusion:

The purpose of this study is to determine if the remains of the individual labeled Burial Two is the paternal great-grandfather of GEORGIA ELLIOTT and CAROLYN J. PILLANS. Using the genetic markers found in the testing, the likelihood ratio for great-grandfather versus unrelated is 0.3 to 1. This value is inconclusive as to biological relationship. A more definitive conclusion may be reached if additional relatives are submitted for testing.

I, the undersigned Director, upon being duly sworn on oath, do depose and state that I read the foregoing report on the analysis of specimens from the above named individuals, signed by myself, and under penalties for perjury it is my belief that the facts and results therein are true and correct.

Michael W Schmiederer, Ph.D., MT, Director

PAMELA DANN
Notary Public, North Carolina
Alamance County
My Commission Expires
June 21, 2015

State of North Carolina
County of Alamance

I, Pamela Dann, certify that Michael W Schmiederer, Ph.D., MT personally came before me this day and acknowledged that he (or she) is an employee of Laboratory Corporation of America Holdings, a corporation, and that as an employee being authorized to do so, executed the foregoing on behalf of the corporation.

Subscribed and sworn to [or affirmed] before me this JAN 23 2013 at Burlington, NC.

Notary Public

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Account Information
Account Number: **42609035**
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Acct Ref 1:
Acct Ref 2:
Acct Ref 3:
Lubbock, TX 79417

LabCorp Case # **C0Q-019414**

Relationship	Party		Race	Date(s) Drawn
Acked. Daughter 1	BOREN, FLORENCE L	2CR-5004-0	Caucasian	12/21/2012
Unknown 1	BURIAL, TWO	2CO-5001-0	None given	09/21/2012

DNA Analysis

	D3S1358	D7S820	vWA	FGA	D8S1179	D21S11	D18S51	D5S818	D13S317	D16S539
AD1	15	8	16, 17	19, 22	10	27, 28	19	11, 12	11, 12	9, 14
UM1	15, 16	9, 10	17, 18	20, 24	13, 14	29, 30	16, 18	11, 12	11, 12	12, 13
PI	1.47	0.50	0.95	0.50	0.50	0.50	0.50	1.19	1.35	0.50

DNA Analysis

	TH01	D2S1338	Penta D	F13B	LPL	Penta E	FESFPS	Penta C	D22S1045	D1S1656
AD1	6, 9	21	7, 9	8, 10	10	5, 18	10	11	15	13, 17.3
UM1	8	20, 21	11, 13	6, 7	10, 12	8, 15	11	7, 10	11, 15	14
PI	0.50	7.97	0.50	0.50	1.07	0.50		0.50	1.19	0.50

Conclusion:

The purpose of this study is to determine if the individual labeled Burial Two is the paternal grandfather of FLORENCE L. BOREN. Using the genetic markers found in the testing, the likelihood ratio for grandfather versus unrelated is 0.0056 to 1. This value indicates that this individual is 179 times more likely to be unrelated to FLORENCE L. BOREN as opposed to related. This finding does not support the claim that the individual labeled Burial Two is the paternal grandfather of FLORENCE L. BOREN.

I, the undersigned Director, upon being duly sworn on oath, do depose and state that I read the foregoing report on the analysis of specimens from the above named individuals, signed by myself, and under penalties for perjury it is my belief that the facts and results therein are true and correct.

Michael W Schmiederer, Ph.D., MT, Director

PAMELA DANN
Notary Public, North Carolina
Alamance County
My Commission Expires
June 21, 2015

State of North Carolina
County of Alamance

Pamela Dann

I, _____, certify that Michael W Schmiederer, Ph.D., MT personally came before me this day and acknowledged that he (or she) is an employee of Laboratory Corporation of America Holdings, a corporation, and that as an employee being authorized to do so, executed the foregoing on behalf of the corporation.

JAN 23 2013

Subscribed and sworn to [or affirmed] before me this _____ at Burlington, NC.

_____
Notary Public

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Laboratory Corporation of America
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Lubbock, TX 79417

LabCorp Case # C0Q-019419

Relationship	Party		Race	Date(s) Drawn
Acked. Son 1	THOMAS, DON	2CR-5006-0	None given	12/21/2012
Acked. Daughter 1	THOMAS, DOROTHY	2CR-5005-0	None given	12/21/2012
Unknown 1	BURIAL, THREE	2CO-5006-0	None given	09/13/2012

Conclusion:

No DNA profile could be obtained after repeated extractions and testing from the teeth of Burial Three (2CO-5006-0). Another sample from Burial Three would need to be submitted for a comparison with DON THOMAS and DOROTHY THOMAS.

Michael W Schmiederer, Ph.D., MT, Director

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LabCorp Case # **C0Q-019418**

Relationship	Party		Race	Date(s) Drawn
Acked. Daughter 1	**ELLIOTT, GEORGIA**	2CR-5003-0	None given	12/21/2012
Acked. Daughter 2	**PILLANS, CAROLYN J**	2CR-5007-0	None given	12/21/2012
Unknown 1	**BURIAL, THREE**	2CO-5006-0	None given	09/13/2012

Conclusion:

No DNA profile could be obtained after repeated extractions and testing from the teeth of Burial Three (2CO-5006-0). Another sample from Burial Three would need to be submitted for a comparison with GEORGIA ELLIOTT and CAROLYN J. PILLANS.

Michael W Schmiederer, Ph.D., MT, Director

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LabCorp Case # **C0Q-019417**

Relationship	Party		Race	Date(s) Drawn
Acked. Daughter 1	**BOREN, FLORENCE L**	2CR-5004-0	Caucasian	12/21/2012
Unknown 1	**BURIAL, THREE**	2CO-5006-0	None given	09/13/2012

Conclusion:

No DNA profile could be obtained after repeated extractions and testing from the teeth of Burial Three (2CO-5006-0). Another sample from Burial Three would need to be submitted for a comparison with FLORENCE L. BOREN.

Michael W. Schmiederer, Ph.D., MT, Director

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Acct Ref 2:
Acct Ref 3:
Lubbock, TX 79417

LabCorp Case # **C0Q-015195**

Relationship	Party		Race	Date(s) Drawn
Acked. Son 1	**THOMAS, DON**	2CR-5006-0	None given	12/21/2012
Acked. Daughter 1	**THOMAS, DOROTHY**	2CR-5005-0	None given	12/21/2012
Unknown Male 1	**BURIAL, ONE**	2CO-5005-0	None given	09/21/2012

Conclusion:

No DNA profile could be obtained after repeated extractions and testing from the teeth of Burial One (2CO-5005-0). Another sample from Burial One would need to be submitted for a comparison with DON THOMAS and DOROTHY THOMAS.

Michael W Schmiederer, Ph.D., MT, Director

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Account Number: **42609035**
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Acct Ref 3:
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LabCorp Case # **C0Q-016839**

Relationship	Party		Race	Date(s) Drawn
Acked. Daughter 1	**ELLIOTT, GEORGIA**	2CR-5003-0	None given	12/21/2012
Acked. Daughter 2	**PILLANS, CAROLYN J**	2CR-5007-0	None given	12/21/2012
Unknown Male 1	**BURIAL, ONE**	2CO-5005-0	None given	09/21/2012

Conclusion:

No DNA profile could be obtained after repeated extractions and testing from the teeth of Burial One (2CO-5005-0). Another sample from Burial One would need to be submitted for a comparison with GEORGIA ELLIOTT and CAROLYN J. PILLANS.

Michael W Schmiederer, Ph.D., MT, Director

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Account Information
Account Number: **42609035**
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Acct Ref 1:
Acct Ref 2:
Acct Ref 3:
Lubbock, TX 79417

LabCorp Case # **C0Q-016840**

Relationship	Party		Race	Date(s) Drawn
Acked. Daughter 1	**BOREN, FLORENCE L**	2CR-5004-0	Caucasian	12/21/2012
Unknown Male 1	**BURIAL, ONE**	2CO-5005-0	None given	09/21/2012

Conclusion:

No DNA profile could be obtained after repeated extractions and testing from the teeth of Burial One (2CO-5005-0). Another sample from Burial One would need to be submitted for a comparison with FLORENCE L. BOREN.

Michael W Schmiederer, Ph.D., MT, Director

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Laboratory Corporation of America
P.O. Box 2230 Burlington, NC 27216 Telephone: (336) 584-5171 Relationship Report

count Information
Account Number: **42609035**
Tx Private Paternity Account
Acct Ref 1:
Acct Ref 2:
Acct Ref 3:
LUBBOCK, TX 79416

LabCorp Case # **C0Q-056552**

Relationship	Party		Race	Date(s) Drawn
Unknown Male 1	**BURIAL 1, FEMUR**	33J-0012-0	None given	03/18/2013

RECEIVED
MAY 0 4 REC'D
Prewitt & Associates, Inc.

Conclusion:

No DNA profile could be obtained, after repeated extractions and testing, from the femur of Burial One (33J-0012-0). No relationship comparisons could be performed on this sample.

Michael W Schmiederer, Ph.D., MT, Director
April 30, 2013

LabCorp
Laboratory Corporation of America
P.O. Box 2230 Burlington, NC 27216 Telephone: (336) 584-5171 Relationship Report

Account Information
Account Number: **42609035**
Tx Private Paternity Account
Acct Ref 1:
Acct Ref 2:
Acct Ref 3:
LUBBOCK, TX 79416

LabCorp Case # **C0Q-056553**

Relationship	Party		Race	Date(s) Drawn
Unknown Male 2	**BURIAL 3, FEMUR**	33J-0013-0	None given	03/18/2013

Conclusion:

No DNA profile could be obtained, after repeated extractions and testing, from the femur of Burial Three (33J-0013-0). No relationship comparisons could be performed on this sample.

Michael W Schmiederer, Ph.D., MT, Director
April 30, 2013

LabCorp
Laboratory Corporation of America
P.O. Box 2230 Burlington, NC 27216 Telephone: (336) 584-5171 Relationship Report

Account Information
Account Number: **42609035**
Tx Private Paternity Account
Acct Ref 1:
Acct Ref 2:
Acct Ref 3:
LUBBOCK, TX 79416

LabCorp Case # **C0Q-056554**

Relationship	Party		Race	Date(s) Drawn
Unknown Male 3	**BURIAL 4, FEMUR**	33J-0014-0	None given	03/18/2013

Conclusion:

No DNA profile could be obtained, after repeated extractions and testing, from the femur of Burial Four (33J-0014-0). No relationship comparisons could be performed on this sample.

Michael W Schmiederer, Ph.D., MT, Director
April 30, 2013

APPENDIX F: Reinterment Agreement between the Texas Department of Transportation and the Roberts Cemetery Association, September 2012

Texas Department of Transportation

TEXAS DEPARTMENT OF TRANSPORTATION
Agreement to Re-inter Unmarked Burials

CONTROL: 0015-04-067
COUNTY: Bell/Falls/McLennan
PROJECT: IH 35 From NLP 363 to FM 2837

Unmarked burials have been discovered during construction of the above-mentioned Interstate (IH) 35 expansion project adjacent to Roberts Cemetery in Troy, Texas. These burials are in an area that appears to have been on the Roberts Cemetery property when IH 35 was originally constructed in 1957. The Roberts Cemetery Association, hereinafter called the **"Owner"**, hereby grants to the Texas Department of Transportation, hereinafter called the **"State"**, permission to re-inter the unmarked burials in Roberts Cemetery based upon the following terms and conditions:

1) That the Owner will provide a place within the cemetery boundaries to re-inter the recovered burials

2) That the State will temporarily hold the remains, pending completion of identification efforts

3) That the State will provide all necessary equipment and personnel for re-interment of the burials within the cemetery, including a backhoe, operator and wooden boxes to hold the remains; and

4) If descendants are verified, and if they wish to re-inter the remains of their ancestor(s) in another cemetery, the State will work with the Owner and the descendants to accomplish this in accordance with all state and local regulations.

Reinterment Agreement
Roberts Cemetery

AGREED:

Roberts Cemetery Association Board Members
Owner

J.C. Alston
Authorized Signature

Wayne Randolph
Authorized Signature

Harold Dine Early
Authorized Signature

Betty Bulls
Authorized Signature

Sept 5, 2012
Date

Albin A. Petter, P.E.
State's Representative

Albin A. Petter
Authorized Signature

9/5/12
Date

Contact Information: See below:

Address: _____

_____

Contact name and phone number: Day_____

Night_____

Haroldine Early: [redacted]
J.C. Alston:
Wayne Randolph:
Betty Jo Bulls: