

**SUMMARY OF
ARCHAEOLOGICAL SALVAGE OF BURIALS
WASHINGTON AVENUE, PHILADELPHIA**

R. Michael Stewart
Department of Anthropology
Temple University
Philadelphia, PA 19122

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ABSTRACT

On February 6 and 7, 2002, 16 coffins and portions of two additional coffins were observed in a construction trench situated in the 700 block of Washington Avenue between Passyunk Avenue and 8th Street in Philadelphia. Sixteen of these burials subsequently were removed by archaeologists from Temple University in conjunction with various volunteers and staff of the Laurel Hill Cemetery. Time constraints prevented the excavation of the grave shafts and removal of the burials using standard archaeological techniques. The burials are probably associated with the Bishop's Ground, a Catholic cemetery first opened in 1824. A variety of data indicate that none of the burials were interred after the Civil War era. En-coffined burials occurred singly and stacked in single grave shafts, with the heads of all coffins oriented to the west. The human remains represent children and adults of both sexes. When multiple burials were encountered in a single grave shaft, children always seemed to be positioned lower in the stack of coffins than adults. Few material objects were recovered from any of the coffins. Notable exceptions include: remnants of silk ribbon associated with a few child burials; a thin, yellow metal (gold?) wedding band and folded woollen "shawl" or blanket from the burial of an adult female, bone buttons from the burial of an adult male, and fragments of a white clay pipestem from a grave shaft containing multiple coffins. Ornamental white metal strapping was also associated with a number of the coffins. The hexagonal, flat topped, and occasionally arched top style of the coffins, burial style, artifacts, and historic background research suggest that the burials were interred during the first half of the 19th century. The physical anthropology of the human remains and the results of historical research are the subjects of separate reports. Following the conclusion of their study at the Laboratory of Anthropology at Temple University, the human remains were removed to the Laurel Hill Cemetery pending reburial.

INTRODUCTION AND BACKGROUND

On January 27, 2002, Michael Stewart of the Department of Anthropology, Temple University, was contacted by Suzanne L. Haney of the Southwark Civil War District Committee. Ms. Haney had spoken previously (November 2001) with Dr. Thomas Crist, a physical anthropologist at Utica College and former graduate student at Temple, about the need to remove human remains from a construction trench opened to install a new water line along Washington Avenue in Philadelphia. Dr. Crist directed Ms. Haney to archaeologists in the Department of Anthropology at Temple. I agreed to assist with the removal of the burials if I could garner the support of Dr. Art Washburn, another Temple graduate and physical anthropologist. Dr. Washburn's assistance was gained and plans for fieldwork were made. An exhumation order from Orphans Court was then obtained (No.94 NP of 2002).

In phone and email messages with Ms. Haney prior to fieldwork, Stewart learned that the area along Washington Avenue had once been the locus of a number of cemeteries. No detailed historic background research had yet been completed for the area where the construction trench exposed the burials. Further, the time frame available for the removal of the burials would not permit the completion of such background research prior to fieldwork. It was assumed, especially given the shape of the coffins observed, that the burials would date to the 19th century.

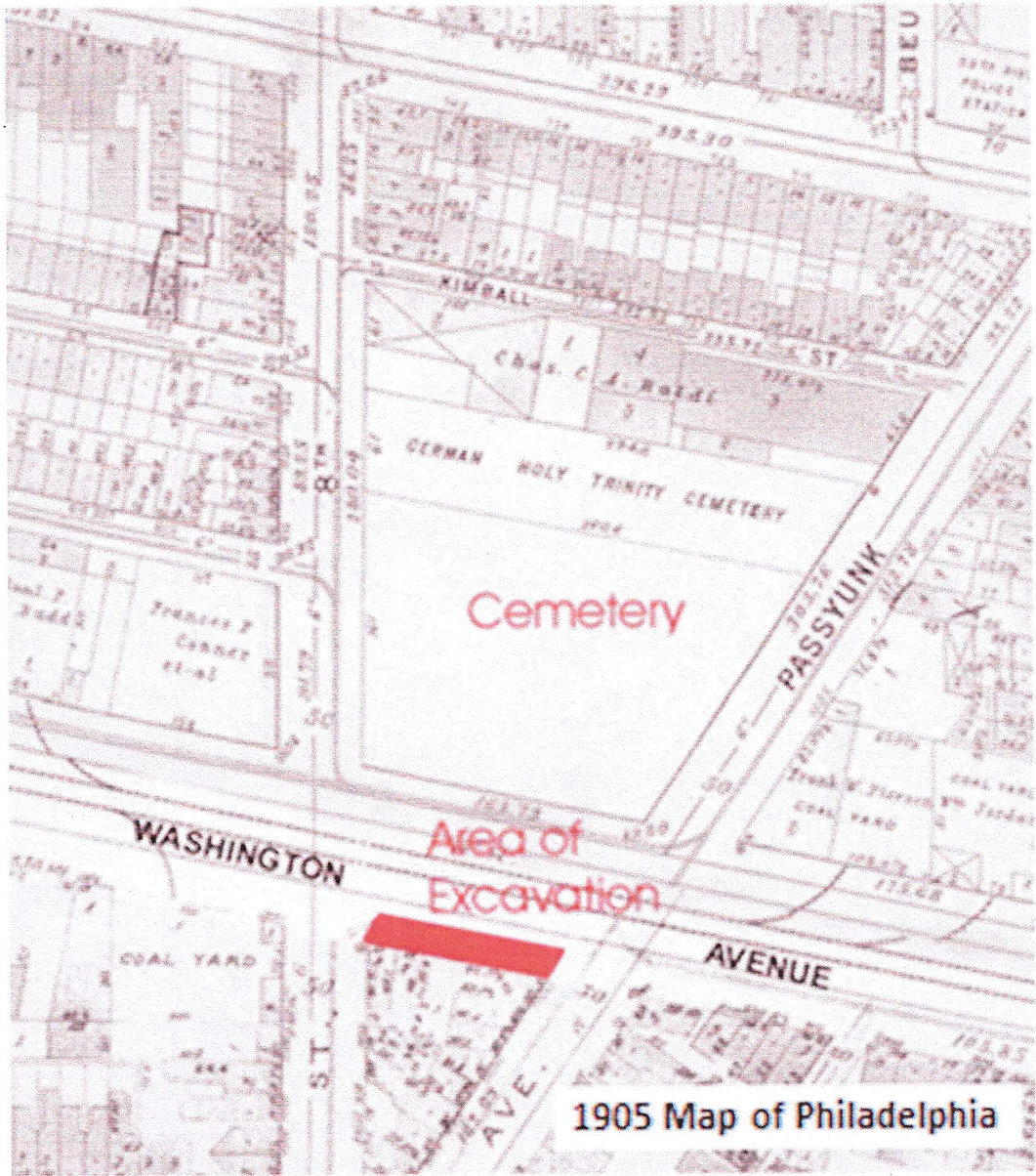
The construction trench in which the burials were exposed, was situated in the 700 block of Washington Avenue, between Passyunk Avenue to the east, and 8th street to the west (Figure 1). Washington Avenue runs east-west in this location. The trench was initially opened in October 2001 to replace an existing waterline. It seemed obvious that when the older waterline was laid human burials were observed as the old pipe reportedly lay on top of some coffins. Human remains were reported to the police during the new construction. The trench subsequently was covered over awaiting decisions about how to deal with the human remains. In conversations with Stewart, Ms. Haney indicated that there might be up to six en-coffined burials in the trench.

The excavation and removal of coffins and human remains from the trench took place over two days, February 6 and 7, 2002. The city's water department was instrumental in arranging for the re-opening of the trench and logistical support during the salvage of the burials. Temple University archaeologists were present only on February 7, during which time the majority of the burials were exposed and removed. Archaeologists from Temple University that participated in the field work include: Drs. Anthony Ranere, Michael Stewart, and Arthur Washburn, graduate students Timothy Messner, Michael Owens, and William Schindler, and undergraduate student Joseph Gingerich. Others involved in the field work included Dr. Andy Waskie from Temple's Foreign Language Department and a member of Temple's Interdisciplinary Civil War and Emancipation Project, staff from the Laurel Hill Cemetery, staff of the city's Water department, and other volunteers. Stewart directed the archaeologists on-site.

Following excavation, the coffins and human remains were transported to the Laboratory of Anthropology at Temple University for study. Laboratory work involved the cooperation of archaeologists Stewart and Gingerich, laboratory director Muriel Kirkpatrick, and a small number

FIGURE 1: Open trench in Washington Avenue. View is from the east looking west down Washington Avenue towards 8th Street. Individuals in foreground are at the location of C13a&b. All of the other burials occurred to the west of this position.





1905 Map of Philadelphia

of specialists who volunteered their assistance. Dr. Joseph Lorenz, of the Corel Institute, Camden, New Jersey, took tissue samples from select burials with the assistance of Temple graduate student Samara Rubinstein. These tissue samples have been stored in hopes of future genetic analysis. Gary McGowan, a conservator with the firm of Cultural Preservation & Restoration, Hackettstown, New Jersey identified the remnants of fabric preserved in some of the burials. Dr. Meta Janowitz and George Miller of URS, Inc., Florence, New Jersey, identified the few buttons recovered from one of the burials, and pipe fragments found in the fill of one grave pit.

The physical anthropology of the human remains was evaluated by Drs. Thomas Crist, Art Washburn and Myron Goldberg (forensic dentist). The human remains were then removed to the Laurel Hill Cemetery pending reburial. Historical background research was directed by Dr. Andy Waskie. The physical anthropology and historic background are subjects of separate reports.

FIELDWORK

The excavation and removal of en-coffined remains began on February 6, 2002. Observations of the remains and their context were made by Carrie Kelley and Gretchen Worden. Field notes for February 6 were compiled by Kelley and are utilized in this report. She observed that the open trench in Washington Avenue was 91 feet long (east-west) and was approximately 18 feet north of the southern curb of the street. Six burials were exposed on February 6, although not all were removed at this time. Her notes include observations of the horizontal location of individual burials relative to the eastern end of the trench, the depth below street level at which individual coffins were encountered, the size and shape of the coffins, and the disposition of the bodies within the coffins that were opened. Her field notes indicate that photos were taken, although these have not been made available to me. Individual coffins and human remains were labeled C1, C2, C3, C4, C5, C6 in the order that they were encountered during excavation.

Temple archaeologists were on-site for a single day, February 7. Owing to time constraints, it was impossible to utilize standard archaeological techniques for the exposure and excavation of grave shafts and burials. Burials were exposed as rapidly as possible using shovels and trowels. Where possible, original grave shafts were noted where their profiles were partially represented on the northern and southern walls of the open trench. Small samples of original grave shaft/pit fill were screened through 1/4" hardware mesh in the hopes of recovering artifacts that could be dated, and thus date the most recent use of the grave. Screening was especially focused on the remnant grave shafts/pits of coffins C7, C9, and stacked coffins C8, C10, C11, and C16.

In order to fully expose some coffins, it was necessary to undercut the walls of the trench in places. A small number of observed coffins were not removed because fully exposing them would have severely undercut trench walls. The horizontal location of coffins within the trench was measured off the eastern or western ends of the trench, whichever was most convenient. We continued to use the existing scheme for designating individual coffins as they were discovered, beginning with C7 (the 7th coffin discovered). Depth below surface to the top of each coffin was also recorded. The relative size of a coffin was used for preliminary inferences regarding whether

a burial was a child or an adult. Scaled drawings were made for coffins 6-12, 16, and 17. Field conditions precluded crafting drawings of the remaining coffins (13-15). The scaled drawings are included as an appendix to this report. Attempts were made to remove individual coffin and its contents en masse, placing them into large rectangular cardboard shipping containers provided by Laurel Hill Cemetery, and typically used by them when removing and relocating burials. Many, if not all of the coffins included some degree of sediment that had penetrated the coffin during its time underground. General field photos were taken by Stewart (35 mm color slides), while staff of Laurel Hill cemetery attempted to get photos of every coffin as it was exposed in the ground. Stewart maintained field notes related to the day's activities.

LABORATORY PROCEDURES

All coffins were opened, if this had not been accomplished previously, and the contents photographed using 35 mm color slide film. Individual record sheets were created for each burial in order to track observations and procedures. Many of the coffins contained varying amounts of sediment that needed to be excavated in order to fully expose the human remains for analysis, and to check for the presence of remnants of clothing, artifacts, or other objects that might aid in the identification of individuals and the dating of the interment. Excavated sediments were screened through 1/4" hardware mesh so that smaller objects and fragments of bone would not be missed.

Fabric samples were examined and identified by Gary McGowan. Buttons and pipe fragments were examined by Meta Janowitz and George Miller.

Hair and soft tissue were present in a number of the burials. Tissue sample collection was performed by Dr. Joseph Lorenz with the assistance of Samara Rubinstein. Examining the genetic makeup of individuals found in multiple graves could help to determine if the individuals were part of a family group interred in a family plot, or if they were unrelated and being placed in a common grave for other reasons. The tissue samples are in cold storage and no analysis has been performed to-date.

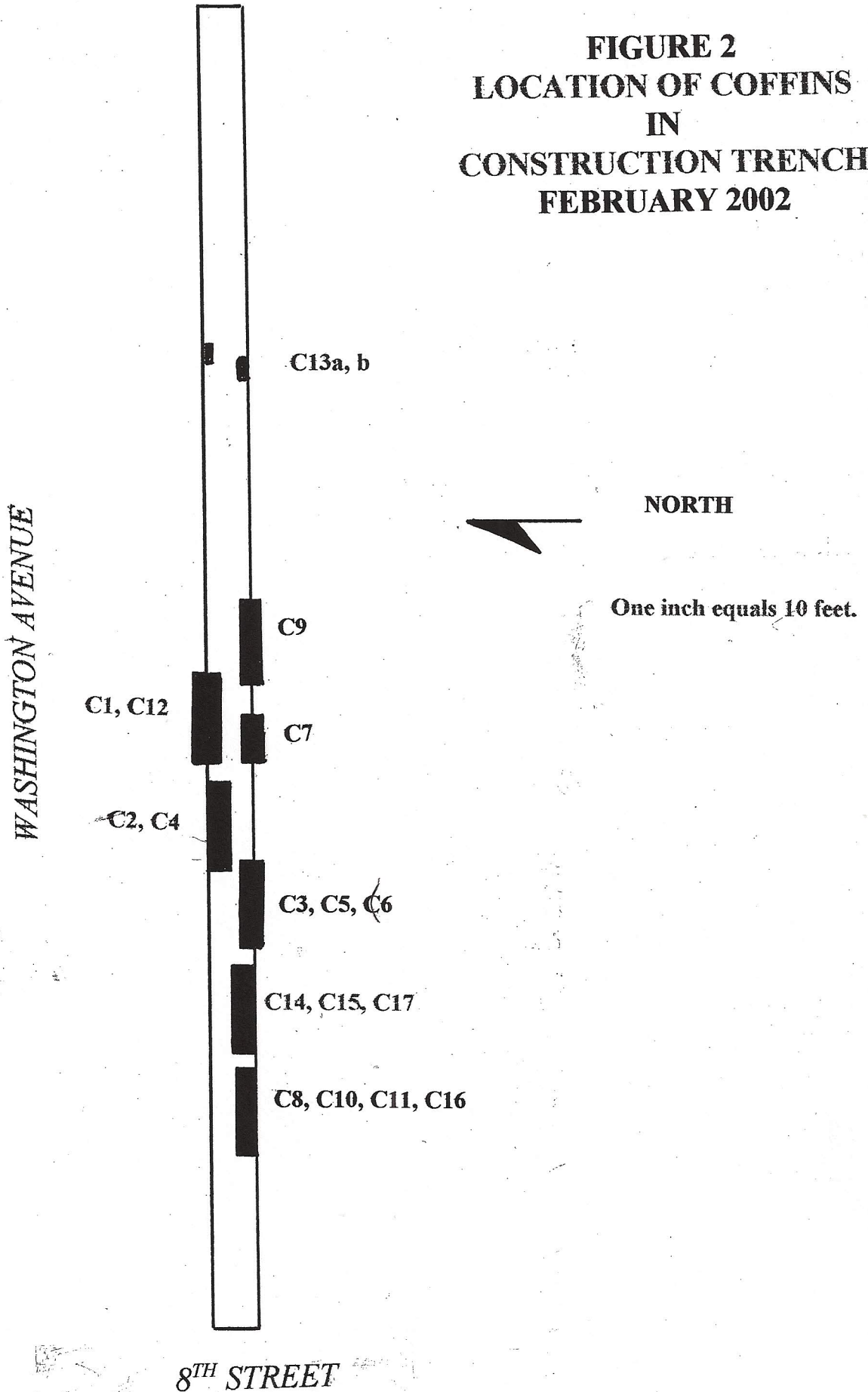
The final procedure was the examination of the skeletal remains carried out by Drs. Crist, Washburn, and Goldberg. Where possible the age and sex of individuals was determined and the presence and nature of any pathologies were noted. The results of this work is summarized in a letter report by Thomas A. Crist addressed to the Honorable Anne E. Lazarus, Judge, Philadelphia Orphans' Court (4/21/05). Crist's (2005) summary of the physical anthropology of the human remains is attached as Appendix A.

RESULTS

Figure 2 is a plan view of the construction trench showing the position of the coffins within it. In the first part of this section I summarize individual burials followed by burials associated in a common grave shaft/pit. Next I present the evidence bearing on the age of the interments. I conclude the section with a summary of the general features and patterns exhibited by the burials. Appendix B contains the scaled drawings for coffins 6-12, 16, and 17.

PASSYUNK AVENUE

**FIGURE 2
LOCATION OF COFFINS
IN
CONSTRUCTION TRENCH
FEBRUARY 2002**



Coffin 7

First encountered at 6.1 feet below street level, the child sized, hexagonal coffin has an arched lid. The arched lid was created through the combined use of some bent/formed wood in addition to beveling the joins of the boards used in the lid. Similar construction is seen in Coffin 5.

Recognizable grave pit fill was associated with the coffin and after excavation was screened. No artifacts were recovered from the pit fill. Upon full exposure in the field, the coffin collapsed. Immediately beneath the coffin were linear impressions in the trench floor perpendicular to the coffin's long axis. This appears to be what was left of wooden spacers upon which the coffin was laid, making it easier to remove the ropes used to lower the coffin into the grave.

The human remains associated with Coffin 7 are those of a child of undetermined sex, 8-16 months old (Crist 2005). Small amounts of hair are associated with the collapsed skull. Blue staining is visible on the left lower leg (tibia/fibula). The arms were oriented along the side of the body.

Ribbon-like fragments of silk fabric were found distributed over portions of the body. Fragments associated with the skull may have been part of some type of bonnet. Three, five-pointed stars were created by tying together similar ribbons (Figure 3). These stars were positioned on the body just below the skull. The body itself appears to have been laid on a bed of wood shavings which may have been the stuffing of some type of mattress or coffin padding, although no related fabric was visible. In conversations with historical archaeologists, it was suggested that the use of wood shavings in a coffin may have served a variety of purposes. If the wood were of an aromatic type, the shavings would have mitigated the smell of the decomposing corpse during the period of a wake and subsequent burial rituals or services. The shavings would also serve to absorb fluids from the decomposing body, and prevent the body from moving around inside of the coffin during transport. It was not determined whether the wood shavings in Coffin 7 were the same type of wood as used to manufacture the coffin.

Coffin 9

This coffin was only partially revealed in the open construction trench. Portions of the south wall of the trench had to be undercut in order to expose this child-sized coffin. The top of the coffin was encountered at approximately 3.7 feet below surface. The coffin was damaged and it seemed that pieces of it and associated human remains were missing. Subsequent laboratory evaluation showed that only the lower limbs were present of this 2-3 year old child (Crist 2005). The skeleton presented evidence of rickets, a vitamin D deficiency resulting in anterior curvature of the femora and tibiae.

Portions of the coffin seemed to have been formed with bent or formed wood. Decorative metal strapping was found within the coffin.

FIGURE 3: "Stars" created with silk ribbons found in association with child burial C7.



Coffins 13a, 13b

Very small portions of the edges of what are probably two distinctive coffins were exposed on the eastern side of the trench - one along the northern wall of the trench, and one along the southern wall of the trench. Exploring these further would have required substantially undercutting the existing walls of the trench. Since the construction had not really disturbed them, they were left in place (no human remains were observed or recovered). The tops of the coffins were encountered from 5.0 to 5.5 feet below surface.

Coffins 1 and 12

C1 was exposed and removed prior to the arrival of Temple archaeologists in the field. Kelley's field notes indicate that the burial had been damaged by the backhoe during the opening of the trench. There is some discrepancy between what Kelley observed in the field and designated as C1, and what was transported to Temple's lab and labeled as C1. Kelley notes that there didn't appear to be a coffin associated with the human remains that she designated as C1, but encoffined remains labeled as C1 were delivered to the Temple laboratory.

There was sufficient sediment in the coffin delivered to the Temple lab to require excavation to fully expose all skeletal elements, those of an adult male (Crist 2005). During the excavation of the sediment in the coffin, seven buttons were recovered (Figure 4). The location of four of these could be determined as follows: one on the left side of the body near the lumbar vertebra; one on the right side near the lumbar vertebrae; and two in wood shavings in the bottom of the coffin.

Janowitz and Miller evaluated the buttons and stated that it would not be unusual to find them in burials dating to the early 19th century. The single-holed buttons are made of bone and were probably cut with a circular saw. Single-holed buttons were generally covered in cloth and fastened to clothing with a metal eye that passed through the hole. Such buttons were generally used on underwear and shirts. Of all of the burials examined, this is one of the few adults with evidence of clothing.

C12 is located in what appears to be the same area where Kelley reported recovering C1. The two coffins may have shared a common grave shaft. C12 is an adult sized coffin, only a portion of which was able to be exposed within the confines of the construction trench. It was encountered at 4.7 feet below the surface. It was not possible to fully expose the coffin and gently remove the burial. As the day's fieldwork was drawing to a close, staff of the Laurel Hill cemetery broke into the side of the exposed and removed an undetermined amount of the human remains it contained for reburial. These were not transported to Temple University for analysis.

Coffins 2 and 4

These hexagonal coffins appeared to be staked in a common grave shaft, the associated remains each representing an adult female (Crist 2005). C2 is the uppermost of the burials in this stack and was encountered at 4.5 feet below surface. The lid of the coffin was badly decayed. During examination in the laboratory it was determined that at some point after the emplacement