THE ARCHEOLOGY OF 290 BROADWAY
VOLUME I
THE SECULAR USE OF LOWER MANHATTAN'S AFRICAN BURIAL GROUND

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PREFACE

With full recognition and a tip of the hat to the late Bert Salwen's (1973) sage differentiation between "archeology of the city" and "archeology in the city," archeologists have been contributing for several decades to our understanding of New York City's past by excavating and interpreting numerous sites surviving beneath its streets, pavements, and buildings. Many of these excavations have been undertaken in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, and/or the National Environmental Policy Act of 1969, and have included excavations at some of the earliest Dutch occupations in the city (e.g., Stadt Huys—Rothschild, Wall, and Boesch 1987) through the nineteenth century (e.g., Hanover Square—Rothschild and Pickman 1978; Telco—Rockman, Harris, and Levin 1983; Barclay's Bank—Louis Berger and Associates 1987; 175 Water Street—Geismar 1983; Assay—Louis Berger and Associates 1991; and Sullivan Street—Howson 1994). Two federal construction projects undertaken by the U.S. General Services Administration in the late 1980s and into the 1990s are responsible for the addition of two major archeological excavations to this impressive roster of New York City sites—the African Burial Ground, also referred to as the 290 Broadway site, and the nearby Five Points site.

Beginning in the late 1980s, the General Services Administration designed and ultimately constructed two new buildings, a 27-story federal courthouse and a 32-story office building, on two noncontiguous parcels at Foley Square in Lower Manhattan, New York City. The new office building (290 Broadway) was built on a parcel bounded by Broadway, Duane, Elk, and Reade Streets that also contained the African Burial Ground. The new courthouse was built on a parcel between Pearl and Worth Streets, in the vicinity of Cardinal Hayes Place, and is known as the Courthouse Block or the Five Points site. Collectively, construction of these two new buildings was referred to as the Foley Square project. As an integral part of the siting process, Edwards and Kelcey Engineers, Inc. (now Jacobs Edwards and Kelcey) was retained by the General Services Administration to prepare Environmental Impact Statements for both parcels. Edwards and Kelcey initially retained Historic Conservation and Interpretation, Inc. to provide cultural resources expertise for the Environmental Impact Statement process. Ultimately, significant cultural resources were documented for both blocks, including the African Burial Ground on the 290 Broadway Block (Ingle et al. 1989).

The General Services Administration entered into a Memorandum of Agreement (MOA) on March 15, 1989, which was subsequently amended and implemented on December 20, 1991, with the Advisory Council on Historic Preservation and the New York City Landmarks Preservation Commission. The MOA contained general procedures for the protection and management of resources relating to the African Burial Ground/290 Broadway site and the Five Points site, including provisions for archeological, historical, and bioanthropological investigations. In accordance with the amended MOA, comprehensive research designs for both the African Burial Ground/290 Broadway site and the Five Points site were jointly prepared in a collaborative effort by Howard University and John Milner Associates, Inc. Taken together, these two research designs constituted blueprints for the mitigation of adverse effects to human remains and cultural resources associated with the Foley Square project.

The site of the federal courthouse was once part of the infamous Five Points, one of New York's most storied nineteenth-century neighborhoods. Five Points has attained a status in New York history as a "slum" of almost mythic proportions that far exceeds the reality. Indeed, Five Points was the subject of a plethora of moralizing treatises in the nineteenth century, among them one by no less an important literary figure than Charles Dickens (1985), and continues to appear in recent fictional accounts of the Victorian era (such as *The Alienist* by Caleb Carr and *Waterworks* by E. L. Doctorow). An excellent historical account of Five Points has also recently been written (Anbinder 2001). Even Hollywood has added its interpretation with the 2002 release of Martin Scorcese's *The Gangs of New York,* an overwrought yet highly entertaining melodrama loosely based on Herbert Asbury's (1927) journalistic account of the Five Points with the same title.

The research conducted in accordance with the research design for Five Points was completed under the direction of Rebecca Yamin of John Milner Associates, who also supervised the analysis of the artifact collection by a John Milner Associates team in the Foley Square Laboratory in New York, while John Milner Associates' corporate offices in West Chester, Pennsylvania, provided necessary support. The work was accomplished

under a subcontract to Edwards and Kelcey Engineers and resulted in the publication of a six-volume report (Yamin 2000).

The site of the proposed office building at 290 Broadway was once part of the African Burial Ground that stretched from Chambers Street on the south to Duane Street on the north and from Centre Street on the east to Broadway on the west. Now a National Historic Landmark, the site has become an internationally recognized icon of the Middle Passage and the African Diaspora, symbolizing more than three centuries of enslavement, racism, and economic marginalization embodied in the African-American experience in the Americas. As a National Historic Landmark, it is indisputably one of the most important heritage sites in the world. Perhaps containing upwards of several thousand eighteenth-century enslaved Africans and African Americans, just the small portion of the site that was excavated yielded one of the oldest and largest African-American skeletal populations known in the Americas (over 400 individuals). The African Burial Ground has also brought to the fore issues of contested resources and intellectual control of information pertaining to the depiction and reconstruction of the past (e.g., LaRoche and Blakey 1997), as exemplified by the New York African-American community's insistence that it be a determining factor in how the African Burial Ground is treated and interpreted. Indeed, so compelling was the community's participation that the design plans for 290 Broadway were substantially modified in order to preserve a portion of the African Burial Ground as green space. The site now is under the jurisdiction of the National Park Service as the African Burial Ground National Monument.

The African Burial Ground is the resting place for a large number of enslaved and formerly enslaved Africans and African Americans who died in New York City between approximately 1710 and 1790. Although the actual number of interments likely will never be known, judging by the nearly six-acre size of the cemetery as depicted on period maps, many thousands may be buried there. Originally located in a low swale surrounding what was known as the Collect Pond, the African Burial Ground ceased being used as a cemetery by the last decade of the eighteenth century, and rapidly was built upon and then filled in beginning in the early nineteenth century. While the African Burial Ground was known from its depictions on early historic maps of New York City, it was generally believed to have been destroyed by the intensive nineteenth- and twentieth-century development characteristic of Manhattan. Largely forgotten as New York City's African-American population was pushed further and further from the economic mainstream of Lower Manhattan, the African Burial Ground was found mostly intact beneath more than twenty feet of fill as the General Services Administration prepared the site for construction in early 1991.

Largely overlooked by the media, public, and even the professional community is the fact that the site of the African Burial Ground was also used for industrial purposes by the eighteenth-century Crolius and Remmey stoneware potteries. In the late eighteenth and early nineteenth century, after the closure of the African Burial Ground, the area was divided into lots and occupied by households and businesses for about fifteen years. It was then filled when the block was raised to meet the grade of a new street system, thereby preserving a rather remarkable archeological record of residential, industrial, and sacred use of the site deep below the current street grade. Accordingly, the research design for the study of the African Burial Ground focused not only on the burial-related deposits, but also on the industrial and residential deposits that conflicted with the sacred use of the space as a burial ground.

The bulk of the excavation of the African Burial Ground/290 Broadway site was undertaken by Historic Conservation and Interpretation, Inc. On July 1, 1992, however, John Milner Associates was retained by Edwards and Kelcey Engineers to replace Historical Conservation and Interpretation as the archeological consultant. Fieldwork continued in the midst of community objections for another three–four weeks under the direction of John Milner Associates until a congressional oversight committee under the chairmanship of Rep. Gus Savage (D-Illinois) directed the fieldwork to cease. The analysis of the skeletal remains and African Burial Ground-related artifacts and deposits was then contracted to Howard University under the direction of Michael Blakey, while the analysis of the artifacts and deposits documenting the secular use of the block was contracted to John Milner Associates under the direction of Charles Cheek. Analysis of the artifacts from 290 Broadway was completed at the Foley Square Laboratory in New York City under the direction of Charles Cheek, while the human remains and burial-related artifacts were transferred to Howard University's W. Montague Cobb Biological Anthropology Laboratory, where they came under the care and analysis of Mark Mack and Michael Blakey until they were reinterred at the African Burial Ground on October 4, 2003.

Operating simultaneously with the Foley Square Laboratory in 6 World Trade Center was the Office of Public Education and Interpretation for the African Burial Ground, directed by Sherrill Wilson and managed under contract to the General Services Administration by John Milner Associates. On that fateful day of September 11, 2001, when the World Trade Center was attacked by terrorists, both the Foley Square Laboratory and the Office of Public Education and Interpretation were destroyed, although most fortunately, no project personnel were injured or killed. It was originally thought that all original records and artifacts were lost (although copies of all records were stored off-site, and the skeletal remains from the African Burial Ground and most grave-related artifacts were also stored safely off-site.) The part of the lab containing the bulk of the 290 Broadway artifacts was destroyed while the portion that contained slides and other material was preserved. Some time after the attack, the General Services Administration was presented with a small group of artifacts salvaged from the rubble that once was, in part, the Foley Square Laboratory. These artifacts were almost entirely associated with the industrial and residential deposits of 290 Broadway. Over 4,000 artifacts were salvaged, and they were recataloged as part of the present endeavor (Appendix H). The artifacts and copies of the extant records are included in the African Burial Ground Collection, which is located at the Schomburg Center for Research in Black Culture, under the stewardship of the National Park Service, African Burial Ground National Monument.

All told, this report is presented in four volumes. Volume I summarizes and interprets the archeology and history of the 290 Broadway Block, focusing on the social contexts responsible for the transformation of the parcel from sacred to secular space. Volume II, Parts 1 and 2, present details of the stratigraphic analysis, feature descriptions, historical appendices, minimum vessel data, and floral and faunal data. Volume III contains the artifact catalog, while Volume IV contains conservation reports for both the African Burial Ground and 290 Broadway materials. The latter volume also contains the report on the recataloging of materials salvaged from the rubble of the Foley Square Laboratory at 6 World Trade Center noted above.

Together, the African Burial Ground/290 Broadway and Five Points projects give voice to some of New York City's most important, yet heretofore forgotten, people. The Africans and African Americans who used the African Burial Ground were a people who came to the Americas as chattel through no choice of their own, yet were pivotal in the building of not only New York City, but also the nation. Enslaved and free, their contributions to the nation have long been dismissed, but now they are informing us about those contributions and the conditions under which they lived in ways not possible before. Similarly, the working-class residents of Five Points and the 290 Broadway Block, many of them newly arrived immigrants, endured miserable living conditions and exploitive working conditions as they began the struggle up the economic ladder. Together with Africans and others, their labor fueled New York's industrial revolution and their cultural traditions enriched its social milieu.

The results of the excavations of the African Burial Ground are presented in a series of reports prepared by the Howard University team that include four volumes on the archeology (Perry, Howson, and Bianco 2006), a volume on the history (Medford 2004), and three volumes on the skeletal biology (Blakey and Rankin-Hill 2004). This four-volume report presents John Milner Associates' descriptions and interpretations of that portion of 290 Broadway not directly related to the excavated human remains. Taken together, the Howard University and John Milner Associates reports document a long history of contested space on this relatively small parcel in Lower Manhattan, with Africans and African Americans using it as sacred space for the burial of the dead on the northern margins of the burgeoning city and European Americans using it for the conduct of commercial enterprise. The analysis reveals a sociopolitical climate through time that effectively marginalized the city's African and African-American residents, both free and enslaved. As might be expected on such a complex site, John Milner Associates' and Howard University's interpretations are not entirely congruent; the past is always depicted through a prism distorted by our particular experiences, training, and biases. But competing depictions need not detract from the validity of their individual perspectives. Rather, taken together they often provide a more holistic understanding of our multi-cultural heritage. It is our belief that the contents of this report, taken in conjunction with the interpretations found in the Howard University reports, provide just such a broad perspective on one of the most significant sites in New York City, the nation and, indeed, the world.

Daniel G. Roberts
Charles D. Cheek
2009

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Gary McGowan, Linda Stone, and Michael Bonasera at various times served as laboratory directors in the Foley Square Laboratory at 6 World Trade Center. In addition, Gary served as principal conservator throughout most of the project; he was aided by Cheryl LaRoche, assistant conservator, who prepared the final report on the conservation of both the African Burial Ground and 290 Broadway artifacts (see Volume IV). At various times throughout the duration of the project, Gary and Cheryl were assisted by conservators Janet Hawkins, Liz Vogel, and Norine Carroll. Several additional specialists who aided in the conservation effort are identified and acknowledged in Volume IV. All are thanked for their many contributions to the success of the project.

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Robert Fitts and Reginald Pitts each served as project historians. Rob provided the detailed history of the European-American use of the block and Reg researched the legal aspects of how the sacred space of the African Burial Ground was transformed into a secular commodity.

Sherrill Wilson served as director of the Office of Public Education and Interpretation (OPEI) for many years, until the function of that office was assumed in the fall of 2005 by the staff of the Schomburg Center for Research in Black Culture and, ultimately, in the fall of 2006 by the National Park Service. It is Sherrill and her staff who largely were responsible for giving voice to those buried in the African Burial Ground, and her dedication and professionalism through thick and thin are greatly respected and appreciated.

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Without the sustained, long-term efforts of Allan Steenhusen and Kathryn Bowers, the full range of John Milner Associates' involvement in the African Burial Ground/290 Broadway project would never have been realized. Managing the complexities of the project, including contractual matters, the OPEI, the World Trade Center laboratory, community engagement, logistical issues, and political ramifications proved much more than a full-time job for Dan Roberts, who was initially tasked with that responsibility. Allan and Kathy were recruited early on in the project and ably and efficiently took over management aspects of the project that were in danger of unraveling. Together, Allan and Kathy truly were the "glue" that held this project together for more than 14 years, and the entire project team owes them a debt of gratitude that can never be fully repaid.

Last, but not least, we are fully aware that this was a once-in-a-lifetime project, and we thank Jeff Stiles of Jacobs, Edwards and Kelcey, Dan Baer, formerly of Jacobs Edwards and Kelcey, and the many people at the General Services Administration for giving us the opportunity to participate in it.

1.0 INTRODUCTION

by Charles D. Cheek

This report discusses one of the archeological investigations undertaken as part of the Foley Square project, which included the construction of a U.S. courthouse at Foley Square and a federal office building at 290 Broadway, both in Lower Manhattan, New York City (Figure 1). Prior research had established that the two locations contained significant archeological resources (Ingle et al. 1989). The excavations were undertaken to recover significant information before it was affected by construction. The work was done for the General Services Administration, Region 2, to help fulfill agency responsibilities under the National Historic Preservation Act of 1966, as amended.

The project area included two blocks, located within two blocks of each other. The Courthouse Block contains the Five Points archeological site, while the 290 Broadway Block contains in part the African Burial Ground site and other archeological remains. The first consultant that worked on the project, Heritage Conservation and Interpretation, Inc., conducted an initial assessment of both sites to determine whether they would contain important information (Ingle et al. 1989). The same firm excavated the Five Points site and most of the African Burial Ground site. In 1992, John Milner Associates, Inc., and Howard University replaced Heritage Conservation and Interpretation.

The 290 Broadway Block contained several archeological components. The earliest is the African Burial Ground, in which enslaved Africans and their descendants buried their dead from the early 1700s into the 1780s or 1790s. During and after this time, other activities also took place on and over the African Burial Ground. Initially, European Americans treated the African Burial Ground as a secular space rather than a sacred one when, during the middle of the eighteenth century, it was used as a dump for industrial waste; later, when the area was no longer being actively used as a cemetery, both European Americans and African Americans built residences and commercial buildings on both the African Burial Ground and, later, on the fill above it. This report focuses on a portion of the investigations at 290 Broadway—the secular use of the burial ground landscape. Howard University has prepared the report on the African Burial Ground (Perry et al. 2006), and the Five Points site is reported separately (Yamin 2000). More information on the history of the project and the African Burial Ground can be found at www.africanburialground.gov and in the online reports of the Howard University team. The report and data (in an MS Access format) for 290 Broadway will be available on disc.

1.1 Project Area

The project area is located on the northeast portion of Block 154, bounded by Broadway, Duane (originally Barley), Elk (originally Ann, then Elm), and Reade (also spelled Read or Reed) Streets. The original construction areas include the entire block except for a building at 22 Reade Street on the southeastern corner of the block (Figure 2). GSA had planned to build a federal office building (290 Broadway) on the Broadway side of Block 154, with a four-story pavilion planned for the northeast section of the block where Duane Street joined Elk Street. The southern side of the pavilion was to be bounded by the eastern portion of Republican Alley (also called Manhattan Alley). Construction of the pavilion was abandoned, and the area is now preserved as the African Burial Ground National Historic Landmark.

Historical research and evidence from soil borings identified deep basements and disturbance in all parts of the project area except in Republican Alley and in some of the lots in the eastern portion of the Duane Street side of the area (Ingle et al. 1989:128). As a result, Heritage Conservation and Interpretation concluded there were preserved archeological resources in four lots on Duane Street, as well as possibly preserved burials in

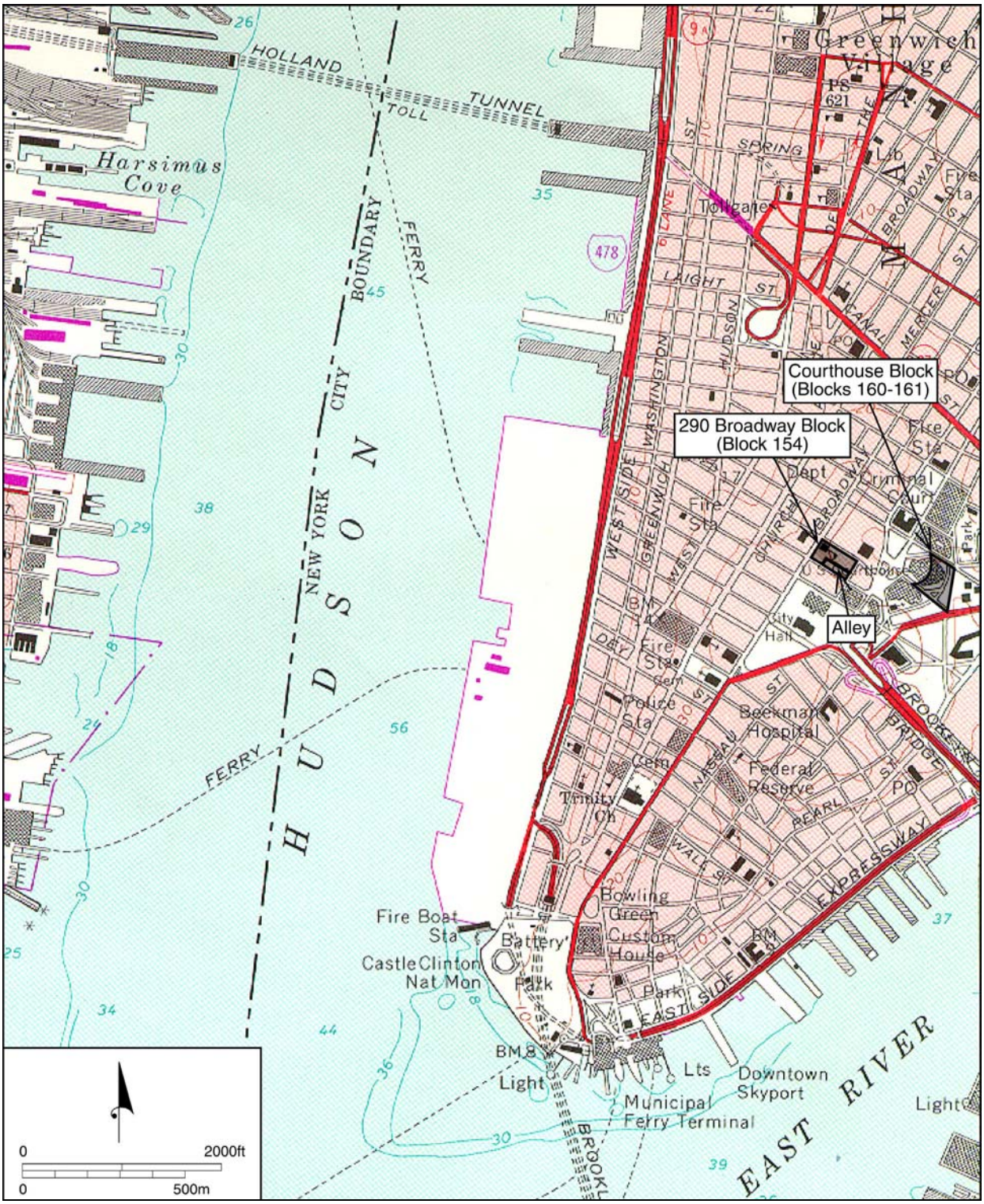

Figure 1. Project area location, 7.5-minute series, Jersey City, NJ–NY, quadrangle, photorevised 1981 (USGS 1981).

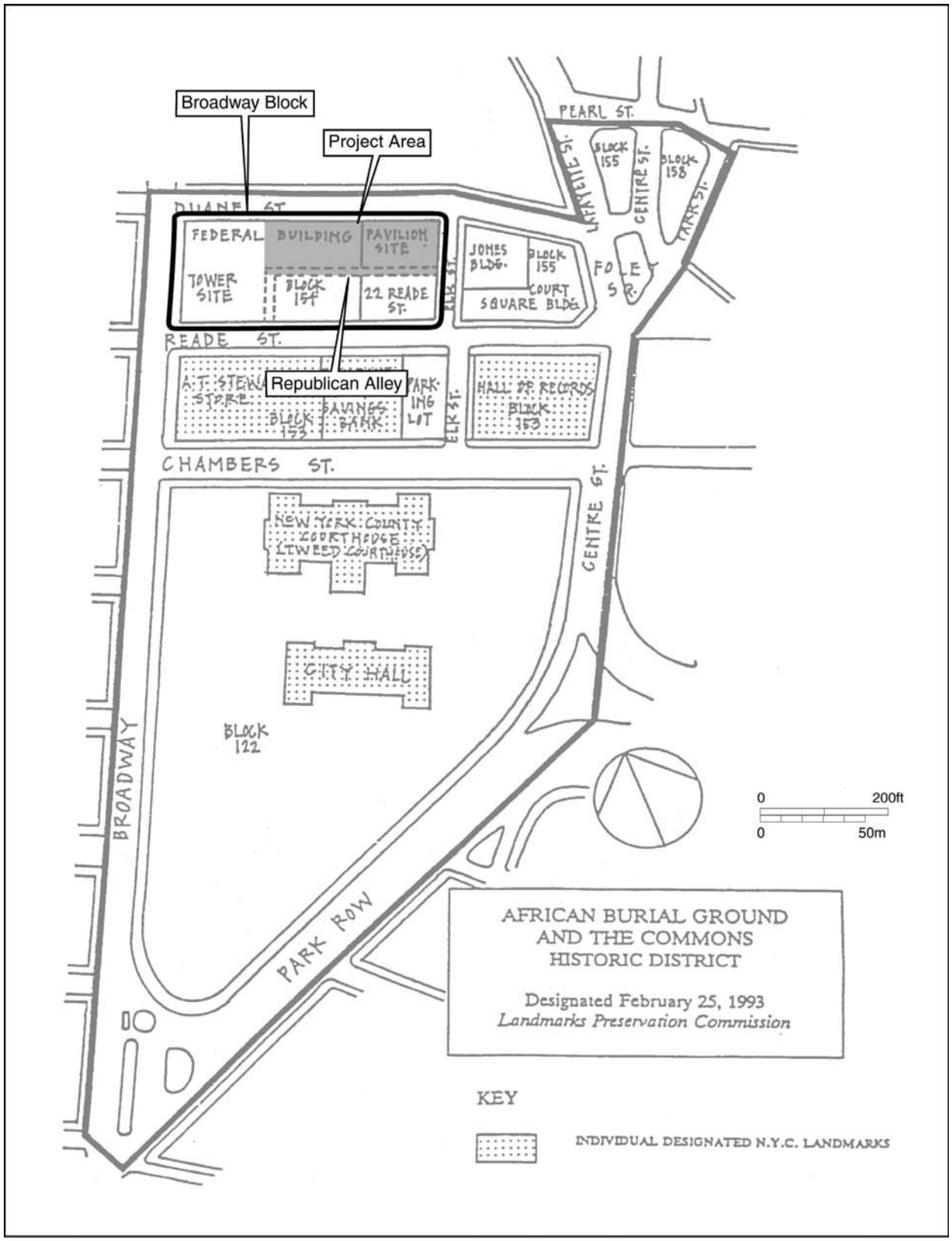

Figure 2. Location of 290 Broadway and the project area (from Hunter Research 1994:2).

Republican Alley. These lots included 80 Duane Street (Lot 12), 62-64 Duane Street (Lots 20-20½), and 60 Duane Street (Lot 21) (Figure 3). After the initial excavations, Heritage Conservation and Interpretation found that the historic land surface was much lower than anticipated and that burials were preserved in a much larger portion of the project area than just Republican Alley. Consequently, excavations were extended into the lots between Lot 12 on Duane Street and Lots 21 and 22 that bordered Elk Street, the eastern boundary of the block. The project area documented in this report includes Lots 12 through 22. The work in Republican Alley revealed burials but little evidence of later European-American activity; thus, Republican Alley is not treated in detail in this report.

1.2 Project Team

Heritage Conservation and Interpretation, under the direction of Edward Rutsch, was in charge of the majority of the excavations at 290 Broadway, including both the African Burial Ground and non-burial-ground deposits. John Milner Associates directed the last three weeks of the excavation and conducted the analysis of the non-burial-ground portion of the site.

Field supervisors for Heritage Conservation and Interpretation were Philip Perazio and Eugene Boesch for the initial testing and the excavation of the European-American portions of the project. Michael Parrington was the field director for most of the burial excavations for both Heritage Conservation and Interpretation and John Milner Associates. The burial excavation team also excavated historic deposits and features that overlay and cut into the African Burial Ground.

Gary McGowan was the laboratory supervisor and conservator for the majority of the project (both for Heritage Conservation and Interpretation and John Milner Associates), and Michael Bonasera held the lab supervisor position for the final months of the project. Mr. McGowan was assisted by Cheryl LaRoche who authored the conservation report for the African Burial Ground and the 290 Broadway deposits. Other conservators included Norine Carroll, Janet Hawkins, and Amy Vogel. Charles Cheek supervised the analysis and report preparation for John Milner Associates. The two historians were Robert Fitts and Reginald Pitts. Analysts included Stephen Brighton, Michael Bonasera, Aimeé DiScipio, Heather Griggs, Kerri Holland, Paul Reckner, Stuart Tray, and Paula Saunders. Sarah Ruch and Rob Schultz produced the graphics, and secretarial assistance was provided by Julie Cruz, Marcia Gibbs, Casey Gonzalez, Margaret Schoettle, Emily Roszkowski, Lori Norbeck, and Dawn Thomas. The primary editors were Georgess McHargue, Donna Seifert, and Kathryn Bowers, with assistance from Daniel Roberts. Nan Rothschild, Barnard College, and Diane di Zerega Wall, CUNY Graduate Center, reviewed the draft report.

1.3 Report Organization

This report is divided into four volumes. Volume I describes and summarizes the archeology and history of the 290 Broadway site. In Volume I, Chapters 1 and 2 introduce the project and present the research design. Chapters 3 and 4 present the historical context and the results of the fieldwork. Chapters 5 and 6 describe the legal and social context for the change in land use from sacred to secular and the nature of the ceramic debris that was dumped on the burial ground. The next six chapters discuss the domestic activity in the project area after African Americans had been prevented from using the area a cemetery and it was transformed into commercial and residential property. Volume I is concluded with a summary and references cited. Volume II contains the appendices, which are divided into three parts. Appendix A is in Volume II Part 1 and presents the details of the archeological research, including stratigraphic analysis and feature descriptions. Volume II Part 2 contains the appendices for historical research, lists of minimum vessels for stoneware found in the pottery dumps and domestic ceramics, and the floral and faunal data. Volume III contains Appendix H, the artifact catalog. Volume IV contains the report on the conservation of materials from the African Burial Ground and 290 Broadway contexts as well as its appendices and catalog, and the report and recataloging of the artifacts that survived the destruction of the project's World Trade Center laboratory storage area on September 11.

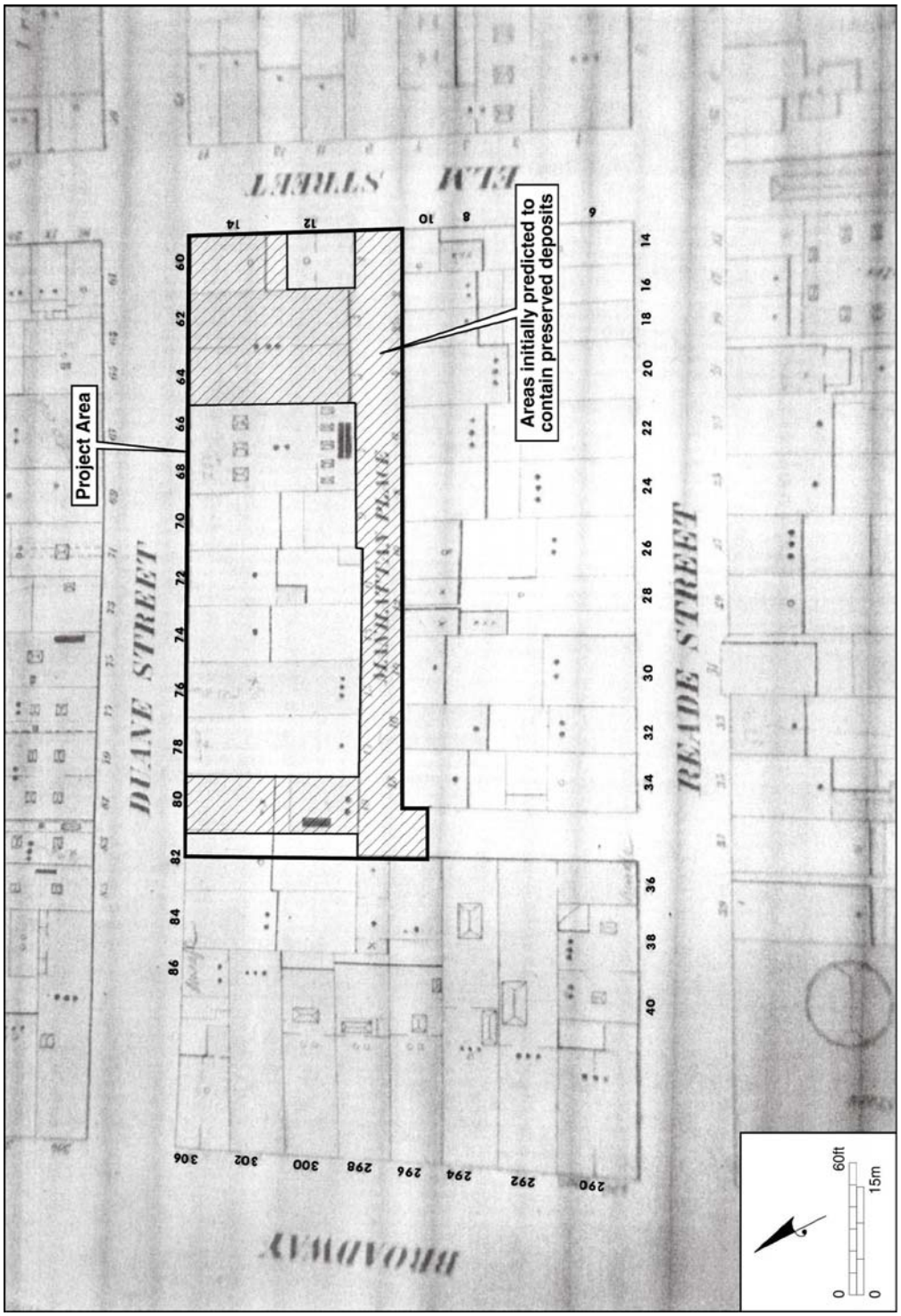

Figure 3. Detail of insurance map showing historic lots impacted and areas initially targeted for excavation (Perris 1853).

The artifact catalog was generated with the Foley Square database by Flatiron, Inc., under the direction of JMA staff, on an Interbase platform. The program is a full-fledged relational database with the ability to record the provenience information and many artifact attributes through the use of drop down windows.

The artifact catalog only presents the most salient artifact attributes due to space considerations. Flatiron mitigated the data to Microsoft Access at JMA's request to make it more accessible to those who wish to further analyze the data. The data disc comes with a map of the relationships among the tables and some hints as to how to most effectively use the program for analysis.

2.0 RESEARCH DESIGN

by Charles D. Cheek

2.1 Research Questions

Howard University and John Milner Associates identified several research topics and questions in the data recovery plan for the non-burial archeological resources on the Broadway Block (Howard University and John Milner Associates 1992:63–66). John Milner Associates' analysis of the 290 Broadway data led to the reformulation of some questions when the site and its history were better understood.

Three principal research topics were selected:

- the transition of the African Burial Ground from a sacred place to a secular place;
- the pottery industry of early New York, including the stonewares of the Crolius and Remmey families and the redwares of the Campbell pottery;
- the material culture and behavior of the block's population after the block had been divided into lots and settled as a residential area in the post-Revolutionary period.

Secondary research objectives included the study of depositional processes, consumer behavior, technology of production, physical composition of selected artifacts, and other specialized research (Howard University and John Milner Associates 1992:82).

2.1.1 The Transition of the African Burial Ground from Sacred to Secular Ground

The change in use of the area from religious to secular purposes suggested that the research team should examine the social and economic forces that caused this transition. Additionally, the initial field data indicated that prior to the Revolution the area served secular and religious purposes simultaneously. At the time African Americans were using the area as a burial ground, European Americans were using it as a dumping ground for waste from the nearby ceramic and tanning industries. After the Revolution, the project area was incorporated into the city, became part of the grid of blocks, and was divided into lots, losing its sacred function.

Africans were enslaved and brought to the New World to turn a wilderness into cultivated, profitable land; to provide labor to turn towns and villages into urban places where capital could concentrate; and to provide servants for the moneyed classes. Enslaved Africans and their descendants were the objects of exploitation and prejudice, forced to create their own cemetery because the European-American population did not want them to be buried in their cemeteries. The African Burial Ground was in an area near the homes of enslaved Africans who had been granted their freedom (but not that of their children) and land near the Collect Pond because they helped the Dutch in time of war (McManus 1966:12–13).

The ownership of the land used as the burial ground was in dispute, but was used as common land until after the Revolution. After the Revolution, New York's population spread into the area around the African Burial Ground. The descendants of the original Dutch owners, who had been given the land by the Dutch government, considered the land a commodity from which they could make money. They exercised their land ownership rights and took away the ability of the African-American community to use it as a cemetery.

The research team examined this transition from historical, legal, and archeological perspectives. For the pre-Revolution phase, it was important to know which areas were used as both a burial ground and a dump, and, if possible, when the dumping was begun and if it stopped before the block became part of the city grid after the 1780s. For the post-Revolution period, it was critical to examine the relationships between the residential and later commercial features and the African Burial Ground and individual graves.

2.1.2 The Early Pottery Industry in New York

Evidence of both redware and stoneware industries was recovered from the site. The site is near Pot Baker's Hill, known to be the site of the Crolius Pottery. Maps document that the Remmey family, which married into the Crolius family, had a pottery on the northern edge of the burial ground. John Campbell operated on the west side of Broadway across from the site, and his pottery may have been the source of the redware wasters found on part of the site. Little is known about the pre-1800 pottery of the Crolius and Remmey families or about Campbell Pottery, as so few early pieces are marked.

The research team designed its analysis to study the waster and non-waster stoneware and redware sherds and to define the formal characteristics and range of variation of the collection. Although initially thought that the sherds and wasters post-dated the Revolution, analysis shows that they actually pre-date it. The collection thus provides more information about the origins of stoneware in New York and the development of the pottery industry than was anticipated. Historical research to find information about the pottery workers was also conducted, but to no avail.

Dr. Allan Gilbert of Fordham University conducted trace-element analysis of samples from stoneware sherds, identifying the material composition of these samples and comparing them to samples in his ceramic archive. The purpose of this archive is to provide data addressing craft development, industrial change, and patterns of trade. However, the archive has a limited number of stoneware samples in its archives and, as expected, the information on these topics was limited.

2.1.3 Site Formation Processes

Site formation processes (depositional analysis) focused on the "processes and behaviors associated with the formation of the archeological record" (Howard University and John Milner Associates 1992:82). Depositional processes must be understood in order to combine artifact data into meaningful analytical units (Howard University and John Milner Associates 1992:83). The Harris (1979) matrix system proved of great utility in identifying stratigraphic sequences.

The depositional analysis had two objectives. The first was to identify, if possible, how the site was formed. Site formation was approached by combining stratigraphic and artifact analysis with historical research. Artifact dates were used in combination with the dates of known historical events together with the Harris matrix to place the events in phases and then date the phases.

The second objective was to understand the formation of the artifact assemblages. Accordingly, crossmends of ceramic and glass vessels of assemblages from selected features were accomplished in order to combine stratigraphic units into depositional events.

2.1.4 Material Culture of the Block's Resident Population after the Revolution

The first objective of this research was to define and describe the domestic features of the site and their relation to the lots' boundaries, thereby contributing to the study of the use of the lot by the occupants. Knowledge of the urban backyard is important in understanding how people lived in the urban environment. Features and structures such as fences, garden beds, walkways, drains, and trash pits all reflect use of the backyard. Macro-plant remains and seeds can be analyzed to understand the local floral environment. Only Lot 12 had an excavated yard surface that let us examine this topic in detail, although features in the other lots did provide some additional information.

Our second objective was to identify and catalog the range of material culture recovered from the site. This information contributes to addressing consumer behavior and the development of the middle class.

2.1.5 Consumer Behavior

Consumer-behavior studies investigate why people buy what they do. One of the project objectives was to understand consumer choice and dietary variation in the context of class and ethnicity of the historical inhabitants of the block (Spencer-Wood 1987; LeeDecker 1991). In New York, consumer choice has been

investigated from class, status, and gender perspectives (Wall 1994). Other factors, such as regional traditions, also play a role in consumer decisions (Cheek 1998).

Consumer behavior studies have often depended on the identification of the historic household with a particular archeological assemblage. However, in historic cities, households moved frequently, and it is difficult to tie a particular household named in a particular historic record to a particular assemblage. For this reason, some researchers have taken an aggregate approach to household analysis of consumer behavior (Cheek and Seifert 1994). This approach assumes that any one household, even if well documented, may not be representative of the social or economic group to which it is assigned by contemporaries or by historians and archeologists. Social historians often rely on aggregate data to discuss the behavior of particular groups on the assumption that an aggregate of similar households grouped on a valid basis, such as household type, economic group, social class, or type of neighborhood, provides a representative picture of the behavior (in this case, consumer choices) of a group of people. We examine consumer issues using a class perspective combined with an analysis of the type of neighborhood.

Anthropologists generally consider foodways to be functions of socioeconomic status and ethnicity. Faunal analysis can provide information on the relative cost of the meat cuts represented in refuse and provide comparative information on the purchasing habits of the occupants. The foodways, as examined through both the faunal and the ceramic and glass assemblages, may also reflect regional food habits (Cheek 1998). We will also examine food-related artifacts to determine how gentility developed and the importance of entertaining (Carson 1990) in early New York.

2.1.6 Development of the Middle Class

The middle class is an important group in American society, but its development in early American cities has not been well studied. Throughout the nineteenth century, behavior patterns developed that characterized the middle class, some of which may be represented in material culture. Archeologists and historians have examined some of these behaviors as separate subjects during the last decade, but they may be more profitably studied together in tracking the spread of middle-class behavior throughout America. The American middle class developed within the context of capitalism, which requires people to act efficiently and to make a profit. Middle-class values and behaviors contribute to success in a capitalist system. The social environment in cities where capitalism developed rapidly, such as New York City, stimulated the need to exhibit middle-class behaviors more than did areas where capitalism was less developed.

One aspect of this middle-class behavioral complex that has been examined archeologically is the "cult of domesticity." In this cult, men's and women's spheres of influence are separated, with the women relegated to the home (Wall 1994). One element of this pattern is the focus on family meals and an increase in number and form of ceramics used on the table. Our analysis examined whether the ceramic assemblage predicted by the "cult of domesticity" was used in the early nineteenth century in working- and middle-class homes.

Another part of this behavioral complex is the development of personal discipline (Shackel 1993). Several scholars have pointed out that individual work habits had to change for capitalism and, later, industrialism to succeed and that there was resistance to these new work habits and behavior patterns. Middle-class folks exhibited such behavior patterns and became successful within the new economic system in nineteenth-century America. We can measure the spread of these values of work and personal discipline by identifying objects that were used to signal an individual's membership in the middle class, such as sets of dishes; items for personal cleanliness, such as toothbrushes; and items for personal grooming, such as mirrors and combs (Shackel 1993). Items used for writing are also significant since education and writing skills were important ways to achieve and keep a position in the middle class (Cheek 1997b).

Several of the behaviors associated with the middle class have also been discussed under the topic of gentility (Bushman 1992). These behaviors are generally associated with acquiring middle- and upper-class behavior patterns.

2.2 Methods

2.2.1 Documentary Research

The project team conducted documentary research on the physical development and use of the property during the time it was used as the African Burial Ground as well as when it was turned into residential and commercial properties. Additionally, background research addressed the ownership history during the early period of use and the ownership and occupation history of the specific lots in the project area after it became primarily residential. The team also researched the composition of the neighborhood around the project area, the general historic context of the periods involved, and the legal basis for changing land use.

Primary and secondary source materials were accessed at the following repositories, libraries, and archives: the New York Historical Society; the New York City Municipal Archives; the New York Genealogical and Biographical Society; the New York City Landmarks Preservation Commission; the Schomburg Center for Research in Black Culture of the New York Public Library, as well as the library's main branch at 5th Avenue and 42nd Street; the Office of the Manhattan Borough President; the New Jersey Historical Society in Newark; the Historical Society of Pennsylvania in Philadelphia; the Northeast Regional Office of the National Archives in New York City; and the Geography and Map Division of the Library of Congress in Washington, D.C., as well as the Prints and Photographs Division of that institution.

Information about ownership and occupation during the post-burial-ground period was extracted from deeds, wills, tax records, city directories, and census records. Additional details on this task are found in Section 3.5.2.

To fully research the changes in use of the African Burial Ground site from a place of sepulture to living space, the legal concepts of the ownership and use of real property as it affected the African Burial Ground were addressed. Our team researched the common law that guided the legal authorities of both the Dutch and English colonial authorities, the New York State statutes (those in force and those that had been superseded or otherwise abrogated or annulled), and published court decisions deemed pertinent to the use of the site over the historical period being studied. These were researched at the Theodore F. Jenkins Law Library of the Philadelphia Bar Association; the New Jersey State Law Library in Trenton; the Henry F. Ackerson, Jr. Law Library of Rutgers University School of Law-Newark, N.J., Campus; and the Law Library of the New York City Law Department.

2.2.2 Field Methods

2.2.2.1 Phase IA

The initial investigation of the project area was through documentary research conducted as part of the larger Foley Square project (Ingle et al. 1989). Historical research and boring evidence found deep basements and disturbance in all parts of the project area except in Republican Alley and in some of the lots in the eastern portion of the Duane Street side (Ingle et al. 1989:128). Thus, the initial area thought to contain preserved archeological resources included four lots on Duane Street and Republican Alley. These lots included 80 Duane Street (Lot 12), 62-64 Duane Street (Lots 20-20½), and 60 Duane Street (Lot 21). The report also concluded that the "Negros Burial Ground" noted on historic maps would have been preserved only in the alley.

2.2.2.2 Phase IB/II

Heritage Conservation and Interpretation undertook various testing procedures to verify the presence or absence of preserved cultural remains in the project area. These included borings and backhoe trenches as well as some test units. These activities took place at various times during the project and occasionally overlapped with the next phase of work, the data recovery.

Borings

The initial testing implemented by Heritage Conservation and Interpretation included soil borings to verify the likelihood of preserved cultural remains in the alley and on the lots without documented deep basements (Condell and Rutsch 1991). Six borings were made and combined with evidence from two borings for asbestos testing (Rutsch and Staff 1992).

Borings 1 and 2 in the western portion of Republican Alley revealed that this portion of the alley had been disturbed but to different depths. In boring 1, disturbance occurred to 20 feet, and in boring 2, only to 16 feet. Discrete strata were found under the disturbance in boring 2. Boring 3 in Lot 20 and the asbestos test in Lot 12 (AS02) also showed a limited depth of disturbance. The depth of disturbance in the other borings was greater than 20 feet. Disturbance below 20 feet was interpreted as below the original level of historic deposits (Rutsch and Staff 1992:3–5, Figure 2). Thus, burials from the "Negros Burial Ground" noted on the historic maps might be preserved in the alley, and remains of the nineteenth-century Duane Street occupation might be preserved in Lots 12, 20, 20½, and 21.

Testing in Lot 12 and Republican Alley

The initial excavation was in May of 1991. In the western portion of Republican Alley, the purpose was to look for evidence of the African Burial Ground. In Lot 12, the purpose was to find evidence of European-American post-Revolution domestic occupation. Choosing specific areas to be tested was controlled by safety issues, since excavation adjacent to existing building foundations could have led to their collapse.

In Lot 12, destruction debris was cleared from the concrete floor and walls of the cellar of a demolished five-story brick building at 80 Duane Street, constructed in 1920 (Ingle et al. 1989:101). Twentieth-century structural remains consisting of a concrete cellar floor approximately 10 feet below grade, an elevator shaft, and a coal chute were uncovered. On May 23, the concrete floor was broken and removed. A trench excavated beneath the concrete floor revealed nineteenth-century features and evidence interpreted as a midden with artifacts from the turn of the nineteenth century. On May 28, human cranial fragments were recovered during testing in Republican Alley at 14.5 feet below grade. These discoveries led to the authorization of data recovery in Lot 12 and continued work in Republican Alley. Heritage Conservation and Interpretation targeted a 22-by-10-foot area in Republican Alley behind Lot 12 that was thought to contain undisturbed burial remains for further investigation (Rutsch and Staff 1992:9–11; Field Book [FB] 1991–1992[1]:28 May 1991).

Phase II testing of Lot 12 included recording the exposed features and excavation of Features 1 and 2 during the second to the fourth weeks of June. Feature 1 was a brick feature close to the middle of the lot that was later identified as a nineteenth-century coal chute (FB2:9 Sept. 1991). Feature 6, an earlier brick wall and floor that may have been related to the coal chute, was also exposed. The excavations revealed strata under these features that included a ground surface dating to the late eighteenth and early nineteenth centuries and a feature dating to the eighteenth century. Archeological fieldwork ceased until the site could be prepared for safe data recovery excavations. This included sheeting and shoring, demolition of adjacent walls, and removal of demolition debris. The final portion of the 1920 concrete floor was removed at the beginning of August.

The final exploratory work was done during the last week of August, when four trenches, labeled A through D, were dug into the Lot 12 deposits to provide information that could guide data recovery.

In Republican Alley, a series of trenches was dug to expose profiles and identify undisturbed burials, and slopes were cut to make excavation safe. These procedures are discussed in the Howard University's report on the African Burial Ground. The alley work area was partially ready for exploration at the beginning of September. On September 3, Excavation Unit 3 was positioned to expose the historic ground surface, and Burial 1 was discovered on September 6. Burials and grave outlines were discovered throughout September, prompting the construction of a protective roof over the burial area and the assignment of major resources to this portion of the site in late September.

Lot 21

Phase I/II investigations in this lot found features and artifacts, including kiln furniture, from 1 to 3 feet below the existing building basement (FB2:14–16 Aug. 1991). Removal of demolition debris from the Lot 21 basement was monitored on August 14 and 15, and three backhoe trenches were dug in this area on August 16, 1991. Fieldwork was permanently terminated in this area at the end of the day due to safety concerns. The trenches, designated A to C from north to south, extended from the mid-line of the lot to the west foundation wall.

Trenches (Tr.) A and C uncovered a massive stone wall, Feature (F) 7, running north–south that bordered the west side of Lot 21; in Tr. C, this wall was designated F10. The footings of the wall were from 1.5 to 2 feet below the floor of the superimposed building. To the west was a remnant brick surface (F8) that had been disturbed by a pipe trench.

Tr. B found a north–south alignment of flagstone approximately one foot below the basement floor roughly in line with F7 and designated F9. A few artifacts were collected. The stone wall may have extended under the flagstone, but fieldwork in this area was terminated before this possibility could be explored further. At three feet below the floor, a layer of crumbling plaster also was observed. No additional work was conducted in this area due to safety reasons, and the exact elevation and location of these features is unknown. However, it seems likely that the stone wall is the western boundary of Lot 21.

Lots 20 and 20½

Testing in these lots found a historic ground surface with artifacts dating to the middle of the eighteenth century. Initial testing of Lots 20-20½ in the northeast portion of the project area took place in October 1991. This area was covered with demolition debris, and three exploratory trenches were excavated to look for a historic ground surface. The trenches were excavated to depths of 29 to 32 feet below datum A. The excavations 25 to 28 feet below datum A found primarily demolition debris and various fills. The upper part of the fill was tan clay with some brick in its upper 0.5 foot with red sand below. The fills rested on a deposit of dark-blue clayey silt beneath which was glacially deposited subsoil. Historic artifacts were associated with the dark-gray to blue-gray clayey silt that was identified as a historic ground surface (Boesch 1992:1). Data recovery excavations took place in a 20-by-50-foot area in the center of the lots; this area is referred to herein as the Northeast (NE) Area.

2.2.2.3 Phase III

It became clear as excavation proceeded that the majority of the site area east of Lot 12 had been used as both a burial ground and as a dump for industrial waste prior to residential and commercial occupation in the late eighteenth and early nineteenth centuries. Much of the project area, especially during the winter of 1991–1992, was excavated under a series of temporary protective structures. Each area under a structure received arbitrary letter designations. Since these did not correspond to lot boundaries or to areas of non-mortuary remains, they are replaced by other area names.

We divided the site into four areas defined by their location and the way they were organized for excavation (Figure 4). These are Lot 12, the Mid-Block (MID) Area, the Northeast (NE) Area, and the Southeast (SE) Area. Lot 12 refers to that specific lot. The MID Area includes all the non-burial features on Lots 14 through 17. The NE Area includes a block of ten excavation units in the center of Lots 20, 20½ and 21. The SE Area includes a block of 26 units on the alley side of Lots 20 and 20½, as well as five units separated from the main block of units, divided between two areas in Lot 22. Within both the MID and SE Areas, some data came from Republican Alley adjacent to the rear line of the lots. If the data are related to the European-American use and development of the lot, they are included in this report.

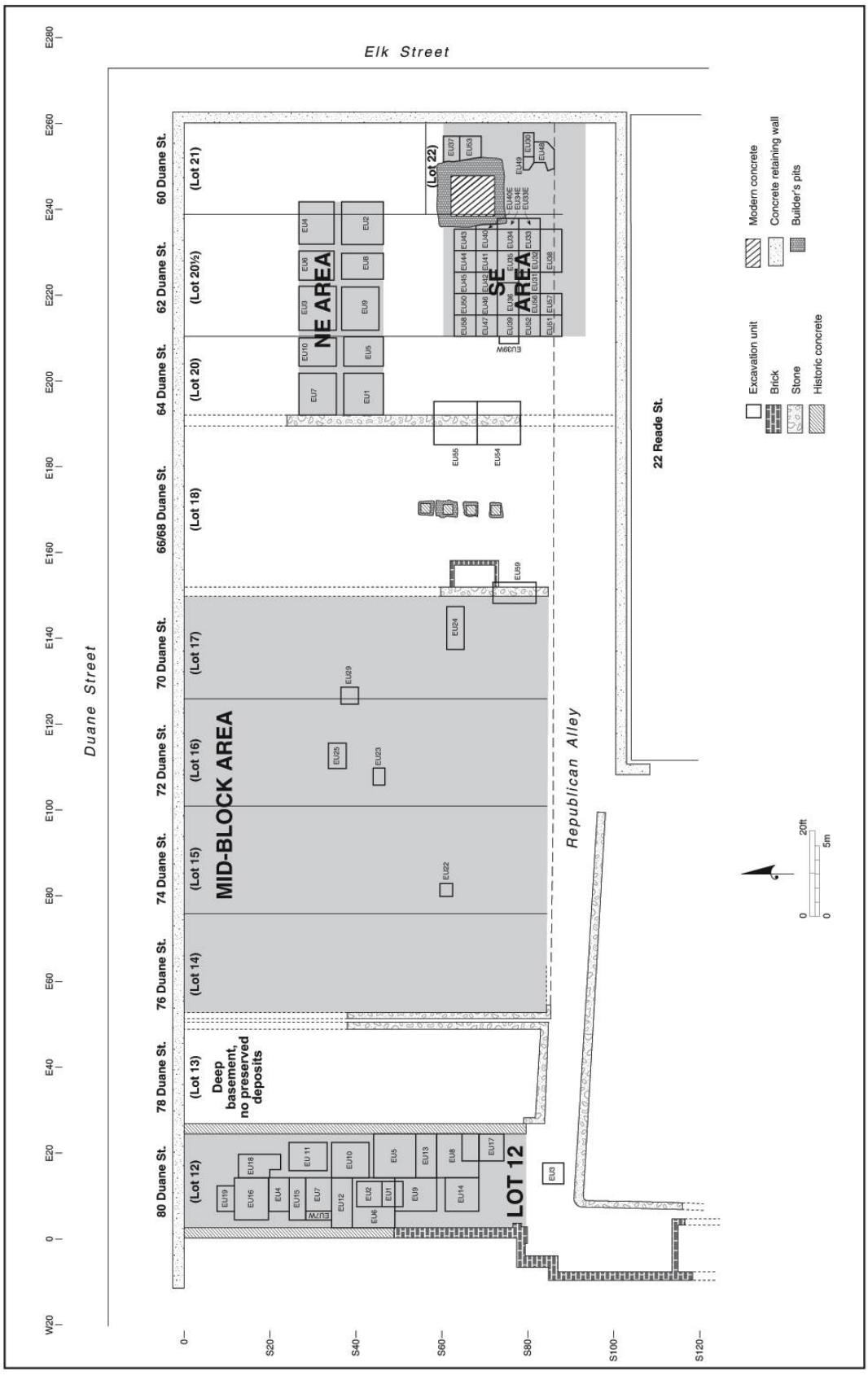

Figure 4. Project-area map showing excavation locations and areas.

Except for Lot 12 and the NE Area, all of the MID and SE Areas were cleared by heavy equipment to the approximate transition between the A horizon, the eighteenth-century historic ground surface, and the B horizon, where grave outlines would be exposed. Excavations defined a series of eighteenth- and nineteenth-century features related to European-American use of the African Burial Ground.

Excavations of features and units generally followed a set of consistent methods, although variations occurred among and within the areas depending on field conditions and goals. Sixty-nine excavation units (EUs) of varying dimensions were excavated in five areas: Republican Alley, Lot 12, the MID Area (specifically Lots 15–17), the NE Area, and the SE Area. In Republican Alley, only one unit (EU3) was excavated before clearing for grave excavation was begun. In Lot 12, the units were generally 10 by 10 feet, but were adjusted according to the resources. In the MID Area, the units were located specifically to explore individual features and to control the area excavated. In the NE Area, a block of ten units was excavated, usually 10 by 10 feet. In the SE Area, a large block of units (25) was excavated, each unit generally 5 by 5 feet with some larger or smaller depending on the resources. A few other units (5) were excavated away from the block excavation in the SE Area to investigate specific resources. Balks of varying widths were left after excavation of units in Lot 12 and the NE Area.

Vertical control at the site was by reference to the site datum (Datum A) that initially was assigned an elevation of 27.5 feet above mean sea level. However, a later survey of the point by a different professional surveying team assigned an elevation of 31.04 feet above the Manhattan datum (FB1:23 Oct. 1991). As there is no way to be sure which is correct at this time, all elevations in the data sections of the report are given in feet below Datum A. It seems likely, however, that the 31.04 elevation for the datum is correct. If the 27.5 elevation is correct, many of the features are below sea level or penetrate below sea level. Although this is possible, it seems unlikely. Temporary datum points were arbitrarily established near each excavation unit, often at one corner of the unit or on the adjacent foundation wall, especially in Lot 12. All vertical measurements were taken from hand-held, leveled lines, attached to the temporary datum points. The elevations of all the temporary datums were later surveyed and related to Datum A (Howard University and John Milner Associates 1992:78).

During the initial phases of site excavation, each lot had its own grid system. As the project progressed, the grid for Lot 12 was expanded over the entire site and is the one used herein.

Excavation was by cultural strata or by arbitrary levels within cultural strata. Stratigraphic designations consisted of a roman numeral given to each defined stratum within an excavation unit. Subdivisions of a stratum were called levels and numbered consecutively within a stratum, e.g., I-1, I-2, I-3. Each distinct field provenience, most often a stratum or level but including graves, walls, spot finds, and other appropriate locations, received a unique catalog number in the field. The sequence at the Broadway block began with 00001 and ran to 02214. Not all numbers were used.

Information on each provenience was recorded on a field provenience sheet, which provided spaces for locational information, description and extent of the stratum, relationships to other strata, material sampled, associated records (such as plan, profile, and photo), comments, and a sketch. The datum point was recorded on the form, and the elevations were recorded in either the place for opening and closing depths or on the sketch maps.

Excavation usually proceeded across an entire unit at one time, with artifacts from exposed strata being bagged separately. Therefore, whole strata were often not removed at once, but were divided into levels. Levels were also used when it was uncertain if a soil distinction should be defined as a new stratum or included in the current one. In most cases, the soil removed from the excavation units was screened through ¼-inch mesh. Based on comments in field notes, some strata considered overburden were not screened or only a sample was screened. While most B horizon (subsoil) deposits were screened when excavated, in some, only a sample was screened, especially if the artifact density was light (Boesch 1992:2). Bulk soil samples for flotation were also collected, usually from strata interpreted in the field as primary deposits.

All cultural material retained in the field was placed in labeled paper and plastic bags and transported to the project's storage space or laboratory. Bag labels included provenience information, as recorded in the project catalog (Howard University and John Milner Associates 1992:78–79).

Plan maps and profiles were drawn; each was assigned a drawing number, and a list of drawings was kept. Profiles were often drawn of each wall of a unit. Profiles and plans of features were always drawn. Plans were drawn of excavation units when field supervisors thought there were features or other important information to record. Plans (to scale) and sketch plans (not to scale) with elevations were also drawn on most field forms as the strata were excavated. However, single-layer plans, i.e., plans of the extent of each layer or stratum separate from the other layers, were not drawn. As Harris has pointed out, this is the most flexible way of recording information on strata and the easiest to use in reconstructing the depositional events of the past (Harris 1979:73–80). Sketch maps and plans included whichever strata appeared at the time the plan was drawn. Although single plan maps and complete excavation of each stratum would have made the interpretation of the field notes somewhat easier, the field notes and the manner of excavating did enable reconstruction of cross sections in areas where profiles could not be drawn.

In Lot 12, field personnel generally did not record the location or extent of balks and only rarely put grid coordinates on profiles or plans. These two omissions created considerable uncertainty in the stratigraphic analysis of Lot 12. However, grid points were placed on plans in the other areas. Photographic documentation of fieldwork included both 35-mm black-and-white-print and color-slide film. All formal photographic records of archeological deposits and features included a scale and a north arrow.

Feature numbers started to be assigned from the number 1 by lot. Thus, features in the Phase I testing of Lot 21 and the excavations in Lot 12 and NE Area (Lots 20-20½) each began with Feature 1. Non-grave features in the initial excavations in Republican Alley also began with Feature 1. (Burials were considered separately from other features and were numbered starting at 1 and the prefix *Burial*.) However, once it was realized the entire impact area was one site and data recovery started, feature numbers for the MID and SE Areas were numbered sequentially following the sequence begun on Lot 12.

To distinguish features with the same number from each other, the following convention was established during analysis. In Republican Alley, features had an *A* attached as a suffix (for example, 1A). In the NE Area, a *B* was the suffix (for example, 1B). The feature-number sequence beginning in Lot 12 and used in the MID and SE Areas used no suffix. In a few cases, specifically Features 16, 58, 77, and 140, lower-case letters were added to the feature number to designate superimposed features defined during analysis, e.g., 16 and 16a, 58a to 58d, 77a and 77b, and 140a and 140b. A number of additional feature numbers were added during analysis to designate features that were not so designated in the field but were recognizable from profiles or plans.

Southeast Area

This area was cleared mechanically to the transition between the A and B horizons. The definition of this transition was made difficult by the tens of thousands of ceramic wasters, kiln furniture, and kiln bricks found in the area. A block of 25 units was excavated; this work exposed grave shafts as well as pits and trenches filled with pottery kiln debris. Two other clusters of units, one of which exposed material of the late nineteenth century and the other material from the pre-Revolution period, were also excavated away from the main block of units (Figure 5).

Northeast Area

Data recovery excavation in this area started immediately after it was determined that a historic ground surface existed. Given the depth of the excavations, sloped berms were necessary for safety. The berms reduced the area available for excavation (Figure 6).

Figure 5. Cleaning interface between A and B horizons in the SE Area. View to the northeast.

Figure 6. Excavation of units in the NE Area. View to the west.

The purpose of the excavations was to recover data from the ground surface and to see if the burials extended into this portion of the impact area. This area would have been within the boundary of the African Burial Ground as predicted by the orientation of a trench that had already been identified in Lot 12 (Boesch 1992:2). The line of the trench, which may be a cemetery boundary feature, also approximately followed the historic boundary line as seen on historic maps.

The field team established a 20-by-50-foot excavation grid. Ten excavation units, 10 by 10 feet square, were laid out. Originally, they were designated by their northeast corner on a grid whose N0E0 corner was in the northeast corner of the grid (Boesch 1992:1). The site grid later superseded this grid. EU numbers running from 1 to 10 also designated individual units. These numbers and feature numbers, running from 1 to 9, duplicate those used on other sections of the site. Therefore, the feature numbers have been modified by attaching the extension *B* to differentiate them from the other areas of the site (for example, EU1B and Feature 5B).

Portions of all units were excavated, but excavation was not completed because of the need to build a construction access ramp across this area. Although feature outlines interpreted as grave shafts were found, these could not be confirmed (FB5:3 Nov. 1991). When excavations were halted, clean tan sand was placed over tarps on the units, plywood was placed over the sand, and a second layer of tan sand placed over the plywood (Boesch 1992:2). These units were never reopened.

MID Area

This area was cleared with machinery close to the transition from the A to the B horizon. Since much of the work was done in the winter, it was done under shelters that both protected the workers and the site (Figure 7). The bulldozed surface was shovel or trowel scraped to expose feature and grave outlines. Features were drawn in plan on the site grid and excavated using the methods discussed above. Stone walls were found at the boundary between Lots 18 and 20 and between Lots 20½ and 21.

Most of the European-American features were found in Lots 15 and 16 with fewer in Lots 14 and 17. Little time was available for work in Lot 18. The unexcavated Feature 174 in Lot 18 may have been another privy. Most of the features dated to the post-Revolution period.

Lot 12

Grid points were laid out on the top of both walls of the site at 10-foot intervals on June 3 in Phase II, which became the basis for the remainder of the site. The 0 east line lay on the west concrete wall of Lot 12. The field team excavated several areas of the lot simultaneously, and work was completed in mid-November 1991 (Figure 8).

2.2.3 Laboratory Methods

The methods used were the same as those used for the Five Points portion of the Foley Square project (see McGowan and LaRoche 2000). The analysts were essentially the same as well (see Volume IV). The minimum number of vessels was identified for all shaft features. Because of project constraints, the minimum number of vessels was not identified for the ceramics from Lot 12. Crossmending was done when it was obvious that sherds belonged to the same vessel, but crossmending was not systematic. While oyster and clamshells were not systematically collected and analyzed, exotic shells were.

The 290 Broadway project used the database developed for the Five Points site. The database includes a catalog of the artifacts, their attributes, and provenience data. It does not include data from the burials and the burial shafts, nor does it include faunal or floral data. The data from the African Burial Ground are in another database developed by the Howard University team. The Five Points database was initially in dBase III and then translated into InterBase. The entire catalog has been translated into MSAccess, a commonly used database, and accompanies this volume on CD. The floral data are in Appendix F, and the faunal database is included as a separate file and its codes and a printout of the data are found in Appendix G. The CD also contains a file showing the relationships among the tables in the 290 Broadway database.

Figure 7. Excavation of a portion of the MID Area under shelters. View to the west.

Figure 8. Excavation of Lot 12. Shelter in rear is over the portion of Lot 12 with burial shafts. View to the south.

Since more data fields than could be effectively printed were recorded, the printed catalog in Volume IV presents only diagnostic attributes of the data.

The artifacts were classified into eight basic groups using the system developed for the Five Points site. They are architecture, kitchen, household, industrial, military, sanitary, manufactured, and unidentifiable. This is a different classification system than that developed by South (1977) and modified by Garrow (1982); thus, these cannot be compared easily to those sites in the Middle Atlantic that have used the South-Garrow system. They can, however, be compared directly to the Five Points collection. Only the architecture, kitchen, and military groups are essentially identical to those used in the South-Garrow system. Neither includes animal bones or shells in the kitchen classification, so they are analyzed separately. The household group includes artifacts often called clothing or personal, as well as other items used in houses but not included in architecture or kitchen such as ink bottles, lighting glass and fixtures, buttons and other clothing-related items, flower pots, gaming pieces, toys, and eyeglasses. Sanitary is restricted to hygienic activities including cosmetics and medicinal-related artifacts, such as chamber pots, cosmetic containers, toothbrushes, and medicinal vials and bottles. The industrial group includes items used in activities that take place outside the household. Most of these are similar to those included in South's activity group, such as horseshoes, kiln furniture, and bone button blanks. The manufactured group includes man-made items whose function does not pertain to any other group or whose function is uncertain from its context, such as pieces of galvanized steel, wire, Styrofoam, mica, and asphalt. The unidentifiable group includes items whose function or object type is unknown.

Class categories were defined by material type. These included ceramic, glass, metal, stone, rubber, biological, composite, and plastic. Function codes included tablewares, serving pieces, teawares, food preparation, food storage, hygiene, medicinal, cosmetic, personal, activities, furniture, and general. The general function was often used with the unidentifiable group code.

Conservation procedures also followed those used for the Five Points portion of the Foley Square project. The discussion of the conservation procedures and results appears in Volume IV of this report. The conservation catalog is also in that volume.

2.2.4 Analysis Conventions

The site was divided into five areas that were separated physically from each other. These included Lot 12, MID Area, NE Area, and SE Area. The fifth area, Republican Alley, had no post-burial ground features or recognizable activities other than graves and was not included in the analysis of the 290 Broadway component of the African Burial Ground site. In the database, the areas were recorded in the sub-phase field.

The analysis identified features, fill deposits, and surfaces. Features generally contain things: a pit contains its fill (made of sediment and artifacts) while a stone wall contains the stones and mortar and any inclusions in the mortar. Fill deposits are deposits that were used to fill basements or raise the overall level of each lot to the level of the street. A surface was the original surface of the ground that received artifacts or a yard surface that developed on top of and in the original ground surface. Surfaces were particularly important because the artifacts in the sediments seemed to be stratified in Lot 12, even though precise, extensive layers could not be separated.

The primary unit of analysis is the analytical unit, abbreviated AU. The research team designated a deposit of artifacts (whether in a feature, fill, or surface) that analysis suggested had been deposited at one time as an *analytical unit*. These were typically groups of collection units (strata and levels) that were meaningful. Within features, the artifacts from the different strata were compared to see if they crossmended. Since the site was occupied for a brief time (probably ten years give or take two or three years), most of the features appear to have been mostly deposited at one time even though they were composed of various strata.

Ground surfaces and fill deposits were given AU numbers over 500 (AU518 to 521 for ground surfaces and AU515 for historic fill). Other kinds of deposits also received AU designations in the 500s. These included disturbances (AU509), cleaning after the ground surface was bulldozed to reveal burials (AU510), and cleanup of features and excavation units when the artifacts could not be assigned to a specific stratum or were recorded as individual finds without provenience (AU511).

The contents of features were given analytical unit numbers that matched the number of the feature. This was done to make it easier to know the provenience of a particular group of artifacts. Conceptually, a feature and its contents are separate entities, which could have been constructed at one time and filled at another time. However, for simplicity, they are referred to as analytical units as if they were one entity. Thus, feature 34 and its contents are referred to as AU34.

3.0 HISTORICAL CONTEXT

by Robert K. Fitts and Charles D. Cheek

3.1 Block 154 Prior to its Development: 1636–1789

Prior to the nineteenth century, the project area was located just southwest of the Collect Pond, well north of the densely settled town at the tip of Manhattan. The dividing line between two of Manhattan's early land grants ran through Block 154. The southern portion of the future block was part of the Van Borsum patent while the northern portion was granted to Jan Jansen Damen. Despite its proximity to the low-lying Collect, the project area itself was hilly, as documented in the 1757 Holland (Holland 1859), the 1767 Ratzer (Ratzer 1769), and the 1813 Grim (depicting 1742) maps, which all show rises in the western and southeastern sections of the project vicinity. By the 1730s, Broadway was extended from the town, past Block 154, to the Rutgers Farm. The town gradually crept northward, and by 1742, a palisade was erected just south of the block, on the edge of the heights, to defend the city's northern limits. Within a decade, however, the city spilled over the palisade on the eastern side of the island. Despite this expansion, the area around Block 154 was not developed for residential use until the last decade of the 1790s (Lyne 1731; Maerschalck 1755; Montresor 1767; Ratzer 1776; Grim 1813; Buchnerd 1997).

3.2 The Van Borsum Patent

The southern portion of Block 154 was part of a parcel originally granted in 1673 from Governor Anthony Colve to Cornelius Van Borsum in return for services as an Indian interpreter provided by Cornelius's wife, Sarah Roeloff (Table 1) (Stokes 1915–1928[1]:123). The conveyance transferred "a certain small parcel of land situate on the Island of Manhattan about north-west from the Windmill, beginning from the north end of the road which runs toward the Kalckhoek, broad in front on the road or west side, 24 rods; in the rear on the east side, the like 24 rods; long on each side as well along the Kalckhoek as on the south side, 44 rods each" (Stokes 1915–1928[1]:123). This parcel extended from roughly present-day Chambers Street on the south, to the middle of Block 154 on the north, to present-day Broadway on the west, and to Centre Street on the east (Figure 9). Until 1673, the parcel had been part of the town's common lands (Ingle et al. 1989:68). At Sarah Roeloff's death in 1693, her eight children inherited the parcel. As the property was not developed, it was not subdivided, but held in trust by Sarah's son Lucas Kiersted, Jr., and her sons-in-law Johannis Kip and William Teller (Ingle et al. 1989:68). In 1696, a deed from Governor Benjamin Fletcher confirmed this arrangement (Stokes 1915–1928[1]:123).

From the time of the grant to the mid-eighteenth century, the parcel seems to have continued to be used as common lands. Throughout most of the eighteenth century, and perhaps earlier, the northern section of the property was used as a burial ground for the city's African-American population. The burial ground on the 1735 map of the city (Buchnerd 1997:61) was probably established earlier (see Chapter 5 for more details on the African Burial Ground).

Although the parcel still had not been partitioned, several of Sarah Roeloff Van Borsum's heirs began to lay claim and utilize the land in the mid-eighteenth century. The first of these was Abraham Van Vleck. He occupied the southeast corner of the parcel (Figure 10: A), the area that came to be called Pot Baker's Hill, and built a kiln at least by 1730 (Appendix B-2, Barto 1992a:5, 21). In 1760, New York City formally rented this parcel to the Van Vlecks (Appendix B-2, Barto 1992a:6). The Crolius family ran the pottery and eventually took legal possession of the land in the early nineteenth century.

Between 1755 and 1767, five dwellings were built south of the project area along Broadway within the Van Borsum patent (Figure 10:H, I). In Smith v. Burtis, a case before the New York Supreme Court in 1812 to establish ownership of the tract, "Michael Ortley…testified, that the house occupied by Isaac Teller, before the war, stood on the ground now in possession of the defendants; that during the war, the house was pulled down by the British troops; and the ground on which it stood remained vacant, after the war, and until 1791" (Appendix B-4, Barto 1992c:2). John Leonard added, "before the war, Teller had three houses on

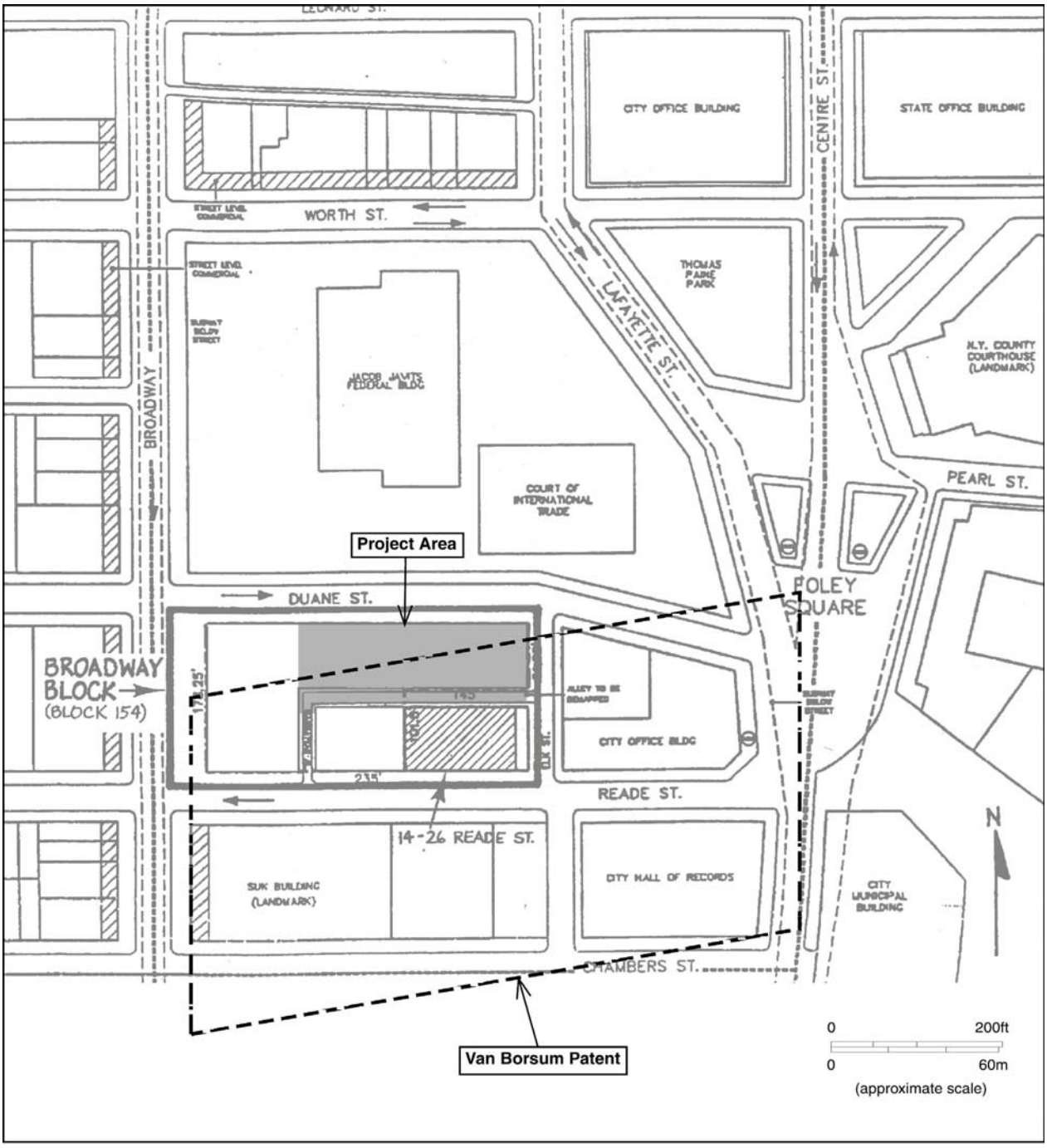

Figure 9. Van Borsum patent superimposed on modern street grid (after Appendix B-4, Barto 1992c).

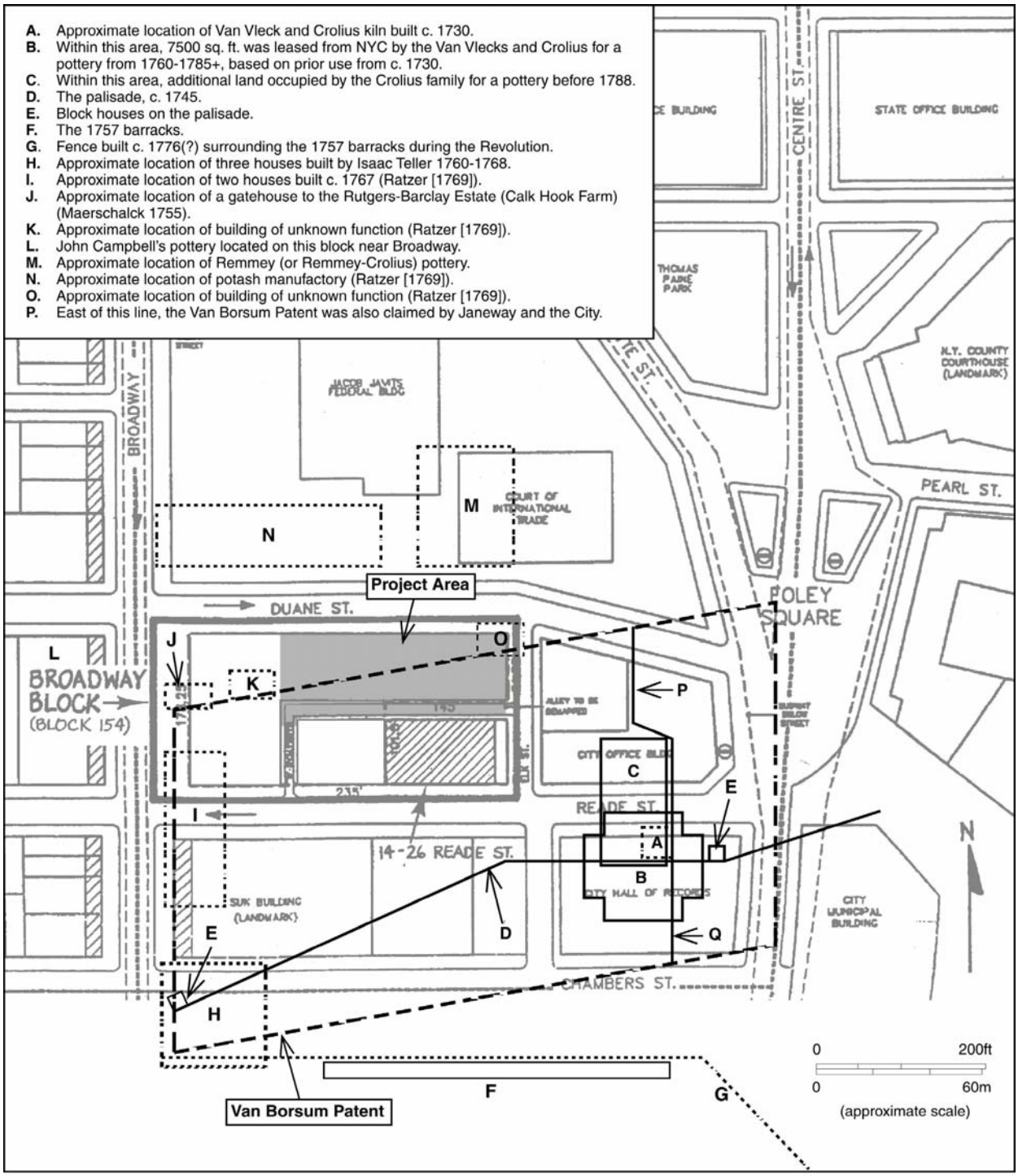

Figure 10. Location of buildings depicted on eighteenth-century maps in and adjacent to the Van Borsum patent (after Appendix B-4, Barto 1992c).

the premises: the middle house was of brick, the other two of wood. The brick house stood opposite a house since occupied by Mr. Brewerton.…On the north of the houses of Teller, on Broadway, was a house, before the late war, called the Ackerman house, and to the north of which was another, called the Kip house" (Appendix B-4, Barto 1992c:2). These structures appear on the 1767 Ratzer map of New York City. The three Teller houses are on the east side of Broadway between Warren and Chambers Streets (Figure 10:H), while the Ackerman and Kip houses are on the east side of Broadway between Chambers and Reade Streets (Figure 10:I; Ratzer [1769]; Appendix B-4, Barto 1992c:2). As these structures do not appear on Mrs. Buchnerd's plan (1735), the Grim map depicting 1742 (1813), or the Maerschalck plan (1755), they probably were constructed between 1755 and 1767. The 1767 Montresor plan is incomplete; therefore, their absence from this map cannot be interpreted as evidence that they were built after 1766, the date the map depicts (Cohen and Augustyn 1997:70).

During the 1750s and 1760s, the Tellers aggressively tried to secure ownership of the patent. For example, in 1753, John Teller petitioned the city's Common Council to grant him new property in exchange for the property used as the "Negro burying ground" (Valentine 1856:428). As Teller did not hold an uncontested title to the burial ground, his petition was not granted (Ingle et al. 1989:78). The following decade, Teller apparently built "a fence enclosing the burying-ground and claimed it as his property…and took payment for the use of the ground" (Stokes 1915–1928[4]:394; Ingle et al. 1989:79). The Tellers' tactics, however, were unsuccessful. In 1784, Henry Kip successfully petitioned the Common Council for a committee to be appointed for laying out streets near the Collect Pond (Valentine 1856:433). On January 6, 1795, the Kip family partitioned the southern portion of Block 154 and began selling the lots (New York City Land Evidence, Libers 55:211, 65:441). Not to be denied their share, members of the Teller family challenged the Kip family's title to the Van Borsum patent in court. In 1811, the New York State Supreme Court finally decided that the Teller family was entitled to a 6/8 share of the patent (Appendix B-1, Barto 1991). The following year, Henry R. Teller started to collect on his inheritance by selling quitclaims to the owners of the lots within the Van Borsum patent.

Table 1. Owners of the Van Borsum Patent

Name	Begin Date	End Date	Comments
Cornelius Van Borsum and Sarah Roeloff	1673	1693	Actually granted to wife Sarah Roeloff
Estate of Sarah Roeloff	1693	1795	Title disputed by Kiersted, Kip, and Teller
Partitioned	1795		

Source: Stokes 1915–1928[1]:123

3.3 The Damen Patent

The northern half on Block 154 was part of the 1646 grant from the Dutch East India Company to Jan Jansen Damen (Table 2). Known as the Kalckhoek, or Calk Hook farm, this parcel stretched from the Collect Pond on the east to the location of present Church Street on the west, and from Block 154 in the south to Canal Street in the north. At the time of the grant, Damen had been using the parcel for roughly ten years (Stokes 1915–1928[1]:82). Damen died around 1651, and the parcel went to his wife Ariantje Curilyie Vigne. After Ariantje's death in 1655, her heirs disputed the parcel's ownership. A settlement was reached in 1671 after the death of Ariantje's daughter Maria Vigne Roos Verplanck. The parcel, which had already been split into four roughly equal parts, was conveyed to heirs Jan Vigne, Augustine Heermans, Isaac Bedlow, and Abram Isaac Verplanck (New York City Land Evidence, Liber 25:114–117; Stokes 1915–1928[1]:82). Lot 2, the southeast portion of the parcel, which included the northern half of Block 154, was conveyed to Jan Vigne (New York City Land Evidence, Liber 25:114; Stokes 1915–1928[1]:82).

Vigne died in 1689 leaving no children, and the property was left to Gerrit Roos (Appendix B-1, Barto 1991). In 1704, Roos died and his son Peter assumed control of the parcel. He, in turn, sold it to Jacques Fountain in 1708. Fountain quickly conveyed the property to his father-in-law Wolfert Webber (Stokes 1915–1928[1]:83). Between 1723 and 1725, Anthony Rutgers acquired three of the four parcels (including Lot 2)

from the original Calk Hook farm (New York City Land Evidence, Liber 31:115, 31:121; Stokes 1915–1928[1]:83). He built a mansion, known as Ranelagh, on Lot 1 between 1723 and 1730, and in 1733 acquired the Collect Pond and approximately 70 acres surrounding the original Calk Hook property.

Evidence from eighteenth-century maps suggests that Rutgers began to rent out part of the estate to pottery manufacturers soon after he acquired the property. The Carwitham *Plan of the City of New York* (1740) (Cohen and Augustyn 1997:58) showing New York City around 1730 depicts a structure labeled "Potters" in the vicinity of the project area. Grim's 1813 map (Figure 11) depicting New York City in 1742 shows "Crolius' Pottery" just southeast of the project area and another complex, identified on another version of Grim's map as the Crolius-Remmey Pottery (Ketchum 1987:41), north of the project area. Likewise, the 1755 Maerschalck Plan (Figure 12) depicts both of these structures and labels each "Pot Baker." Holland's 1757 map (Figure 13) labels only one of these (the one thought to be Remmey's pottery) as "Pot Bakers." It is not clear if the building at the foot of the hill or adjacent to the palisade is the location of the Crolius pottery, although the one on the higher elevation seems more likely.

The 1767 Ratzer plan shows buildings in the same locations assigned to the two potteries; however, it also depicts a structure immediately north of, and possibly on, the Van Borsum patent boundary (Figure 14: Building O; see also Figure 10). As the exact location of this boundary is unknown, this structure could either be on the northeast corner of Block 154, on what would later become Lot 21, or just to the east of the project area. Although this building could be associated with the Remmey pottery works, which operated just to its north, the exact function of the structure is unknown. Different aspects of the history of these potteries and the potting families are discussed in Sections 4.2 and 6.1.2 of this report. The Ratzer plan (Figure 14) also shows a potash manufactory west of the Remmey pottery. This building seems to be outside the project area.

The 1776 version of the Holland map (Figure 15) is similar to the Ratzer map (Figure 14) in showing a complex of buildings in the location Ratzer labels as a potash manufacture. The Holland map also has a representation of a building or lot development on the northeast corner of Block 154 that corresponds to the fenced (?) lot on Figure 14 (the Ratzer map) labeled as Building O. This structure and lot, however, does not appear on the 1782 Hills plan (Hills 1785), suggesting that at this time it may have been abandoned.

Upon his death in 1746, Anthony Rutgers divided the Calk Hook farm among his three daughters: Elsje (who married Leonard Lispenard), Mary (who married Henry Barclay), and Aletta (who married Dirck Lefferts). This division went into effect at the death of Anthony Rutgers's wife Cornelia in 1760. Lot 2, which still contained the northern part of Block 154, was allotted to Henry and Mary Barclay. Henry, the Rector of Trinity Church, died in 1764 and left his share in the Calk Hook farm to be divided among his children (New York City Land Evidence, Liber 45:198–202). In 1787, Henry's son Anthony Barclay acquired from family members the right to Lots 7 through 21 on Block 154, among others, for 5,465 pounds (New York City Land Evidence, Liber 45:198). E. Bancker had prepared a series of maps of this area in the 1780s (Appendix B-4, Barto 1992c) (for example, Ingle et al. 1989: Figure 13). Beginning in 1788, Anthony Barclay began to sell off the lots on Block 154 (New York City Land Evidence, Libers 46:42, 48:95).

Table 2. Owners of the Northern Portion of Block 154 before 1790

Name	Begin Date	End Date	Comments
Jan Jansen Damen	c. 1636	c. 1651	
Ariantje Vigne Damen	c. 1651	c. 1671	Includes Estate of Ariantje Damen
Jan Vigne	c. 1671	1689	
Gerrit Roos	1689	1697	
Peter Roos	1697	1708	
Jacques Fountain	1708	Unk[1]	
Wolfert Webber	Unk	1723–30	Probably acquired property 1708–1712
Anthony Rutgers Sr.	1723–30	1746	
Henry Barclay	1746	1787	Includes Estate of Henry Barclay
Anthony Barclay	1787		Lots 7–21

[1] Unk = unknown
Sources: Stokes 1915–1928[1]:82; New York City Land Evidence Libers 25:114–117, 31:115, 121, 45:198–202

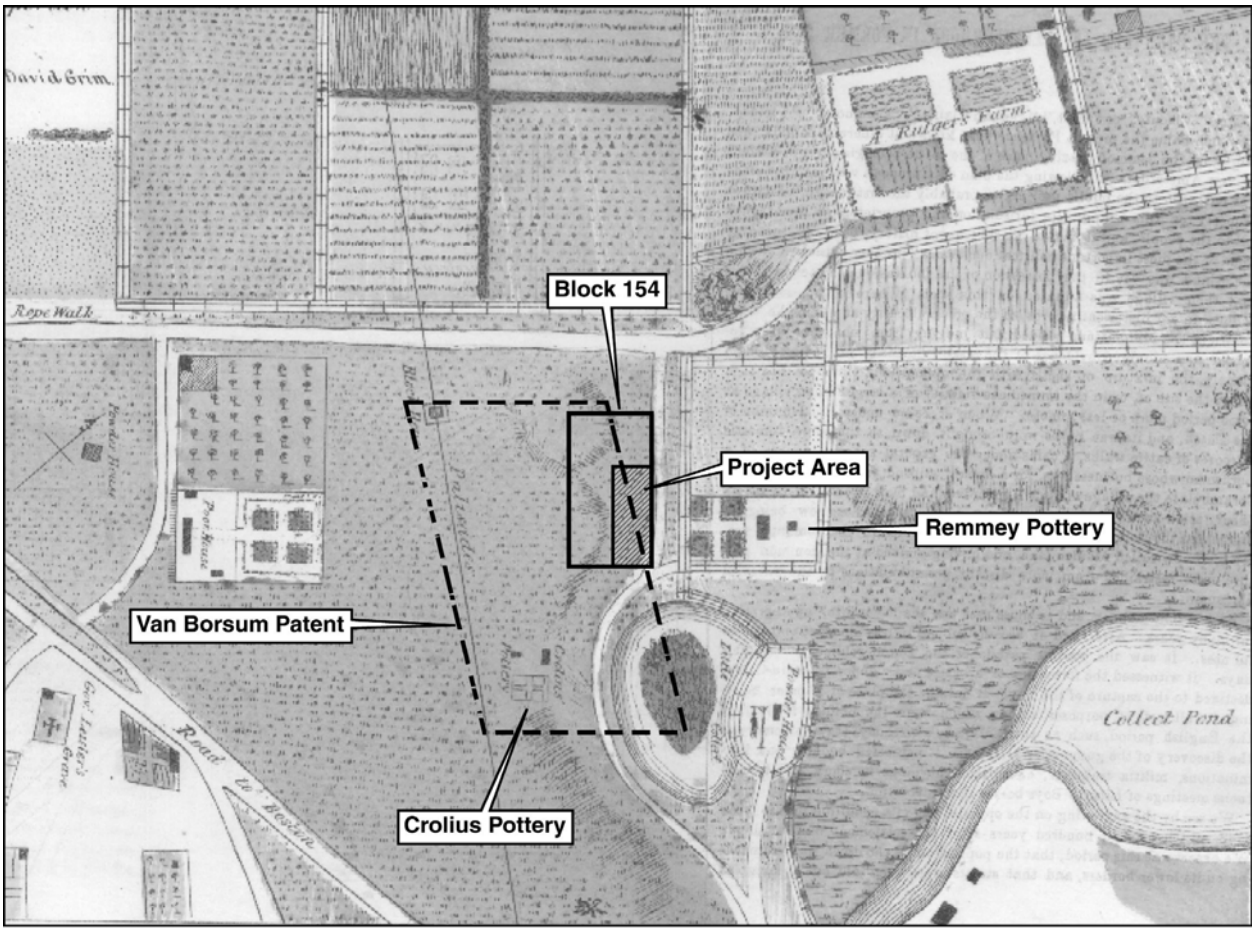

Figure 11. Detail of A Plan of the City and Environs of New York: as they were in the years 1742, 1743, & 1744 *showing location of the project area and potteries (Grim 1813).*

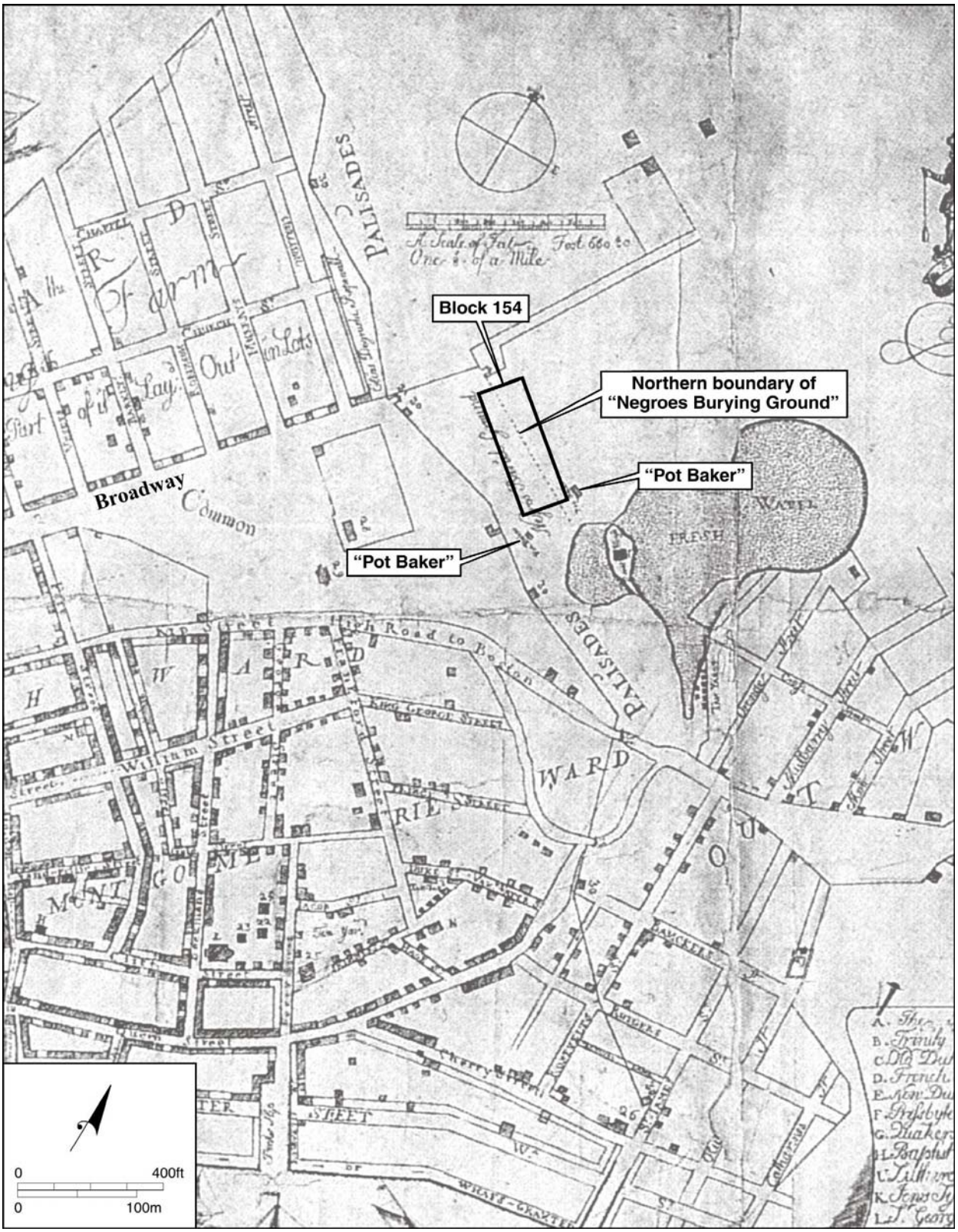

Figure 12. Detail of A Plan of the City of New York from an Actual Survey *showing the project area (Maerschalck 1755).*

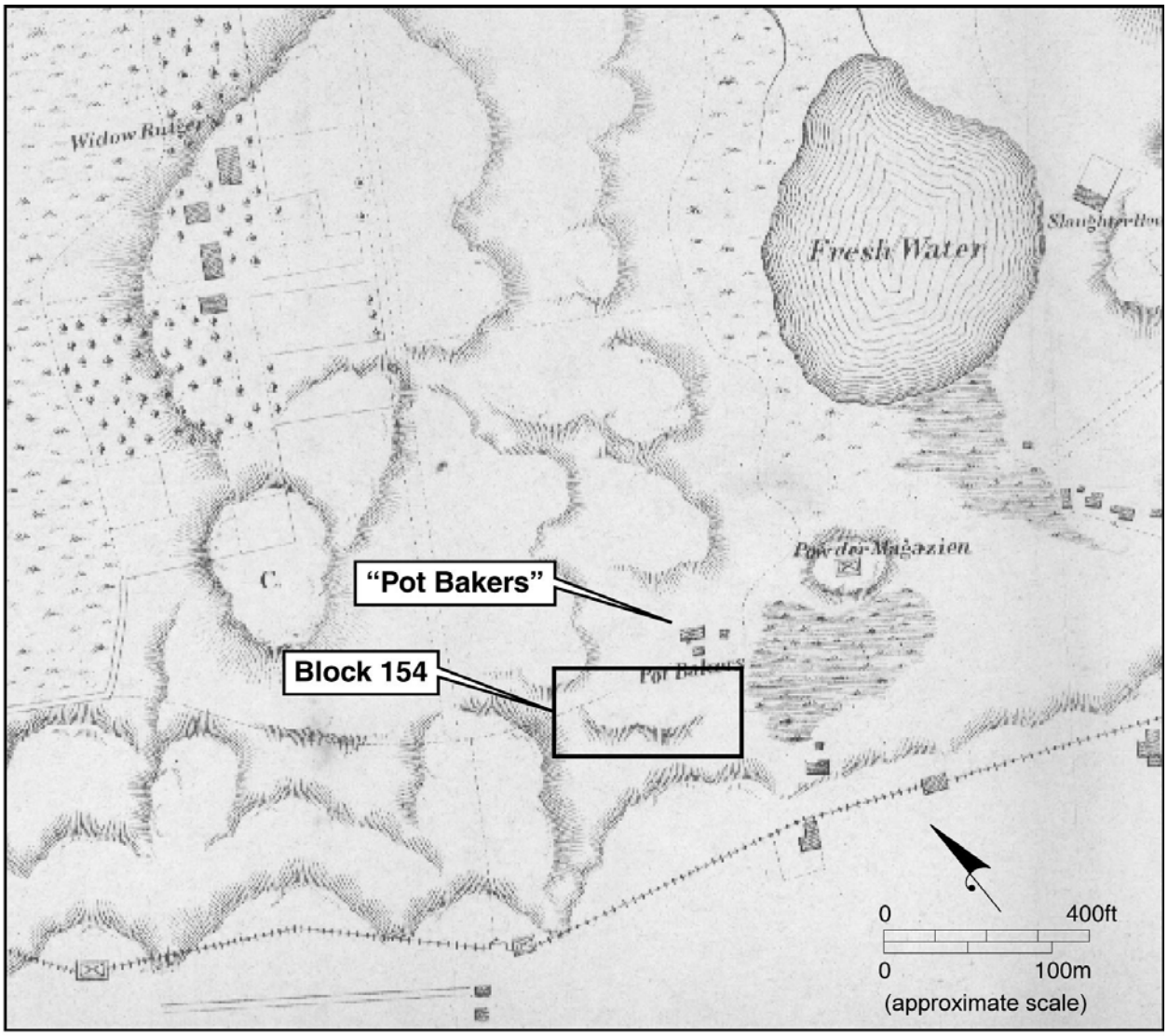

Figure 13. Detail of A Plan of the City of New-York *showing the project area (Holland 1757 in Valentine 1859).*

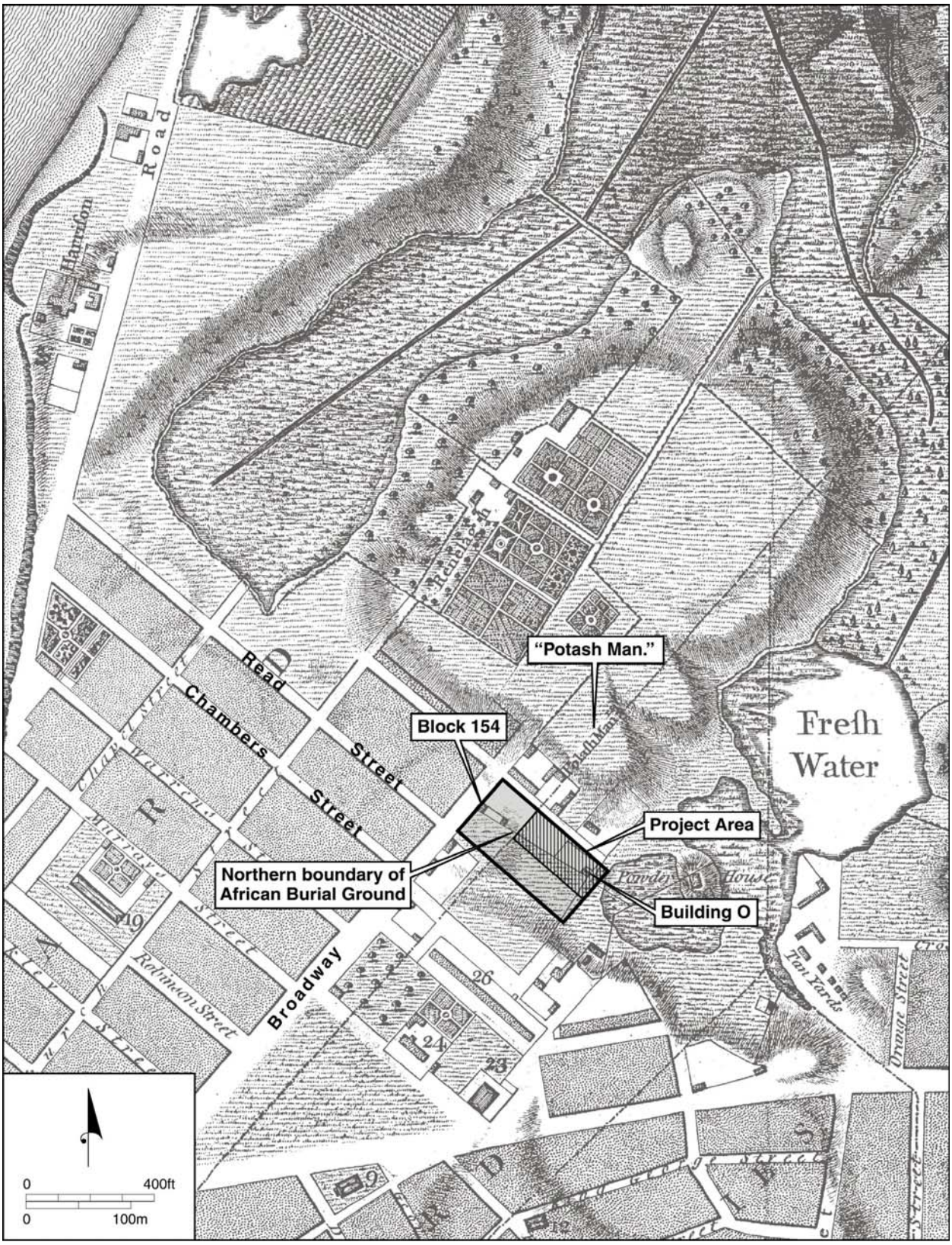

Figure 14. Detail of Plan of the City of New York *showing the project-area location (Ratzer [1769]).*

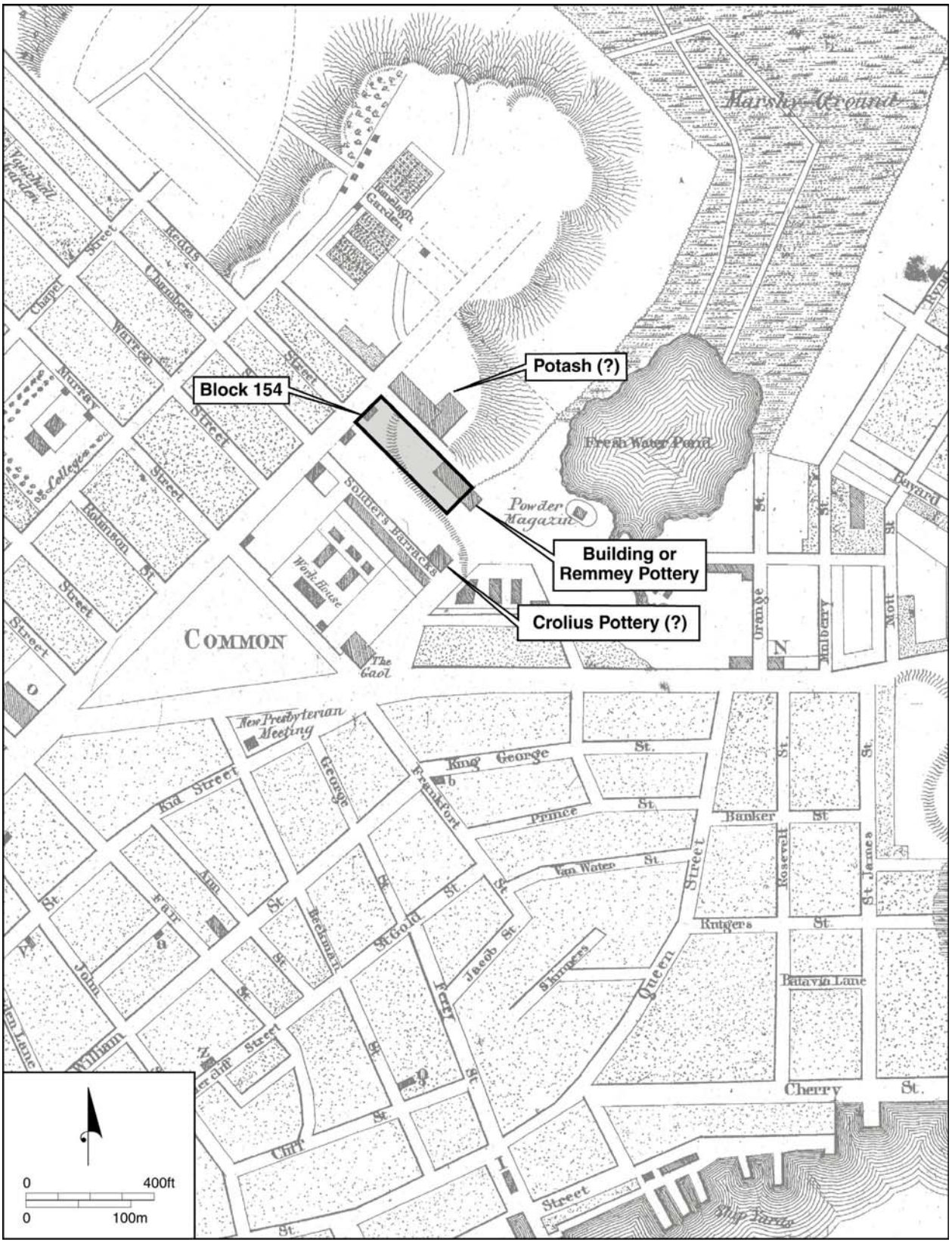

Figure 15. Detail of A Plan of the City of New-York in North America *showing the project area (Holland 1776).*

3.4 The Development of Block 154: 1790–1799

With the extension of the city grid northward, these land transactions enabled the creation of Block 154 bounded by Broadway, Reade, Anthony (later Barley, then Duane), and Little Ann (later Elm and then Elk) Streets. The Barclay portion of the block was north of the Van Borsum patent line and the Kip portion was south of this line (Figure 16).

The Common Council minutes from the 1790s list the flurry of activity needed to prepare Block 154 and the surrounding neighborhood for development (Common Council City of New York 1917). New streets north of Chambers were laid out and blocks defined. Great George Street (later Broadway) bounded Block 154 to the west, Reade (also spelled Reed) Street to the south, Little Ann (later Elm and then Elk) Street to the east, and Barley (later Duane) Street to the north. On May 7, 1792, the council ordered that the street committee view Barley Street east of Great George and report on a well located on the street. During the next few years, both Reade and Barley Streets were dug out; however, efforts to regulate Barley Street ran into opposition. On February 5, 1798, the council received a petition from the inhabitants of Barley and Magazine Streets against the raising of the streets to the regulated height. The following year, on February 14, the council heard a petition by Alexander Robertson, owner of a sugar house, and other property owners on Barley and Little Ann Streets east of Broadway complaining that the process of regulating these streets by raising their height with fill would ruin their houses. Four days later, the council ignored the petition and ordered the streets to be raised to their regulated height. The project was completed by June 24, 1799. In 1800, Reade Street between Broadway and Little Ann was paved, and a petition for paving Barley was heard before the council the following year. Republican Alley, later called Manhattan Place, was not established until 1803 when an ordinance was passed for its filling and paving. Yet, an extension filed on December 19, 1803, suggests that the work was not completed on the alley until 1804 (Common Council City of New York 1917).

Development was partially controlled by the original dividing line between the Kip (Van Borsum parcel) and the Barclay (Calk Hook) parcels (the latter called the Barclay Ground in Figure 16). A 1784 Bancker survey established the dividing line, which angled across the block. How closely this line followed the original parcel line or the boundary of the African Burial Ground is problematical. When the northern Barclay portion was divided into lots, the Barclay properties became smaller from west to east (Figure 16). In the Kip parcel, an alley (Republican Alley) was added later in the middle of the block, possibly to fill in some of the extra space created by the larger parcels to the east. As will be seen in the individual lot histories, the irregular lot sizes and unevenness led to more complicated land transactions as owners attempted to square off their lots.

The Barclay and Kip families sold off the lots on Block 154 at an opportune time. During the 1790s, the city's population nearly doubled, resulting in housing shortages (Blackmar 1989:44). As a result, the lots sold quickly and the block was fully developed within several years of its partition. The first known occupant of the partitioned block was Grant Cottle, who leased Lots 12 and 13 from the Barclays in 1794. Yet within a few years, most of the lots on the block had been sold and were occupied by their new owners. In the 1799 tax list, taken less than five years after development began and the same year Barley Street was finally regulated, 28 of the block's 35 lots contained structures and nearly all were inhabited (New York City Tax Assessments 1799).

3.5 The Social History of Block 154: 1795–1830

3.5.1 Introduction

New York in the mid-nineteenth century was characterized by distinct neighborhoods segregated by class, race, and ethnicity. The wealthy lived along Broadway and in northern mansions; the poor inhabited the crowded and unsanitary tenements of the Sixth, Eleventh, and Seventeenth Wards; and the middle class left the city altogether and settled in the suburbs of Brooklyn and New Jersey (Jackson 1985). This pattern—an outgrowth of industrialization, immigration, and a rise in real-estate prices—developed gradually

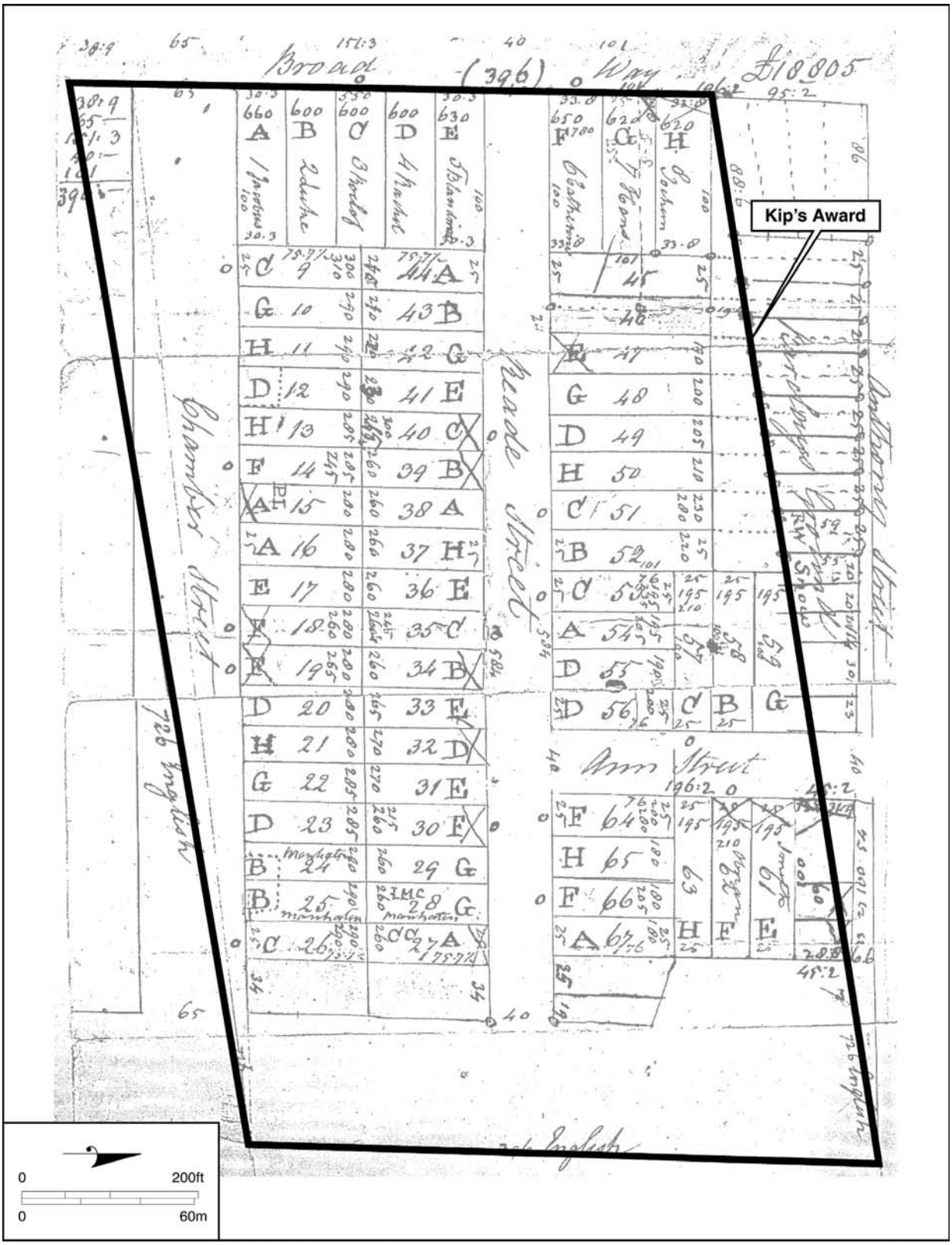

Figure 16. Detail of Negros Burial Ground 1795 *showing the boundary of Kip's award of part of the Van Borsum patent and its subdivision (Bancker 1795).*

during the first half of the nineteenth century (Blackmar 1989:11–12). Before this, wealthy and poor often lived on the same block. Both business owners and their employees lived close to their work places, which were often attached to the owners' homes. The result was mixed neighborhoods containing merchants, artisans, and laborers as well as enslaved African Americans (Blackmar 1989; Blumin 1989:21–22; Rothschild 1990:126; Wall 1994:4–5).

Block 154 between 1798 and 1830 provides an example of the transition from a mixed neighborhood to one segregated by class. During this period, a mixture of merchants, professionals, artisans, laborers, and enslaved African Americans as well as a concentration of free African-American households occupied the block. As time progressed, however, Block 154 became increasingly commercial, and single-family dwellings were subdivided into tenements. By mid-century, the block had transformed from a mix of classes to a commercial center with stores and businesses on the ground floors and tenements housing working-class immigrants above (New York State Census 1855).

3.5.2 Methods

We reconstructed the demographics of Block 154 in the waning years of the eighteenth century and the first decades of the nineteenth century through tax assessment lists, city directories, federal and city census returns, and deeds. Each of these sources provides unique information that when combined enabled us to view a complex neighborhood. For the purposes of this study, Block 154's neighborhood is defined as both sides of each street that bounds the block. Thus, all the inhabitants of Reade and Duane Streets between Broadway and Elk, and Broadway and Elk between Reade and Duane were included in this study.

To identify the block's inhabitants, tax assessment rolls were first consulted. Examined rolls included all encountered assessments (some of the annual assessments no longer survive) from 1790 through 1821, as well as assessments from 1825, 1830, 1835, and 1840. In the 1790s through 1830s, the city's assessment rolls listed each property's owner and the tenants who occupied it. Although free blacks and aliens are often omitted from the assessment rolls, the source identifies most of the area's inhabitants. Once residents were identified, researchers looked up the names in city directories, which list individuals' occupations as well as home and work addresses. The directories thus provided clues on the separation of home and workspace, the transitory nature of tenancy, and alternate spellings of inhabitants' names. Line-by-line searches of all directories from 1790 to 1800, 1802, and 1804 as well as sections of the 1807, 1808, and 1809 directories were also undertaken to identify inhabitants omitted from the tax assessments. As a source for reconstructing neighborhoods, directories have limitations. In general, they tend to emphasize long-term residents and more-established individuals. Poorer and transient individuals are often excluded, as are most African Americans. When trying to locate the exact addresses of people listed in the federal census returns for a poor neighborhood, it is not uncommon to find only one head out of every five households listed in the directories. As a result, even the line-by-line directory searches do not yield all of a neighborhood's inhabitants. In 1812, Longworth published a double directory, which overcomes some of these problems. This directory not only listed New York's citizens in the usual alphabetical manner, but also listed the inhabitants of each house by street address. Because of this unusual format, the 1812 directory lists more poor whites, African Americans, and transients than other directories. Unfortunately, this was the only double directory published between 1790 and 1820.

After identifying a list of the block's inhabitants for years ending in nine, zero, or one, names were sought in the appropriate federal census index. Street addresses were not recorded in the federal censuses until 1870; therefore, the boundaries for Block 154's neighborhood had to be determined by locating individuals with known addresses in the census returns. Census-takers usually walk down a street stopping at each house. Once individuals with addresses known from other documents were located, one can assume that households listed in the census returns between such known addresses lived between these known addresses. Unfortunately, some individuals could only be assigned with certainty to a street or a block. Unlike directories and tax lists, which concentrate on more-established individuals, the early censuses list households from every social and economic class. Although Robert Swan (1989) has shown that African Americans were often undercounted in federal censuses during the first half of the nineteenth century, the returns from 1800 to 1820 are among the most useful sources for identifying blacks living on Block 154.

Prior to 1850, federal census returns contain limited information. Only the household head is listed by name. All other inhabitants are categorized by age, sex, and race. Absent is information concerning occupation, birthplace, marriage status, and wealth. Nevertheless, the census returns provide one of the few sources for identifying an individual's age and race.

New York City also took censuses of its inhabitants in 1819 and 1821 to identify the city's jury pool. The 1819 census lists household heads by address and includes their age, occupation, and wealth, as well as the gender and race of each household member. The 1821 census is less detailed. Only the individuals' addresses, tax status, and jury eligibility are recorded. Nevertheless, these two city censuses in tandem with the 1820 federal census provide strong data for reconstructing demographic patterns.

Deeds for each property on Block 154 were also examined. In general, the deeds provided little demographic data, except for the occupations of the parties involved. More importantly, however, clues contained in deeds help reconstruct the early-nineteenth-century landscape. Passing references to houses, walls, and other features are often the only documentary evidence of past landscapes.

For demographic analysis, the names of all known inhabitants of Block 154's neighborhood were entered into a database. The database also includes an inhabitant's address, occupation, the year he moved into and out of the neighborhood, whether he was a landowner or renter, the source that provides the information, and other miscellaneous information. This database is included in this report as Appendix C-1.

3.5.3 Block 154 Demographics

For a variety of reasons, including its recent development, its location over the "Negros Burial Ground" and near industrial sites, and its distance from the city's center, Block 154 in the early nineteenth century was relatively inexpensive, making it ideal for young families without much capital. The many small children, few teenagers, and few adults over 45 in the 1800 federal census show that primarily young families inhabited the neighborhood (Table 3). Throughout the first two decades of the nineteenth century, this pattern continued. Although in the 1810s and 1820s there were fewer small children and more teenagers, suggesting more mature households were living in the neighborhood, young families still primarily inhabited the area. By 1830, however, the neighborhood changed. Whereas children under 16 made up between 40 and 45 percent of the white inhabitants in 1800 and 1810, in 1830 they made up only 26 percent. Furthermore, adults over 45 approached the number of children under ten for the first time. Both facts suggest that young families no longer found it desirable to move into the neighborhood. Although the reasons for this change may never be known for certain, two possibilities present themselves. First, a comparison between the 1820 and 1830 tax assessments shows that the property values for Block 154 lots rose 151 percent during the 1820s. This may have prohibited younger individuals from purchasing, or even renting, houses on the block. Second, by the 1830s, the area surrounding Block 154 was becoming more commercial and the nearby Five Points neighborhood was beginning to develop its reputation as the most dangerous slum in the United States. As a result, young families may have tried to avoid the Sixth Ward and move to the newly developing areas uptown.

Table 3. Summary of Demographics of Block 154 Residents from Federal and City Censuses between 1800 and 1830

Year	Whites					# Wh.	# Free Nn-Wh.	# Enslv	# Ind.	# Non-Wh. Hld.		# Hld.
Age range	<10	10–<16	16–<26	26–<45	45+							
1800	153	38	57	149	38	435	32	20	487	9	(7.6%)	118
1810	114	70	76	97	50	407	54	15	476	12	(12%)	100
1819	--	--	--	--	--	525	110	1	636	6	(8%)	75
1820[1]	113	52	94	105	57	421	90	2	513	11	(12%)	92
1830[2]	65	21	36	148	56	326	8	--	334	--		61

KEY: # Wh. = total number of whites; # Free Nn-Wh. = number of free non-whites; # Enslv = number of enslaved African Americans; # Ind. = total number of individuals; # Non-Wh. Hld. = number of non-white households; # Hld. = total number of households

NOTES:
1. Not including returns for odd numbers on Duane Street.
2. Not including returns for Republican Alley and even numbers on Reade Street. Note that age groupings are slightly different for the 1830 federal census. They are: <10; 10-<15; 15-<20; 20-<40; 40+. The total number of inhabitants includes 8 aliens not included in total for whites because their ages were not stated.

Sources: U.S. Bureau of the Census 1800, 1810, 1820, 1830; New York City Census 1819, 1821

3.5.4 African Americans on Block 154

The census data also suggest that prior to 1830 the neighborhood surrounding Block 154 contained an African-American community. Between 1800 and 1820, roughly ten percent of all the households were headed by free non-whites. Some of these household heads, such as Madame Magdalen Bertin (who will be discussed below in detail), owned property on the block. Besides the African-American household heads, the neighborhood also contained blacks living with white families as boarders, servants, enslaved workers, and, perhaps, apprentices. All told, between 1800 and 1820, roughly 18 percent of the neighborhood's inhabitants were of African descent. The percentage of African Americans on the block rose from 12 percent in 1800 to 22 percent in 1820. During this time, blacks constituted roughly ten percent of the overall population of New York City (Rosenwaike 1972:18–24).

The neighborhood's African-American population was centered on Block 154's Duane Street side. From 1799 through 1820, black residents often occupied Lots 14, 15, 16, and 17 on Block 154 (known at different times as 10-16 Barley, 98-92 Duane, and 76-70 Duane). Among these individuals were established household heads, such as butcher Charles Hendrickson, who lived here from 1806 to 1812; Magdalen Bertin, the owner of Lot 17 from 1805 to 1823; and confectioners William and Sarah Williams, who were living on Lot 17 by 1799 and stayed at least until 1802.

This cluster of African-American households surrounded by white households was a typical residential pattern of the time. Shane White (1991:171) notes that "black households were well distributed throughout the city," often "clustered in groups of between two and five" and "in very close proximity to the houses of prominent members of the New York elite." These clusters tended to be near black churches (White 1991:175). The households on Duane Street were only three blocks from the Zion Methodist Episcopal Church, which was established in 1800 at the corner of Leonard and Church Streets.

In the 1800, 1810, and 1819 censuses, a total of 27 free-black households were identified on streets bordering Block 154. Of these, females headed 15 and males, 14. This contrasts sharply with the pattern for the entire city. Shane White (1991:163) found in the 1790, 1800, and 1810 federal censuses that women headed only 17 to 19 percent of all free-black households. The reasons for this discrepancy are unclear, although White notes that many female household heads could have been married to absent seamen (White 1991:163).

All but one of the free-black households on, or facing, Block 154 contained only non-whites. The exception was the household of the Haitian immigrant Magdalen Bertin on Lot 17 which contained five white women, an alien male, and a "colored" female (probably Bertin) in 1819 (New York City Census 1819). As Bertin was a widow with no children and was living with only her servant in 1810 (U.S. Bureau of the

Census 1810), this increase in household size suggests that she was taking in boarders in 1819. There is also the possibility that Bertin ran a brothel, but no evidence other than the presence of five young women supports this conclusion. Although no other African-American households on Block 154 contained whites, John Francis, a hairdresser, who lived on Lot 18 in 1810, lived elsewhere in 1800 when he was listed as heading a household of another black male and a white woman between the years of 27 and 46 (White 1991:168). Shane White (1991:168–169) uses this household, among others, as evidence that blacks and whites openly formed long-term relationships during this time period, in contrast to later periods when such behavior became taboo.

Although the censuses list a total of 27 free-black households on Block 154 in 1800, 1810, and 1819, the omission of African Americans in city directories makes it possible to identify the occupations of only five of the block's black residents. These are Charles Hendrickson, a butcher, William Williams, a confectioner, and John Francis, a hairdresser, all mentioned above, and Anthony Hill, a shoemaker, and James Roberts, a hairdresser, who both lived at 15 Reade Street (U.S. Bureau of the Census 1810; New York City Tax Assessments 1810; New York City Census 1819; White 1991:168). The occupations of the other African Americans can only be guessed at, but it is likely that many of the men were employed as laborers, while women worked as laundresses or in the food industry (White 1991:158–161; Wilson 1995:55–57).

As the 1830 federal census indicates, the African-American presence in the neighborhood quickly diminished during the 1820s. The 1830 census lists no non-white households on the block and only lists eight non-whites as residing in the block's white households. The exact reasons for this are unknown; yet, their abandonment of Block 154 reflects a general trend in African-American migration within the city. Shane White (1991:171–175) has noted that from 1790 through 1810, free African-American households were concentrated in the Fifth, Sixth, and Seventh Wards. By mid-century, however, African Americans were leaving the Sixth Ward for the Fifth and Eighth Wards (Ernst 1994:41). This may reflect the growing hostility between African Americans and immigrant groups, such as the Irish who were moving into the Sixth Ward in large numbers.

3.5.5 Enslaved African Americans on Block 154

A number of the African-American inhabitants of Block 154 were held in bondage. Throughout the seventeenth and eighteenth centuries, slavery was common in New York City. In 1746, 2,444 of Manhattan's total population of 11,717 were of African descent (Foote 1991:78). Although there was a small free-black community at this time, most historians agree that the vast majority of these blacks were enslaved (Davis 1985:23). The number of enslaved blacks fell by 1790, yet the first federal census shows that 19 percent of all white families in New York City held at least one enslaved laborer (Rosenwaike 1972:23). Nine years later, the state legislature passed a gradual emancipation act stating that children born after July 4, 1799, to those who were enslaved would be declared free after 28 years of service for males and 25 years for females (Rosenwaike 1972:24). During the next two decades, many enslaved blacks were manumitted, reducing the city's slave population to 518 in 1820 (Rosenwaike 1972:24). In 1817, the legislature went further and freed all enslaved blacks born before 1799 and after 1827; however, those born in the interim still had to serve out their indentures. The act also provided an exception for "nonresidents to enter New York with their slaves and remain in the state for up to nine months without forfeiture of their slaves" (Higginbotham 1978:147).

The demography of Block 154 reflects these trends toward emancipation. In 1800, 20 of the 52 (38 percent) people of African descent on the block were enslaved. This is similar to the overall pattern in Manhattan where 43.2 percent of all blacks were enslaved (White 1991:26). At this time, 5.5 percent of the neighborhood's white families held one enslaved black, and 2.8 percent held two or more. By 1810, 22 percent of the block's African Americans were enslaved, and 12.5 percent of the white families and Madame Bertin, the non-white resident from Haiti, held at least one. Although the holding of enslaved individuals of African descent by other African-Americans was not common in Manhattan, there were a number of examples of this phenomenon (Wilson 1995). As late as 1830, the federal census listed eight African-American households in Manhattan as containing enslaved blacks (Wilson 1995:27). It is uncertain,

however, how many of these enslaved persons were expected to work as servants and how many were family members or friends living in the household.

By 1819, there were only two enslaved blacks on the block. One belonged to Charles Espainville, the French Consul, who lived at 34 Reade Street (Lot 32), while William Simmons, a grocer who inhabited 26 Reade (Lot 28), owned the other (New York City Census 1819). Unfortunately, sources listing the names of those enslaved or detailed information concerning their lives were not encountered during this study.

3.5.6 Occupations of Block 154 Residents

To determine common occupations on Block 154, the residents' occupations listed on primary sources (see Appendix C-1) were grouped into categories based on the type of labor performed. The owners and occupants in the project area are presented separately in Appendix C-2. Appendix C-3 lists the occupations included in the categories contained in Appendix C-1. Table 4 shows the number of residents in each occupational group and the percentage of the total for which an occupation is listed for the first three decades of Block 154's development. With the exception of a dramatic decrease in workers in the building trades, the residents' occupations are quite similar during the 1800s and 1810s. The number of carpenters, builders, and masons on the block probably directly correlates with the block's development, as builders often lived on, or around, the lots they were developing. Their major decrease in the second decade of the nineteenth century probably reflects an end to major construction on the block.

During these decades, a single occupational group did not characterize the block. Artisans, such as shoemakers, watchmakers, and engravers, were the most common; yet, the block also contained large numbers of individuals engaged in commerce, such as merchants, grocers, and shopkeepers. The block also contained a number of professionals, such as doctors, accountants, a minister, and a lawyer, as well as government workers and a few self-styled "gentlemen." On the other hand, the block also contained day laborers, stable keepers, and widows working as seamstresses.

Table 4. Occupations of Block 154 Residents from 1790 to 1819

Occupational Group	1790–1799		1800–1809		1810–1819		Total	
Artisans	1	(16.7%)	43	(19.5%)	51	(25.5%)	95	(22.3%)
Commerce	1	(16.7%)	33	(15.0%)	40	(20.0%)	74	(17.4%)
Building Trades			42	(19.1%)	14	(7.0%)	56	(13.1%)
Professionals			20	(9.1%)	16	(8.0%)	36	(8.5%)
Food Industry	1	(16.7%)	15	(6.8%)	9	(4.5%)	25	(5.9%)
Laborers	1	(16.7%)	7	(3.2%)	15	(7.5%)	23	(5.4%)
Sewing Trades	1	(16.7%)	12	(5.5%)	8	(4.0%)	21	(4.9%)
Transportation	1	(16.7%)	8	(3.6%)	11	(5.5%)	20	(4.7%)
Maritime Trades			12	(5.5%)	6	(3.0%)	18	(4.2%)
Other			8	(3.6%)	8	(4.0%)	16	(3.8%)
Widows			9	(4.1%)	5	(2.5%)	14	(3.3%)
Government Workers			6	(2.7%)	6	(3.0%)	12	(2.8%)
Gentlemen			1	(0.5%)	8	(4.0%)	9	(2.1%)
Washers			4	(1.8%)	3	(1.5%)	7	(1.6%)
Total Number	6	(100.2%)	220	(100.0%)	200	(100.0%)	426	(100.0%)

Sources: U.S. Bureau of the Census 1800, 1810; Longworth 1790–1819; New York City Tax Assessments 1790-1819; New York City Census 1816, 1819

This pattern of mixed occupations, along with differences of wealth and status, on a single block is typical of Manhattan in the late eighteenth and early nineteenth centuries. Most historians studying the spatial distribution of class in New York note distinctly different models for the eighteenth and mid-nineteenth centuries (e.g., Blackmar 1989; Blumin 1989:21–22; Rothschild 1990:126; Wall 1994:4–5). In the eighteenth century, wealthy and poor often lived on the same block. Both wealthy business owners and their

employees lived close to their work places, which were often attached to the owners' homes. The result was mixed neighborhoods, which, according to some historians, eased class tensions (Blackmar 1989:106). By the mid-nineteenth century, however, New York was rigidly segregated along class lines. The city's poor lived in tenement districts in the Sixth, Eleventh, and Seventeenth Wards, the middle class moved to suburbs in Brooklyn and New Jersey, and the wealthy lived along Broadway, around Bowling Green, and in uptown estates (Jackson 1985).

Block 154 during the first two decades of the nineteenth century is best viewed as a transition between these two models. The area immediately north of Chambers Street was developed in the 1790s as an area for artisans who could not afford the high prices of downtown but still needed to remain within walking distance of the city's commercial center (Blackmar 1989:89). As a result, Block 154 never attracted the wealthy merchants and big businessmen who had settled in the older part of the city. Thus, the eighteenth-century model of a truly mixed neighborhood was never realized on Block 154. Nevertheless, escalating real-estate prices during the 1790s and 1800s made the area north of Chambers Street desirable for less-wealthy merchants and small businessmen; at the same time, it made it difficult for artisans to afford single-family homes in the neighborhood (New York City Tax Assessments 1790, 1802). On Block 154, the result was a mixture of occupations and class. Noticeably absent, however, are very wealthy merchants who continued to live downtown until the 1820s (Blackmar 1989:79–80).

As Table 5 shows, however, the residents of the different streets in the project area tended toward different occupations. As the different streets had different numbers of inhabitants, to make comparisons meaningful the percentage of each occupational group for each street was determined. Reade Street contained large numbers of men engaged in commerce, government, and professional occupations. A fifth of Reade Street's inhabitants were merchants or grocers, eleven percent were professionals, such as doctors and accountants, and nearly five percent worked in government jobs, including the French consul, Charles Espainville. In 1807, Reade Street residents owned the highest average personal estate ($283.33) on the block. Nearly a decade later, in 1816, the occupants' average personal estate had risen to $639.29, but by this time Broadway had become the home of the block's wealthiest inhabitants. Yet, Reade Street was not exclusively upscale. Four percent of the residents were common laborers; and artisans, such as saddlers, tinsmiths, and engravers, made up the most common occupational group. One artisan, Alexander Anderson, was the most well-known engraver of his time (Goler 1995:38).

Anderson, born in the city in 1775, was trained as a physician, but the loss of his family during the yellow-fever epidemics of 1793 and 1798 led him to abandon the profession and turn to engraving. Working in wood blocks, Anderson illustrated hundreds of children's books as well as Aesop's fables, the Bible, and others (Goler 1995:38). Anderson settled on Block 154 at 6 Upper Reade in 1800. He subsequently lived at 9 Upper Reade in 1805, before renting 24 Reade Street from Daniel Walters from 1808 to 1814. During this time, Anderson's personal estate was valued between $200 and $400 (New York City Tax Assessments 1807–1814; Longworth 1800–1812). Anderson moved off the block in 1815 and died in 1870 in Jersey City at the age of 94.

Duane Street's residents were also employed in a variety of occupations. Like Reade Street, 23 percent of its residents were artisans and nearly 11 percent were professionals. Yet, Duane Street contained fewer men engaged in commerce—only five merchants compared to Reade Street's fifteen. Duane Street also contained a higher percentage of men working in the building trades than Reade Street, but on close inspection this seems to be related to the later development of Duane Street. Fourteen of the eighteen men engaged in the building trades lived on Duane Street only during the first decade of the nineteenth century. As Duane Street was still being developed at this time, and construction of Reade Street had nearly ceased, it is likely that these individuals were following the common nineteenth-century practice of living on the block while they were working on the dwellings. As many of Duane Street's inhabitants were either artisans or construction workers, the average personal estate for the street's occupants was less than half of Reade Street's inhabitants.

Republican Alley had very different occupational patterns than Reade and Duane Streets. In general, its residents were tradesmen. The street contained no professionals, gentlemen, or government employees, and its only inhabitant engaged in commerce was a tobacconist. Instead, 20 percent of the alley's residents

were day laborers, nearly 13 percent worked in the transportation business, usually as cartmen or stable keepers, and 18 percent worked in construction. Nearly 36 percent of the alley's residents were classified as artisans. These included chandlers, a weaver, shoemakers, and a dyer. In both 1807 and 1816, the average personal estate of Republican Alley's occupants was about $100, much less than the inhabitants of Broadway, Reade, and Duane.

More occupations of Elm Street's residents were working class than on Reade and Duane Streets. Although 16 percent of the inhabitants were engaged in commerce, three of the four are listed as grocers rather than merchants. The construction industry provided work for nearly 39 percent of Elm Street's inhabitants. Other important occupational groups included the maritime trades and the transportation industry. Unlike the other streets on Block 154, only eight percent of Elm Street's residents were artisans. The average personal estate of Elm Street residents hovered around $100 in both 1807 and 1816.

Block 154's portion of Broadway lived up to the thoroughfare's reputation as nineteenth-century New York's commercial center (Figure 17). The block included a music shop, a druggist, a watchmaker, a coach maker, and a dry-goods store. More of its residents were engaged in commerce than in any other occupational group, and most of these men were listed as merchants in the directories. Many of the other inhabitants worked as artisans. In general, these men worked at more upscale trades than the inhabitants of Block 154's other streets. Broadway's artisan inhabitants included two goldsmiths, two watchmakers, two comb manufacturers, a silversmith, a coach maker, a carver/gilder, a chair maker, and an upholsterer. Yet, the street also included artisans in less-prestigious trades, such as a cigar maker, a printer, and a stonecutter. Four gentlemen also inhabited the section of Block 154 facing Broadway. Broadway was both the commercial hub of the city and contained the residences of many of its wealthy citizens. The change in the average personal estate value between 1807 and 1816 shows this progression. In 1807, the inhabitants of Block 154's portion of Broadway owned an average personal estate of $263.64 (a little less than Reade Street's residents), but nine years later the number had escalated to $3,723.08 (nearly six times the average value of Reade Street's residents).

Table 5. Number of Residents of each Occupational Group on each Street

Occupational Group	Reade St.		Duane St.		Republican Alley		Elm St.		Broadway		Total
Artisans	34	(23.3%)	29	(23.4%)	14	(35.9%)	2	(8.0%)	15	(28.8%)	94
Commerce	31	(21.2%)	13	(10.5%)	1	(2.6%)	4	(16.0%)	20	(38.5%)	69
Building Trades	12	(8.2%)	18	(14.5%)	7	(17.9%)	8	(32.0%)	2	(3.8%)	47
Professionals	16	(11.0%)	13	(10.5%)		--	1	(4.0%)	1	(1.9%)	31
Sewing Trades	5	(3.4%)	10	(8.1%)	2	(5.1%)	1	(4.0%)	2	(3.8%)	20
Maritime Trades	9	(6.2%)	6	(4.8%)		--	3	(12.0%)	2	(3.8%)	20
Food Industry	8	(5.5%)	8	(6.5%)	1	(2.6%)		--	2	(3.8%)	19
Transportation	4	(2.7%)	5	(4.0%)	5	(12.8%)	2	(8.0%)	2	(3.8%)	18
Laborers	6	(4.1%)	3	(2.4%)	8	(20.5%)		--		--	17
Other	6	(4.1%)	5	(4.0%)	1	(2.6%)	2	(8.0%)		--	14
Widows	5	(3.4%)	8	(6.5%)		--		--		--	13
Government Workers	7	(4.8%)	2	(1.6%)		--		--	1	(1.9%)	10
Gentlemen	2	(1.4%)	2	(1.6%)		--		--	4	(7.7%)	8
Washers	1	(0.7%)	2	(1.6%)		--	2	(8.0%)	1	(1.9%)	6
Total Number	146	(100.0%)	124	(100.0%)	39	(100.0%)	25	(100.0%)	52	(99.7%)	386

Sources: U.S. Bureau of the Census 1800, 1810; Longworth 1816–1819; New York City Tax Assessments 1790–1819; New York City Census 1816, 1819

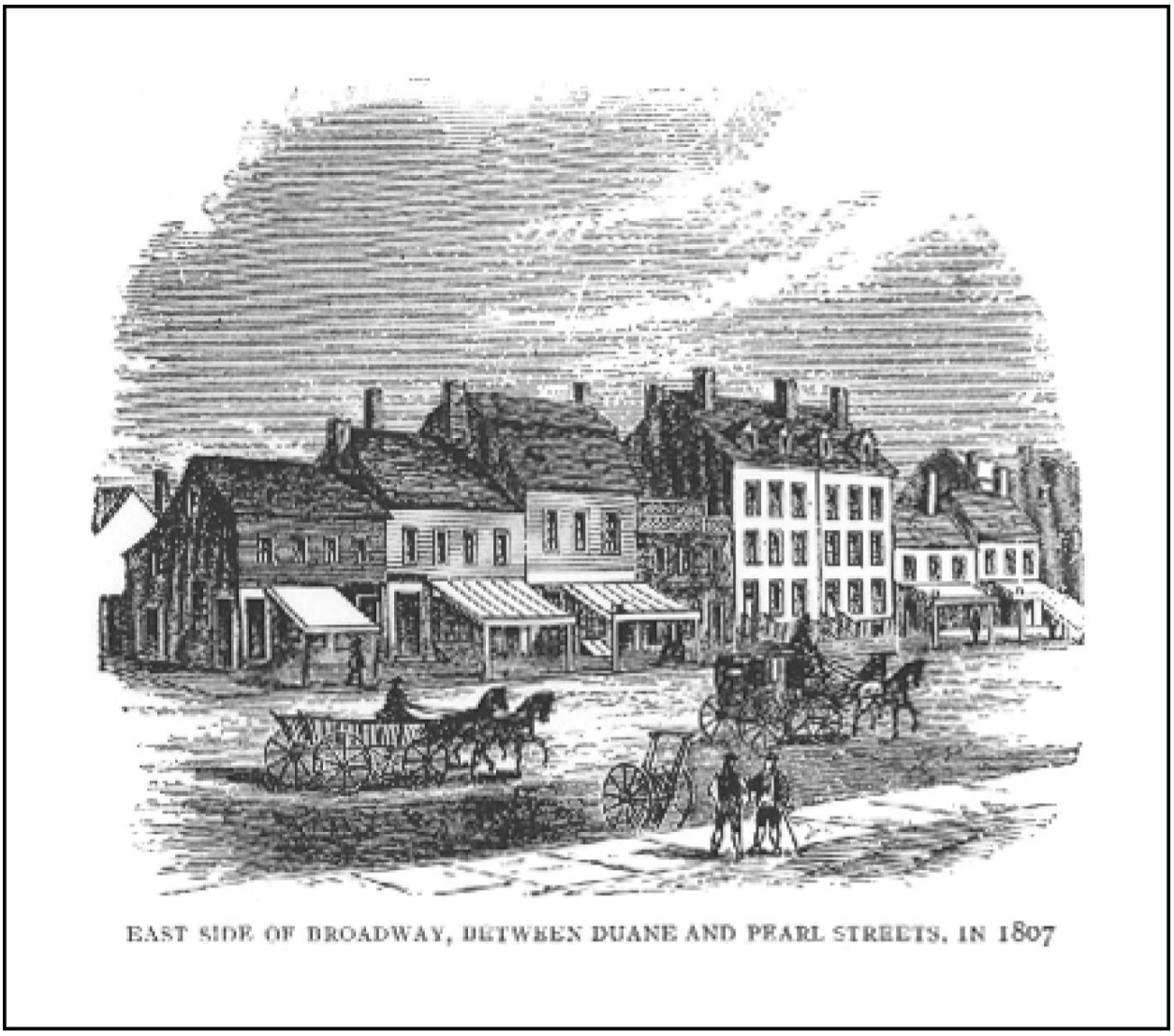

Figure 17. Broadway streetscape between Duane and Pearl Streets in 1807 (from Jenkins 1911). Pearl (formerly Magazine) is one street north of Duane.

Differences among the streets lining Block 154 are also evident in the number of single-family dwellings on each street and especially in the average estimated wealth of the streets' inhabitants (Table 6). The 1807 and 1816 tax assessments were examined to provide data on the number of households per dwelling and the wealth of its inhabitants. These assessments were chosen because they list both the owners and tenants of each lot as well as the estimated value of their personal estates. The assessments were also chosen because they provide details of the block in the middle of each decade, thus allowing for a diachronic comparison.

During the first decades of the nineteenth century, rising real-estate prices denied many artisans the ability to own their own homes or to rent an entire dwelling. As a result, houses designed for single families were subdivided and rented to multiple households. This process led to the tenement districts, which overran the Fifth and Sixth Wards by the 1830s.

Tenements are defined as subdivided dwellings inhabited by three or more households (Blackmar 1989:92–93). As Table 6 shows, this process had already started on Block 154 in the second decade of the nineteenth century. In 1807, three of the five streets (Broadway, Reade, and Duane) contained more single-household dwellings than multi-household dwellings, but by 1816, only Broadway contained more single-household dwellings. During this time, the average number of households per dwelling for the entire block also rose from 1.74 to 2.0.

Table 6. Number of Single- and Multi-Household Dwellings on Block 154 in 1807 and 1816

Street	Year	# Single-Household Dwellings	# Multi-Household Dwellings	Avg. # of Households per Dwelling	% Owner Occupied	Avg. Personal Estate
Broadway	1807	5	2	1.57	33.0%	$ 263.64
Reade	1807	8	5	1.62	36.0%	$ 283.33
Duane	1807	6	5	1.64	73.0%	$ 136.11
Republican Alley	1807	2	4	2.33	0.0%	$ 100.00
Elk	1807	--	2	2.00	100.0%	$ 175.00
Broadway	1816	6	2	1.63	37.5%	$ 3,723.08
Reade	1816	5	7	2.33	16.7%	$ 639.29
Duane	1816	3	6	1.78	50.0%	$ 256.67
Republican Alley	1816	1	7	2.00	0.0%	$ 125.00
Elk	1816	--	2	2.50	100.0%	$ 110.00

Sources: New York City Tax Assessments 1807, 1816

3.6 Block 154 After 1830

During the mid-nineteenth century, the Sixth Ward developed into a crowded tenement district. By the 1850s, the ward housed many of New York's Irish immigrants and included the infamous Five Points neighborhood. The presence of the Irish and the Five Points, the poor condition of the tenements, and several large-scale riots gave the Sixth Ward the reputation as New York's worst area. Bordering on Broadway, however, Block 154 seems to have remained more upscale than most of the Sixth Ward. This section of Broadway (Figure 18) contained numerous upscale shops and was the shopping center of the city (Spann 1981:95–99). One block south, between Reade and Chambers, was A. T. Stewart's famous department store. Block 154's portion included a music store, a jeweler, a bookstore, a portrait painter, and numerous professional offices as well as the Anatomical Museum (Longworth 1835–1842; Doggett 1846–1850). Block 154 also contained a hotel, tavern, and a number of boardinghouses at mid-century. The Hotel de Paris stood at 290 Broadway; a tavern operated at 16 Elm; and between 1836 and 1850, boardinghouses were operated out of 304 Broadway, 64, 66, 68, 70, 72, 74, and 78 Duane, 12 Elm, 5 and 22 Manhattan Place, and 22, 26, and 34 Reade (Longworth 1835–1842; Doggett 1846–1850). Often, boardinghouses were fronts

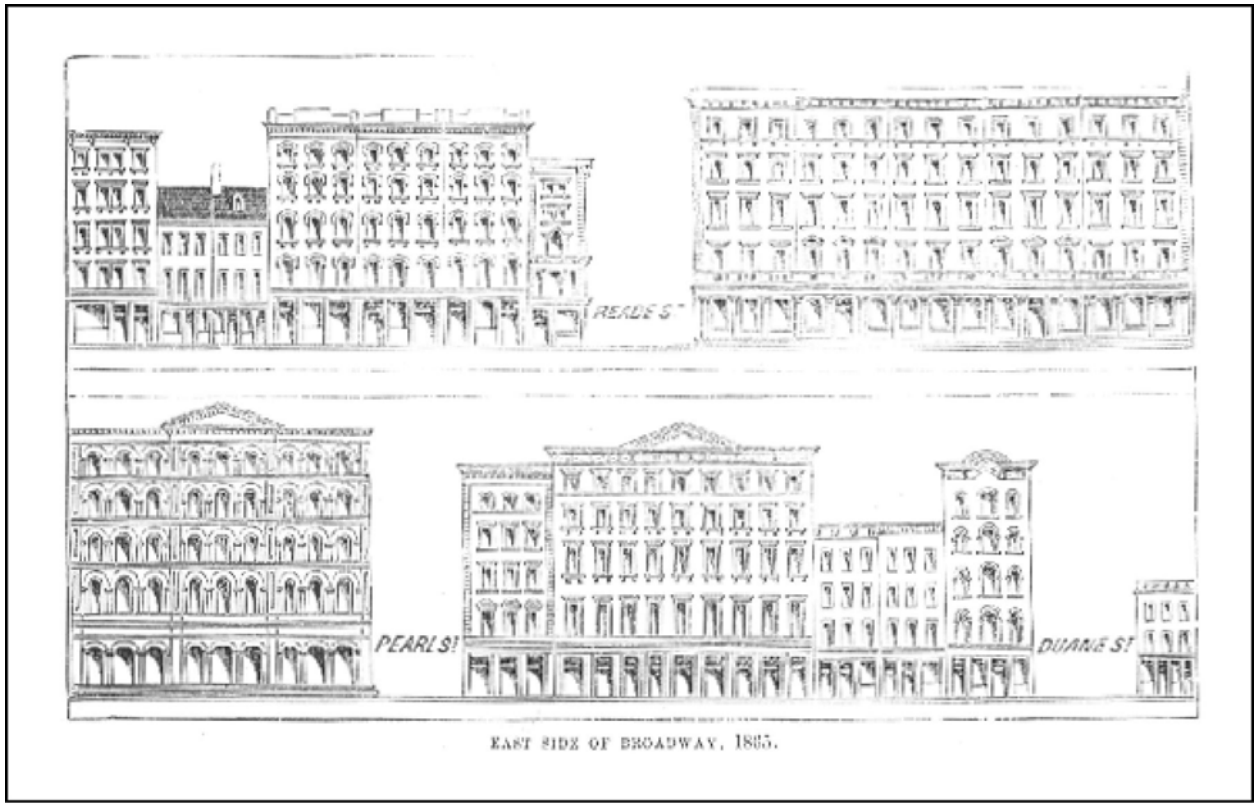

Figure 18. Broadway streetscape from Pearl to Reade in 1865 (from Valentine 1865).

for prostitution, and Block 154 contained a number of brothels from the 1820s. Between 1823 and 1859, 13 known brothels existed on the block and several were located on streets facing Block 154. These are listed in Table 7.

Table 7. Known Brothels on Block 154 or Facing Block 154

Year	Address
1823	28 Reade
1825	Corner of Reade and Broadway
1835	17 Elm
1839	22 Reade
1839	37 Reade
1841	18 Reade
1842	74 Duane
1847	19 Reade
1847–49	20 Reade
1847–49	28 Reade
1848	72 Duane
1849	34 Reade
1853	12 Elm
1855	78 Duane
1855–59	72 Duane
1859	69 Duane

Source: Timothy Gilfoyle, personal communication 1996

The proximity to Broadway kept real-estate values high, thus discouraging owners from letting the structures on Block 154 deteriorate. Instead, structures were rebuilt and modernized. The 1853 Perris map (Figures 3 and 4) shows that very few of the block's original frame dwellings survived at mid-century, while an 1865 drawing of the structures facing Broadway (Figure 18) shows well-maintained buildings in the contemporary Italianate style (Valentine 1865:564). At mid-century, the occupations of Block 154's inhabitants varied widely. Of the 250 inhabitants located in city directories between 1836 and 1850, roughly 21 percent were artisans, nearly 13 percent held white-collar jobs, almost 15 percent ran shops, and surprisingly just over 7 percent were artists (Longworth 1835–1842; Doggett 1846–1850).

The 1855 New York State census shows that many of the area's poorer residents were omitted from the directories. In 37 structures on, or facing, Block 154, the census lists 129 households containing 638 people. Nearly all of the household heads held working-class jobs, and 97 percent of the inhabitants were immigrants and their children. Irish, German, French, and English households were common, although Swiss, Cubans, Welsh, Dutch, and Italians were also present on the block. With an average of 3.49 households and 17 people per structure, the census returns suggest that many of the buildings on Block 154 had been converted to tenements. Yet this average is significantly less than in the overcrowded Five Points neighborhood, where on Block 160 the average structure in 1855 held 10.2 households and 33.8 people (Yamin 2000). This suggests that the conditions on Block 154 were far better than in the more-crowded Sixth Ward tenement blocks.

After the Civil War, Block 154 lost its residential character as the area transformed into a commercial center. By the 1870s, five-story buildings housing light industries, offices, and warehouses replaced earlier dwellings. In the 1890s, large commercial buildings were erected on the lots facing Broadway. These included the fifteen-story Dun Building at 290-294, a ten-story building at 296, the ten-story McKim, Mead and White Building at 298, and a sixteen-story building at 302-304 Broadway. The block's commercial character lasted until 1968 when most of the structures were demolished and the block was utilized as a parking lot (Ingle et al. 1989:93–98).

3.7 Block 154, Lot-specific Research

3.7.1 Lot 12, 80 Duane, Formerly 6 Barley and 102 Duane

Lot 12, known as 80 Duane after 1836 (formerly 6 Barley Street between 1805 and 1808, and then 102 Duane between 1809 and 1835) (see Figures 3 and 4), was an approximately 25-by-71-foot lot fronting Duane Street. In the late eighteenth century, the lots facing Duane Street on Block 154 were part of lands Henry Barclay left to his son Anthony (New York City Land Evidence, Liber 45:198) (Table 8). In 1792, Anthony sold Lot 12, along with several other lots, at auction to Robert Watts, an attorney, on behalf of Susan Barclay. Acting as Susan Barclay's trustee, Watts managed the property until he turned it over to her in 1802 (New York City Land Evidence, Liber 62:6). During his control of the property, Watts leased the lot on February 1, 1794, to Grant Cottle (New York City Land Evidence, Liber 77:9).

Cottle, who is listed as an upholsterer and paper stainer, lived on the property until 1800 (Longworth 1796–1800; Ingle et al. 1989:99) (Table 9). The 1799 tax assessments list Cottle as the taxpayer for Lots 12 and 13, which together had a value of $800. Cottle's house stood on Lot 12 while a frame structure, probably his workshop, stood on Lot 13. At this time, Cottle's personal estate was estimated at $92 (New York City Tax Assessments 1799).

By 1802, Cottle was no longer living on the lot, but he still held the lease. In 1802, Cottle rented the property to Henry Ashmore and Charles Simmons (New York City Tax Assessments 1802). Like Cottle, Ashmore was an upholsterer, suggesting that he may have taken over Cottle's business (Ingle et al. 1989:99). In 1802, Ashmore's personal estate was estimated at only $50 (New York City Tax Assessments 1802). Simmons, who was a mason, had a personal estate of $75 (New York City Tax Assessments 1802). During this year, the property's value had fallen to only $300 (New York City Tax Assessments 1802).

By 1804, Ashmore and Simmons had left and Michael Miller took over the lease on the property (New York City Land Evidence, Liber 77:7–9). In 1807, Miller purchased the property outright from Susan Barclay (New York City Land Evidence, Liber 77:7–9). Miller, who was born in 1778, was a distiller specializing in cordials. He and his family continued to both live and run the business on the lot until the late 1840s (New York City Land Evidence, Liber 757:639; Ingle et al. 1989:100). During this time, Miller gradually expanded his operations. In 1814, he purchased Lot 11 from John Curtis for $3,250 (New York City Land Evidence, Liber 104:442), and the following year he bought Lot 10, also from Curtis, for $3,500 (New York City Land Evidence, Liber 110:152).

Miller's real-estate investments did well. The property value for Lot 12 increased gradually from $1,100 in 1807 to $8,500 in 1840 (New York City Tax Assessments 1807–1840). The value of Lot 11 increased similarly from $1,700 in 1814 to $2,200 in 1825 (New York City Tax Assessments 1814–1825). Between 1825 and 1830, Lot 11's value tripled, suggesting that Miller made capital improvements on the lot (New York City Tax Assessments 1825–1840). By 1840, Miller was using this lot as a rental property, and in 1841, he sold the lot, described as containing a dwelling house, to George Miller for $10,500 (New York City Tax Assessments 1840; New York City Land Evidence, Liber 414:70). Lot 10 also increased in value. In 1814, it was valued at $1,400, but it jumped to $2,000 the following year and $8,000 in 1816, suggesting improvements were being made (New York City Tax Assessments 1814–1816). Over the next fifteen years, the value of Lot 10 slowly declined until it rose along with the general price of real estate in New York City in the early 1830s (New York City Tax Assessments 1818–1840; Blackmar 1989:200).

During his stay on Duane Street, Miller's personal estate also increased dramatically. When he moved on to Lot 12 in 1807, the tax assessments listed his personal estate at $200 (New York City Tax Assessments 1807). By 1815, his estimated personal estate rose to $1,000 (New York City Tax Assessments 1815). From 1818 to 1820, his estate stayed constant at $1,500, but by 1825 it had jumped to $4,000 (New York City Tax Assessments 1818–1825). By 1830, however, his fortunes seem to have fallen, as his personal estate is listed at $2,000 (New York City Tax Assessments 1830).

Miller's household tended to be large and probably included distillery workers or extended family. The 1810 federal census lists Miller, three white males between 16 and 26 years old, and two white women, one

between 10 and 16 years old and the other over 45 years old. The 1819 New York City census lists Miller, two other white males, and three white women in the household, but a year later the household had changed greatly. The 1820 federal census lists three white males between 26 and 45 (one of whom was Miller), three white males between 16 and 26, two white males under 10, and one white female between 26 and 45 years old. Three of these individuals were unnaturalized foreigners. The increase of five males and the removal of two females from 1819 to 1820 suggest that distillery workers or extended family, or both, were moving in and out of Miller's household. A decade later, the household only contained three individuals: Miller, a white woman between 30 and 40 years old, and another white woman between 70 and 80 years old (U.S. Bureau of the Census 1830).

Michael Miller died between October 29, 1844, and June 25, 1845. Miller's will does not mention a wife or children. Instead, Michael named his nephew George as his executor and heir (Sawyer 1939:45). George Miller continued the distillery business on Duane Street until 1848. By 1850, Lowerre, Trautmann, and Company, also cordial distillers, were operating on Lot 12 (Doggett and Rode 1851). At George's death in the 1850s, the property on Duane Street was divided among heirs and eventually sold out of the family in 1859 (New York City Land Evidence, Libers 757:215, 641, 644, 791:117).

Table 8. Owners of Lot 12

Name	Begin Date	End Date	Occupation	Source	Comments
Barclay, Anthony		1792		L	
Watts, Robert	1792	1802	Lawyer	L	Trustee for Susan Barclay Leased lot to Grant Cottle
Barclay, Susan	1802	1807		L	
Miller, Michael and George	1807	1858	Distiller	L	After 1840, George Miller inherited

Key: L = New York City Land Evidence

Table 9. Occupants of Lot 12

Name	Begin Date	End Date	Occupation	P. Est. Value	Source	Comments
Cottle, Grant	1794	1800	Upholsterer and Paper Stainer		D, T	
Ashmore, Henry	1802		Upholsterer	50	T	
Simmons, Charles	1802		Mason	75	T	
Miller, Michael	1804	1840	Distiller	200+	T, D, C	Distillery on lot

Key: P. Est. Value = Personal Estate Value; C = U.S. Census or New York City Census; D = Longworth's directories; T = New York City Tax Assessments

3.7.2 Lot 13, 78 Duane, Formerly 8 Barley and 100 Duane

Lot 13, known as 78 Duane after 1836 (formerly 8 Barley between 1805 and 1808, and then 100 Duane between 1809 and 1835), was an approximately 25-by-73-foot lot fronting Duane Street (Figures 3 and 4). The lot was originally part of the Barclay estate (Table 10). Although Lot 13 was developed before 1800, it remained a rental property for most of the first third of the nineteenth century.

The first known occupant of Lot 13 is Grant Cottle, who rented or leased the property in the final years of the eighteenth century (Table 11). The 1799 tax assessments list Cottle as having a "frame" on the property. This could refer to an unfinished dwelling or a framed structure such as Cottle's upholstery workshop. By 1802, however, a dwelling was built on the lot (New York City Tax Assessments 1802). Once the dwelling was built, the property was used primarily as a rental building for the next twenty years. During this time, the house usually contained two or three households each year. Tenant turnover was high. Most inhabitants stayed for only a year or two, and the longest known occupancy between 1802 and 1821 was only three years.

Most of the tenants seem to have been artisans or small-business owners. During the first two decades of the nineteenth century, the lot was rented to at least three different bakers (Daniel Deitch 1807–1810, Lewis Soerer 1812, and Joseph Lecour 1818–1820), suggesting that the property contained a bakery. The tax assessments indicate that the lot contained a stable in 1814 and 1815.

Table 10. Owners of Lot 13

Name	Begin Date	End Date	Occupation	P. Est. Value	Source	Comments
Barclay, Anthony	1787	1792			L	
Houseman, John	1792	1803			L	see 94:356
Van Varick, John	1803	1803			L	see 94:332, 357
Van Solinger, Daniel	1803	1810	Doctor		L	
Lorent, Joseph	1814	1816		2,500	T	by 1814 Stable and House
Curtis, John	1816	1830		2,500	T, L	
Bushnell, Giles	1830	1847	Manufacturer	4,500	T, L	

Key: P. Est. Value = Personal Estate Value; L = New York City Land Evidence; T = New York City Tax Assessments

Table 11. Occupants of Lot 13

Name	Begin Date	End Date	Occupation	P. Est. Value	Source	Comments
Cottle, Grant	1799		Upholsterer			
Shide, John	1802			100	T	
Cleman, George	1802		Barber	100	T	
Deitch, Daniel	1807	1810	Baker	150	T, D, C	
Cowan, George	1807	1807	Brewer?	100	T	A Geo. Cowan, Brewer, listed on Mulberry in the 1807 directory
Wade, Squire R.	1807	1807		100	T	
Hop, Christain	1808	1808		100	T	
Real, Louis	1808	1808		100	T	
Ferry, James	1809	1809		100	T	
Tinman, Mrs.	1810				C	Tentative location
Soerer, Lewis	1812		Baker		D	
Lorent, Joseph	1814	1815	Stable	300	T	
Ward, William	1815	1815		100	T	
Boser, Anthony	1816			300	T	
Burhes, George	1816			200	T	
Valla	1816			200	T	
Lecour, Joseph	1818	1820	Baker	200	T, C	
Bassan, John	1821				C	
Maning, Joseph	1825			100	T	
Wolf, Jonathan	1830			200	T	

Key: P. Est. Value = Personal Estate Value; C = U.S. Census or New York City Census; D = Longworth's directories; T = New York City Tax Assessments

3.7.3 Lot 14, 76 Duane, Formerly 10 Barley and 98 Duane

Lot 14, known as 76 Duane after 1836 (formerly 10 Barley between 1805 and 1808, and 98 Duane from 1809 to 1835), measured 25 feet on Duane Street, 25 feet 7½ inches at its rear, 78 feet 11 inches on its southeast side, and 73 feet, 7 inches on the northwest (New York City Land Evidence, Liber 136:171) (Figures 3 and 4).

After the creation of the Duane Street lots, the first known owners were John and Jane Johnson (Table 12). John Johnson, who owned Lots 14 and 16, died about 1794, leaving instructions to sell the lots. By 1799, a house stood on Lot 14; however, the real-estate value of $350, the cheapest on the street, suggests that the house was not substantial. The occupants of the house during this time are unknown. Jane Johnson seems to have lived on Catharine Street (Longworth 1797–1799); the tax records (New York City Tax Assessments 1799) list no tenants; and no individuals listed in the 1800 federal census could be identified as living on the lot.

In 1803, Jane Johnson sold the property to Henry Traphagen who was already occupying the lot (New York City Land Evidence, Liber 73:17; New York City Tax Assessments 1802) (Table 13). Traphagen, a carpenter, probably made substantial improvements to the house or rebuilt it altogether as the 1802 tax assessments list the property as one of the most valuable on the block at $1,100. Traphagen's capital seems to have been tied up in the property as his personal estate was only worth between $75 and $100. To supplement his income, Traphagen and his wife Elizabeth took in several boarders each year until he moved off the lot in 1807. In 1809, African-American butcher Charles Hendrickson, who had previously lived two doors down, moved into the house. Joining him, at least in 1809, was Caesar Nichols. Nichols, whose occupation has not been established, had a personal estate of $100 and was probably also of African descent. By 1811, he had moved to 18 Division Street.

In 1810, Traphagen, established as a farmer in Ulster County, New York, sold the lot to John McCombs for $2,000 (New York City Land Evidence, Liber 87:167). McCombs, a bricklayer and paver, already owned and occupied property (Lot 15) on Republican Alley (New York City Tax Assessments 1807). McCombs, and later his widow, continued to use Lot 14 as a rental property until she sold it to Ezra Woodhull in 1823 (New York City Land Evidence, Libers 136:171, 136:178). Despite the change in owners, Charles Hendrickson remained on the lot until 1812 or 1813, whereupon successive tenants occupied the lot through the 1820s.

Table 12. Owners of Lot 14

Name	Begin Date	End Date	Occupation	Source	Comments
Barclay, Anthony					
Johnson, John		1794		L	
Johnson, Jane	1794	1803		T	
Traphagen, Henry	1803	1809		T	Listed as owner on 1803 tax assessment
McCombs, John	1810	1814	Paver	T	
McCombs, Widow	1814	1818		T	
Woodhull, Ezra	1819	1823	Merchant	T, L	
Walker, Richard	1823	1836	Physician	T, L	Sold by widow Cornelia Walker
Walker, Edward	1836	1836		L	
Bogart, Alwyn	1836	1839	Physician	L	
Walker, George	1839	?		L	Defaulted on mortgage? before 1848
Knowles, Jane	?	1848		L	
Morris, Peter	1848	1851		L	

Key: L = New York City Land Evidence; T = New York City Tax Assessments

Table 13. Occupants of Lot 14

Name	Begin Date	End Date	Occupation	P. Est. Value	Source	Comments
Traphagen, Henry	1802	1807		75-100	T	
Carpenter, James	1803				D	
Latch, Jacob	1807	1807		100	T	
Stillwell, John	1807	1807		100	T	
Craven, James	1808			100	T	
Hendrickson, Charles	1809	1812	Butcher	100	T, D, C	African American, also called Henderickson
Nichols, Caesar	1809			100	T	Probably African American, gone by 1811
Foster, Andrew	1814	1816		100	T	Also called Forrester
Tomkin, William	1814	1816	Printer		T	
Clum, John	1818			500	T	
Hyde, Michael	1820			100	T	
McDonough, John	1821	1825		200	T	

Key: P. Est. Value = Personal Estate Value; C = U.S. Census or New York City Census; D = Longworth's directories; T = New York City Tax Assessments

3.7.4 Lot 15, 74 Duane, Formerly 12 Barley and 96 Duane

Lot 15, known as 74 Duane after 1836 (formerly 12 Barley from 1805 to 1808, and then 96 Duane between 1809 and 1835), measured roughly 25 feet in width and 79 feet in length (see Figures 3 and 4). The first known occupant and owner (Tables 14 and 15) was Wiert (sometimes listed as Wert, Weart, Ernst, and Mark) Valentine, a cartman and dock builder, who bought the property in 1796. Valentine's house was probably fairly substantial as his property had the highest real-estate value ($1,400) on the street even through the lot was average size (New York City Tax Assessments 1799). Valentine's personal estate, however, was only worth $100.

The 1800 federal census lists Valentine as being between 26 and 44 years old, making it likely that he was the same Wiert Valentine who was born to Jacob Valentine and Margaret Banta on January 31, 1765, in Rockland County, New York (Mackenzie 1941:13). Wiert married Metje Meyer, and according to family tradition moved to Harlem (Mackenzie 1941:13). Yet, all the primary sources suggest that the family lived in Manhattan from 1796 until at least 1817. The 1800 census notes that Wiert and Metje had two boys under ten, two girls under ten, and a girl between 10 and 16 years old living with them. Most likely these were their children.

The Longworth directories list Valentine as a cartman from 1796 to 1812 and, occasionally, as a dock builder or a laborer. In 1805, he was listed as a cartman in the second class, operating cart number 85 (Longworth 1805). At that time, there were 1,200 cartmen in the city, each with his licensee number painted on the side of his cart (Hodges 1986:2). The classes of cartmen were organizational units developed in 1788 to help regulate and oversee the drivers. Each class was headed by a foreman, who handled problems. The classes were not hierarchical—each class had the same responsibilities, privileges, and prestige as the others (Hodges 1986:78).

During the eighteenth and early nineteenth centuries, cartmen formed an important special-interest group within New York. The number of licenses distributed by the city limited the number of cartmen. The city also regulated the amount they could charge per haul, allowed them to own only a single horse and cart, and forbade them from hiring full-time employees. Yet, cartmen were also granted special privileges, such as freeman status and exclusive rights to haul goods within the city (Hodges 1986:3). Although considered semi-skilled work, a career as a cartman was desirable for much of New York's population. Once licensed, cartmen often kept their jobs for decades and passed their businesses on to their children (Hodges 1986:37–

38). Cartmen's incomes varied. In 1785, cartmen made between 25 and 50 cents a day at a time when skilled artisans made about 55 cents a day (Hodges 1986:75). Yet, between 1807 and 1809, cartmen were making $1.75 a day for an economic stimulus package—well above the standard wage for skilled labor (Hodges 1986:118). By the end of their careers, some cartmen had acquired sizable estates.

As a close-knit and important political group, cartmen often were appointed to minor government positions, such as inspector, measurer, and watchman (Hodges 1986:72). Valentine followed suit by holding a night-watchman position for the city of New York. He is listed in the Common Council Minutes of April 4, 1803, as a night watchman in Jacob Hays Company of the Third District. Graham Hodges (1986:73) notes that being a watchman was a part-time job that in 1789 brought in 50 cents a night for what was probably light work. On August 15, 1803, Valentine was suspended for an undisclosed reason and replaced the following July. In December of 1804, he was allowed back on the force as a substitute, and in February 1805 was appointed to Captain Gobels Company, replacing the deceased John Doremus. Valentine kept this position until August 1808 when "Captain Anderson...suspended Weart Valentine for sleeping at his post." After this suspension, Valentine is not listed again as a night watchman (Common Council City of New York 1917[3]:257, 375, 564, 651, 684; [5]:243).

Living at the same address with the Valentines were Thomas Meyers (or Myers) and his family, an African-American woman named Harriett, and Martin Ramsey (Table 15). Meyers was also a cartman. He lived there from at least 1800 until the Valentines moved out in 1809. In 1800, his household included a middle-aged man and woman (probably Meyers and his wife), two children under ten, and a woman over 45 (U.S. Bureau of the Census 1800). As the two families shared the house for at least nine years, and Metje's maiden name was Meyer, it is likely that the two families were related. This fits a pattern noted by Hodges (1986:38) in which cartmen were often related by marriage and descent. Furthermore, cartmen tended to congregate in specific neighborhoods. For example, in 1801, 89 percent of the city's cartmen lived in the Sixth and Seventh Wards (Hodges 1986:110). On Block 154, nearly five percent of the block's working inhabitants were employed in the transportation trades, and the block's inhabitants included members of the city's leading cartman families, such as the Ackermans, Blauveldts, Browers, Days, and Bogerts (Longworth 1798–1820; New York City Tax Assessments 1799–1825; Hodges 1986).

Little is known about Harriett, who also lived on the lot. The census lists no age or last name, making her nearly untraceable. The census does indicate, however, that she was free. Like the Valentines and Meyers, the Ramsey family was also a young family. The household consisted of a middle-aged man and woman with children under ten.

In 1810, Valentine sold the property to John West (New York City Tax Assessments 1810). Directory entries suggest that the Valentines and the Meyerses went separate ways. Following a general pattern for cartmen at this time, the two families left the Sixth Ward and moved to the newly developed Eighth and Tenth Wards (Hodges 1986:123). The Valentines are listed on Thompson Street in 1811, Broome and Second in 1812, Broome and First in 1814, and 38 Crosby in 1816 and 1817 (Elliot and Crissy 1811; Longworth 1811–1817). Thomas Myers is listed at Budd Street in 1810, Sullivan Street in 1811, and Otters Alley near Thompson in 1820 (Elliot and Crissy 1811; Longworth 1811–1820) in the same neighborhood. Unlike the neighborhood around Block 154 where cartmen and laborers lived next door to gentlemen and merchants, their new neighborhoods were inhabited nearly exclusively by the working class and small-business owners. The 1816 and 1819 New York City censuses show cartmen, carpenters, and artisans dominating the areas.

Upon acquiring Lot 15 of Block 154, John West probably rebuilt the house as the 1810 tax assessment lists the house as "unfinished." As a result, it is likely that the lot was uninhabited when the block was visited for the 1810 federal census. By 1812, the house was finished and rented to Sarah Williams (a washer who had lived next door on Lot 16 the previous year) and Mary Turshoe (Longworth 1812). The race of these women is unknown. A white family headed by William Williams, which included an over-45-year-old woman, lived on Lot 16 in 1810 (U.S. Bureau of the Census 1810). It is, therefore, likely that Sarah Williams is this woman. Subsequent tenants included Doctor Dulack in 1814 and shoemakers John Dixon and James Gill in 1815.

In 1816, Francis Many, a grocer, purchased the property. The tax assessments from 1816 to 1820 list the property as an open lot suggesting that Many demolished the house West built in 1810/1811. The land was transferred to Ezra Woodhull in 1819, who, in turn, sold the property to Doctor Richard L. Walker in 1823 (New York City Land Evidence, Liber 169:378). By 1825, Walker was living on the property, which remained in his or his heirs' hands until 1836 (New York City Land Evidence, Libers 349:562, 354:204).

Before 1819, the southern portion of Lot 15 was conveyed separately. This parcel was originally part of the Van Borsum parcel and was officially part of the Negro Burying Ground. By the late eighteenth century, Henry H. Kip owned it (Table 16). On August 13, 1804, commissioners appointed by the Supreme Court of the state of New York sold the parcel to James Sergeant. A month later, Sergeant sold the land, described as "a certain gore or parcel of ground in the rear of a number of lots which front on Barley street…containing at one end ten inches and at the other end twenty-one feet and in length one hundred and fifty eight feet" (the rear portions of Lots 11 through 16), to Henry Van Solingen. Seven months later, on April 13, 1805, Van Solingen sold the property to John McCombs, a paver (New York City Land Evidence, Liber 82:19–21).

Although McCombs did not live on the parcel, he was the first to develop it as a residential property. By 1807, the tax records list a house occupied by renters (Table 17). Most of these residents stayed only a year or two. John McCombs died between 1810 and 1814, whereupon his wife continued to manage the property. In late 1818 or early 1819, this back lot was acquired by Ezra Woodhull, the owner of the northern part of Lot 15 (New York City Tax Assessments 1818, 1819). From that point onwards, the two parcels were conveyed as a single lot.

Table 14. Owners of Lot 15, Duane Street Property

Name	Begin Date	End Date	Occupation	Source	Comments
Barclay, Anthony					
Valentine, Weart	1796	1809	Cartman	T, D	Also listed as a dock builder
West, John	1810	1815		T	House listed as unfinished in 1810 Tax Assessment
Many, Francis	1816	1818		T, L	Open lot
Woodhull, Ezra	1819	1823		T	Open lot in 1819–1820
Walker, Richard	1823	1836		L	
Walker, Edward	1836	1836		L	
Bogart, Alwyn	1836	1839		L	
Walker, George	1839	1850		L	

Key: D = Longworth's directories; L = New York City Land Evidence; T = New York City Tax Assessments

Table 15. Occupants of Lot 15, Duane Street Property

Name	Begin Date	End Date	Occupation	P. Est. Value	Source	Comments
Valentine, Weart	1796	1809	Cartman	100	T, D	Also listed as a dock builder
Meyers, Thomas	1800	1809	Cartman	100	T	
Harriett	1800				C	African American
Ramsey, Martin	1800				C	
Williams, Sarah	1812		Washer		D	
Turshoe, Mary	1812				D	
Dulack, Dr.	1814		Doctor	200	T	
Dixon, John	1815		Shoemaker	100	T	
Gill, James	1815		Shoemaker	100	T	
None (open lot)	1816	1820				
Walker, Richard L.	1825		Doctor		T	

Key: P. Est. Value = Personal Estate Value; C = U.S. Census or New York City Census; D = Longworth's directories; T = New York City Tax Assessments

Table 16. Owners of Lot 15, Republican Alley Property

Name	Begin Date	End Date	Occupation	Source	Comments
Kip, Henry		1804		L	Sold by order of NY State Supreme Court
Sergeant, James	1804	1804		L	
Van Solingen, Henry	1804	1805	Physician	L	82:19
McCombs, John	1805	Unk	Paver	L, T	Died 1810–1814
McCombs, Widow	By 1814	1818	Widow	T	
Woodhull, Ezra	1819	1823		T	Open lot in 1819–1820
Walker, Richard	1823	1836		L	
Walker, Edward	1836	1836		L	

Key: L = New York City Land Evidence; T = New York City Tax Assessments

Table 17. Occupants of Lot 15, Republican Alley Property

Name	Begin Date	End Date	Occupation	P. Est. Value	Source
McCombs, Samuel	1807	1809		100	T
Meighan, Arthur	1807			100	T
Mazer, Roger	1807			100	T
Magee, Roderick	1808			100	T
Byrns, Robert	1808			100	T
Foster, William	1809	1812	Cartman	100	T, D, C
White, James	1809	1810		100	T
Chaney, Christopher	1810	1812	Cartman	100	T, D, C
Fairfoot, John	1810				C
McClary, John	1816	1818		100	T
Campbell, Robert	1816			100	T
Debingham, Charles	1818			100	T

Key: P. Est. Value = Personal Estate Value; C = U.S. Census or New York City Census; D = Longworth's directories; T = New York City Tax Assessments

3.7.5 Lot 16, 72 Duane, Formerly 14 Barley and 94 Duane

Lot 16, known as 72 Duane after 1836 (formerly 14 Barley from 1805 to 1808, and then 94 Duane between 1809 and 1835), measured 25 feet across and 78 feet 8 inches in length (Figures 3 and 4). Until 1804, the lot's rear did not extend to Republican Alley, but instead bordered on the African Burial Ground and the subsequent Republican Alley properties (New York City Land Evidence, Liber 95:159).

John and Jane Johnson purchased Lot 16, presumably from Anthony Barclay, before February 1794 (Table 18). On February 14, 1794, Johnson sold the property to Henry Fink, a laborer (New York City Land Evidence, Liber 49:474). Fink kept the property until 1797 when he sold it to John Freeland, also written as Vreelandt, for $1,737.50 (New York City Land Evidence, Liber 176:49). At the time, Freeland was listed as a merchant from Bergen, New Jersey. By 1799, he had moved to the Duane (then Barley) Street property (Table 19). That year the tax assessments listed the property as worth $600 and his personal estate at $92 (New York City Tax Assessments 1799). At this time, Freeland and his wife were middle-aged (between 26 and 45) and had two sons under ten. The family also had one enslaved worker. Living with the Freelands was John Day, his wife, and his young son. Day, a carpenter, settled on the lot by 1799 and stayed until 1802. With a personal estate valued at $75, Day would not have been considered a wealthy man (New York City Tax Assessments 1799). In some years Freeland attracted other tenants. For example, in 1802, William Brower, a cabinetmaker, and John Haviland also lived in the house (New York City Tax Assessments 1802).

John Bacon, a cutler and ironmonger, purchased the Duane Street portion of Lot 16 from Freeland in 1803, and the following year bought the section fronting on Republican Alley from James Sergeant (New York City Land Evidence, Liber 95:159, 95:162). From 1803 until his death in 1818, Bacon remained an absentee owner living, at least in 1811, at 194 Water Street (Longworth 1803–1818). Although he owned the entire lot, Bacon maintained two houses on the property, which he and his heir continued to rent until his daughter, Lettice Grayson, sold the property between 1825 and 1830 (New York City Tax Assessments 1825, 1830).

During the first decade of the nineteenth century, the house facing Duane Street was commonly rented to African Americans. The first known of Bacon's tenants was Charles Hendrickson, the black butcher who later moved to Lot 14. Hendrickson lived on the property from 1806 to 1808. The 1810 federal census suggests that a white family and four black families occupied the house. The white household, besides the head William Williams, consisted of a woman over 45, a woman between 26 and 45 years old, and three girls under 16. Longworth's 1811 city directory omits William Williams, but does list a Sarah Williams at 94 Duane, suggesting that William may have died in the meantime. The other four households consisted of Mrs. Leurs and two dependents, Marian and two dependents, Rosannah Wallace and a dependent, and Betsey King and a dependent. Unfortunately, the 1810 federal census does not provide the age or sex of non-whites. Yet, as the women are listed separately and there are no black males listed, we can hypothesize that the dependents were these women's children. Because African Americans are often omitted from the tax records, the duration of these households' tenancy is unknown.

Each year from 1812 through 1819, at least two families shared the house. In 1812, the Williams family moved next door and Silas Totten took their place (Longworth 1812). Totten, a wheelwright, stayed until 1815. During his tenure, Totten shared the house first with Jane Murray in 1812 and then with James Sheed and Hugh Spear in 1814. The 1816 tax assessments list Adolph Cutterfield and "Curtis" as occupying the house. As Curtis is known only by one name, it is possible that he is African American. By 1819, the house's inhabitants had turned over again. Two widows and their families shared the building. L. Bennett, an African American who lived with two black males and three black females, headed the first family. The second was Widow Tichnor who lived with a white male and three white females (New York City Census 1819). Both of these households were gone by the next year (U.S. Bureau of the Census 1820). The house's inhabitants in 1820 cannot be determined with certainty, but they are likely to be several of the six households listed between the inhabitants of 92 and 100 Duane Street in the 1820 federal census. Of these families, the most likely candidates are households headed by John Snyder and Joseph Jennings. Both of these households seemed to be young white families.

On April 27, 1803, John Freeland sold the rear of Lot 16 to John Bacon (New York City Land Evidence, Liber 95:159). Between 1803 and 1807, John Bacon built a house facing Republican Alley (New York City

Tax Assessments 1802, 1807). John Gallagher, the building's first known resident, rented the property from its inception until 1825 (Table 20). Gallagher was born in 1757 and worked as a mason (New York City Census 1819). The 1810 federal census suggests that Gallagher (listed as James instead of John) had two sons and two daughters born between 1800 and 1810. By 1820, neither daughter was living with the family, but a third male, who was between 10 and 26 years old, had joined the family (U.S. Bureau of the Census 1820).

During his occupation, Gallagher shared the house with several other families each year. For example, in 1807, Felix Conolly, a tailor, and Christopher (or John) Goodman, and, perhaps, their families lived with Gallagher. A number of Gallagher's co-tenants were African American. For example, the 1810 federal census suggests that two African-American families, headed by Hannah Elliot and Mary Brown, lived in the house. Both of these households contained five individuals, but their occupations are unknown. Neither Elliot nor Brown is listed as an occupant two years later in Longworth's 1812 double directory, but others are listed. The 1819 New York City census lists two "coloured" and four "coloured" females in Gallagher's household. The race of other tenants is indeterminable, but many have Irish surnames, such as McGunnegan, McCormick, and Sweeney. Generally, the tenants were employed as artisans or laborers.

During Gallagher's tenancy, John Bacon died and willed the property to his daughter Lettice Grayson (New York City Land Evidence, Liber 131:330). Grayson continued to rent each of the houses on Lot 16 separately, and Gallagher remained at the Republican Alley address until the late 1820s (New York City Tax Assessments 1825, 1830).

Table 18. Owners of Lot 16, Duane Street Property

Name	Begin Date	End Date	Source	Comments
Barclay, Anthony		?	L	
Johnson, John		1794	L	
Fink, Henry	1794	1797	L	
Freeland, John	1797	1803	L, T	Also known as Vreelandt
Bacon, John	1803	1818	L, T	
Grayson, Lettice	1819	1825		Sold by 1830

Key: L = New York City Land Evidence; T = New York City Tax Assessments

Table 19. Occupants of Lot 16, Duane Street Property

Name	Begin Date	End Date	Occupation	P. Est. Value	Source	Comments
Freeland, John	1799	1800		92	T, C	
Day, John	1799	1802	Carpenter	75	T, D	
Brower, William	1802			150	T	
Haviland, John	1802			75	T	
Hendrickson, Charles	1806	1808	Butcher	200	T, D	Moves to 76 Duane in 1809
Williams, William	1810				C	
Mrs. Leurs Marian Wallace, Rosannah King, Betsey	1810				C	Also listed in the Williams household
Williams, Sarah	1811		Washer		D	At 96 Duane in 1812
Totten, Silas	1812	1815	Wheelwright	100	D, T	
Murray, Jane	1812				D	
Sheed, James	1814			100	T	
Spear, Hugh	1814			100	T	
Cutterfield, Adolph	1816			100	T	
Curtis	1816			50	T	Probably Free African American
Bennett, L.	1819		Widow		C	Free African American
Tichnor	1819		Widow		C	White

Key: P. Est. Value = Personal Estate Value; C = U.S. Census or New York City Census; D = Longworth's directories; T= New York City Tax Assessments

Table 20. Occupants of Lot 16, Republican Alley Property

Name	Begin Date	End Date	Occupation	P. Est. Value	Source	Comments
Gallagher, John	1807	1825	Mason	100	D, T, C	Includes 6 unnamed "coloured" inhabitants in 1819
Conolly, Felix	1807		Tailor	100	T	
Goodman, Christopher	1807			100	T	
Goodman, John	1808	1809		100	T	
McGunnegan, Phelim	1808	1809	Chandler	100	T, D	
Jackson, Edward	1810			100	T	
Brown, Mary	1810				C	Non-white, probable location
Elliot, Hannah	1810				C	Non-white, probable location
Callaghan, John	1812				D	
Rock, James	1812				D	
McCormick, Edward	1812		Day laborer		D	
Shepard, Thomas	1815			50	T	
Kellog, Horace	1816			100	T	
Westmill, Timothy	1818	1820		100	T	or Withershill
Jones, Joseph	1821				T	
Sweeney, Terance	1825			100	T	

Key: P. Est. Value = Personal Estate Value; C = U.S. Census or New York City Census; D = Longworth's directories; T = New York City Tax Assessments

3.7.6 Lot 17, 70 Duane, Formerly 16 Barley and 92 Duane

Lot 17, known as 70 Duane Street (formerly 16 Barley from 1805 to 1808, and then 92 Duane between 1809 and 1835), was probably first developed soon after James and Susan Sergeant purchased the property from Richard Wenman on March 25, 1797 (New York City Land Evidence, Liber 70:242–244; Figures 3 and 4) (Table 21). At this time, the lot was divided into two sections. The northern half, facing Barley Street, measured 25 feet wide and 41 feet 9 inches deep, while the south section, facing Republican Alley, was nearly 25 feet wide and 35 feet long. Although Sergeant owned both sections, he seems to have developed each property separately. Sergeant, who is listed as both a cartman and a coal merchant, did not live on the property but instead resided at 15 Rector Street. During the six years the Sergeants held the section fronting Barley Street, they seem to have rented mostly to African Americans.

The first known tenant is William Williams, an African-American confectioner (Table 22). Williams lived on the lot with his wife Sarah and two other black dependents until his death in 1801–1802. Sarah Williams stayed at the address for at least another year, and perhaps until Sergeant sold the property in 1805. It is possible that this Williams family is the same Williams family that lived on Lot 16 in 1810 and on Lot 15 in 1812. Although the Lot 17 family is listed as black and the other family is listed as white, both heads-of-household were named William and both contained women named Sarah. As the confectioner probably died in 1801 or 1802, the later William Williams (born between 1765 and 1785) may have been the confectioner's son. In support of this interpretation, the later Williams household included a woman (born before 1765) who would be the right age to be the mother of the second William. Could this be the same unlucky woman who took over as head-of-household after both her husband's and son's deaths?

The 1800 federal census lists three other household heads between William Williams and John Day who lived next door. These families, two of whom were African American, may also have lived in the house on

Lot 17. These included John Sanay, "a mulatto" with three dependents; Primus Sackett, "a black" with two dependents; and Benjamin Highland, a white laborer. Except for an 1801 directory listing for "Primus Sackett, Barley" (no occupation listed), no other information has been found on these families. The occupants of the Republican Alley section of Lot 17 during this time period are unknown. It is possible that this part of the lot was undeveloped, or that the Sacketts and Sanays or Highland lived there, or that other unidentified families lived on the alley.

On April 15, 1805, the Sergeants sold the section fronting Barley to Madame Magdalen Bertin dite Zaire, a "colored" woman from Haiti (U.S. Bureau of the Census 1810; New York City Census 1819; New York City Wills, Liber 57:550). The deed states that the lot was bounded "southwesterly in the rear by a house and lot of ground situated in Republican Alley," suggesting that the alley lot was developed by 1805 (New York City Land Evidence, Liber 70:242–244).

According to her will, Bertin was born "in the Island of St. Domingo or Hayti [*sic*] and formerly resid[ed] at Port de Paix and Cape Francois" where she continued to hold claim to land (New York City Wills, Liber 57:550). Unfortunately, the date of her immigration to New York is unknown, but we can speculate that she left Haiti during, or just after, the 1793 revolution. Shane White (1991:155) notes that about 10,000 people fled Saint Dominique during the revolution and settled in the United States. A number, especially French Royalists, settled in New York. These included whites and free mulattos and blacks, as well as enslaved African Americans (White 1991:155).

New Yorkers seemed unsure how to classify Madame Bertin racially. At a time when people of African descent had the labels "black," "colored," or "Negro" attached to their names in official documents, Bertin's will, deeds, tax records, and directory listings make no mention of race. The censuses, however, provide more clues. The 1810 federal census lists her household as containing two "other free persons except Indians" and two enslaved persons. The 1819 New York City census lists her household as containing five white females, one alien male, and one colored female. The age column in this census was left blank, conforming to the pattern for all non-white entries. The 1820 federal census does not list Bertin or any other African Americans living on the lot, even though Bertin's 1823 will states that she lived there with her servants.

The directories show that people were also confused by her name. Although in her will and in the deeds she refers to herself as Madame Magdalen Bertin dite Zaire, the directories call her "Magdalen Berlin," "Madame Berlin," "Madame Bartine," and "Mad Mag Bingin" (Longworth 1807–1815). The suffix added to Bertin's name is known as a "dit name." Dit names are aliases given to entire families—a practice common in French-speaking countries. Dit names were often used to differentiate between families with similar last names or to add information about a family. For example, dit names often derived from the family's place of origin, or a common ancestor. Unlike nicknames, dit names are passed to descendants and can legally be used in place of a family name. Unfortunately, the records do not explain the origin of Bertin's dit name. It is possible, however, that since the Zaire River runs through the Congo and Angola, areas where the native population was devastated by the slave trade (Curtin et al. 1978:218, 424), that the nickname identifies either her birthplace or denotes her African heritage.

There is also no information on Bertin's occupation. She was not a particularly wealthy woman. Although the house on Duane Street was worth $2,000 in 1820, her personal estate was listed at $200 in both 1816 and 1820. Her will specifically bequeaths $200, the house, and "several house lots on grounds and plantations in different places in the department of the North in the Island of St. Domingo" which she owned at the time of her departure from Haiti (New York City Wills, Liber 57:550). In all likelihood, Bertin lost control of these properties once she left Haiti. Throughout her stay on Duane Street, Bertin had servants. As mentioned above, she claimed two enslaved workers in her household in 1810, and her 1823 will names her "servant woman" Magdalen Chernette as a beneficiary.

Bertin's heirs sold the property shortly after her death to Lettice Grayson who also owned 94 Duane (Lot 16) (New York City Tax Assessments 1825). Grayson used the house as a rental property, but the tenants are unknown. In 1830, the property was occupied, and perhaps owned, by Robert Walsh and his two dependents. Other tenants in 1830 may have included Honora Roach and her eight dependents, and Peter

Cogle and his two dependents (New York City Tax Assessments 1830; U.S. Bureau of the Census 1830). In 1835, the property was purchased from the Master in Chancery by Uriah Levy, the owner and restorer of Thomas Jefferson's Monticello (New York City Land Evidence, Liber 330:517). Levy continued to use it as a rental property.

James and Susan Sergeant held the Republican Alley property until 1817 (Table 23). During this time, they rented the house to a variety of artisans (Table 24). Tenant turnover was rapid. Between 1807 and 1822, at least 22 different families rented the property. Most years three or four families shared the house. For example, in 1810, Samuel Ogden, a shoemaker with two dependents, George McGarrick and two dependents, Elizabeth Gilchrist, an elderly woman, and Walter Fisher, a mason with three dependents, lived in the house (U.S. Bureau of the Census 1810; Longworth 1810). The Fisher family was the only long-term tenant. The family lived in the house from 1807 to 1816 (New York City Tax Assessments 1807–1816). In 1817, the Sergeants sold the property to Alexander Campbell, a cartman, who had lived on the block since 1804 (New York City Land Evidence, Liber 122:387; New York City Tax Assessments 1800–1820).

Campbell rented the property on Lot 17 while he lived in James Anderson's house on the south side of Republican Alley (New York City Tax Assessments 1818, 1819). Campbell's tenants continued to be artisans and laborers. Many had Irish surnames and others were African American. For example, in 1819, Patrick Boyle, a 30-year-old journeyman stonecutter, rented the property. His large household included one white male, seven white females, two alien males, two alien females, three "coloured" males, and three "coloured" females (New York City Census 1819). After his death, Campbell's widow continued to manage the property. In 1840, the properties facing Republican Alley and Duane Street were still owned by different people. This probably continued into the second half of the nineteenth century, as the 1853 Perris map depicts two frame houses on the lot—one facing the alley and another facing Duane Street.

Table 21. Owners of Lot 17, Duane Street Property

Name	Begin Date	End Date	Real Est. Value	Source	Comments
Wenman, Richard		1797		L	
Sergeant, James	1797	1805		L	
Bartine, Mad	1805	1823		L, T, D	
Grayson, Widow				T	in 1825
Walsh, Robert	1830		2,200	T	
Levy, Uriah	1835		4,000	L, T	Owner of Monticello, VA

Key: D = Longworth's directories; L = New York City Land Evidence; T = New York City Tax Assessments

Table 22. Occupants of Lot 17, Duane Street Property

Name	Begin Date	End Date	Occupation	P. Est. Value	Source	Comments
Williamson, William[1]	1799			87	T	
Williams, William	1800	1801	Confectioner		C, D	African American
Sanay, John	1800				C	African American
Sackett, Primus	1800	1801			C	African American
Williams, Wid of Wm	1802		Confectioner		T, D	African American
Passel, Monsieur	1807			200	T	
Denous, (Illegible)	1814			200	T	
McCartney, Samuel	1820			100	T	

Key: P. Est. Value = Personal Estate Value; C = U.S. Census or New York City Census; D = Longworth's directories; T = New York City Tax Assessments

NOTES:
1. Probably the same as William Williams.

Table 23. Owners of Lot 17, Republican Alley Property

Name	Begin Date	End Date	Source	Comments
Sergeant, James	1797	1817	L	
Campbell, Alexander	1817	1840+	L	

Key for Sources: L= New York City Land Evidence

Table 24. Occupants of Lot 17, Republican Alley Property

Name	Begin Date	End Date	Occupation	P. Est. Value	Source	Comments
Fisher, Walter	1807	1816	Mason	100	T, D, C	
Docyee, Abraham	1807			100	T	
Magee, James	1807			100	T	
Edwards, Thomas	1807		Sawyer	100	T, D	
Wilson, Stewart	1807	1812	Laborer		D	
Brady, Terence	1808			100	T	
Farnell, Thomas	1808		Tailor	100	T	
Lyons, Joseph	1808			100	T	
Cain, Frederick	1809			100	T	
Ogden, Samuel	1810		Shoemaker	100	T, D, C	
McGarrick, George	1810			100	T, C	
Gilchrist, Elizabeth	1810				C	Probable Location
Newton, Francis	1812		Weaver		D	
Russell, Joseph	1814			100	T	
McFarland, William	1815			100	T	
Burk, Michael	1815			100	T	
Bennet, James	1816			100	T	
Davis, Davis	1816			100	T	
Gillespie, Francis	1818			100	T	
Dillon, David	1818	1820		100	T, C	
Croakin, Daniel	1819			100	T	
Boyle, Patrick	1819		Stonecutter	100	T, C	Included 6 unnamed "coloured" inhabitants

Key: P. Est. Value = Personal Estate Value; C = U.S. Census or New York City Census; D = Longworth's directories; T= New York City Tax Assessments

3.7.7 Lot 18, 68 Duane, Formerly 18 Barley and 90 Duane

Lot 18, known as 68 Duane after 1836 (formerly 18 Barley Street from 1805 to 1808, and then 90 Duane from 1809 to 1835), was a 20-by-74-foot lot fronting Duane Street to the north, and Republican Alley to the south (Figures 3 and 4). Although the Barclay family probably sold the property in the 1790s (Table 25), it remained undeveloped until William Spencer purchased it from Robert Snow in 1801 (New York City Land Evidence, Liber 172:194). Spencer, a bricklayer, built a house on the lot the same year and occupied it through 1806 (Table 26). During this time, Spencer and his family may have lived alone as there is no evidence that Spencer rented part of the house to another family or took in boarders. In 1807, Spencer sold the property to George and Catharine Smith, a silver plater (New York City Land Evidence, Liber 172:194). Smith and his family lived in the house until 1825. During this period, the members of the Smith family were the house's sole occupants. Smith was born about 1769. The 1810 federal census suggests that Smith was married with two sons under 10, a daughter under 10, and either a 16-to-26-year-old daughter or a white servant. In 1819 and 1820, the Smith household contained a boy under 10, two boys between 10 and 16, two girls under 10, Smith, and his wife (New York City Census 1819; U.S. Bureau of the Census 1820). The 1810, 1819, and 1820 censuses suggest that Smith did not own enslaved African Americans or employ African-American servants. Although Smith was not wealthy, his taxable personal estate was estimated between $100 and $400, making it above the block's median. In 1826, George and Catharine sold the

property to physician David Hosack for $1,900 (New York City Land Evidence, Liber 208:158). In the same year, Hosack also purchased the adjacent lot to the east and combined the two properties to make Lot 18 its present size.

David Hosack (1769–1835), a graduate of both Columbia and Princeton, became a professor of botany and medicine at Columbia College in 1795. He was the attending physician at the duel between Aaron Burr and Alexander Hamilton and later helped form Bellevue Hospital and the New York Historical Society (Mooney 1995:560). On April 11, 1826, Hosack and others resigned from the College of Physicians and Surgeons over differences with the trustees. Hosack purchased the two lots on Duane Street with his own money to establish a medical school to rival his late college. The buildings were renovated to contain "a lecture hall, amphitheater, and laboratories, and was equipped with…anatomical preparations, specimens, chemical apparatus, and minerals" (Robbins 1964:122). To grant degrees, the new school needed to be affiliated with an established institution. Upon reaching an agreement with Rutgers University, Hosack named the new school the Rutgers Medical College in New York City and started classes on November 6, 1826, with 153 students. The College of Physicians and Surgeons challenged the school's existence on the grounds that it infringed on the established college's franchise rights. In August 1830, the New York Supreme Court found in favor of the College of Physicians and Hosack's school was closed in November 1830 (Robbins 1964:132). Five years later, David Hosack died intestate at the age of 66. To settle the estate and pay debts, the property on Duane Street, along with other properties, was sold.

Table 25. Owners of Lot 18 (formerly 90 Duane and 18 Barley)

Name	Begin Date	End Date	Occupation	Source	Comments
Stout, Peter		1798	House Carpenter	L	4 Lots, Sale or Mortgage–Unclear
Snow, Robert	1798	1801	Accountant	T, L	Open Lot in 1799
Spencer, William	1801	1807		T, L	
Smith, George	1807	1826	Silver Plater	T, L	
Hosack, David	1826	1835	Physician	L	Owned jointly with partners, Combined 66 and 68 Duane into one lot
Van Wyck, Abraham	1835	1836	Merchant	L	
Many Short-term Owners	1836	1850		L	

Key: L = New York City Land Evidence; T = New York City Tax Assessments

Table 26. Occupants of Lot 18 (formerly 90 Duane and 18 Barley)

Name	Begin Date	End Date	Occupation	P. Est. Value	Source	Comments
None	1799	1800				Open Lot
Spencer, William	1802	1807	Bricklayer	75	T, D	
Smith, George	1807	1825	Silver Plater	100–400	T, D	Seems to be a single-family home

Key: P. Est. Value = Personal Estate Value; D = Longworth's directories; T = New York City Tax Assessments

3.7.8 Lot 18, 66 Duane, Formerly 20 Barley and 88 Duane

Although from the mid-nineteenth to late twentieth centuries this property was part of Lot 18, before 1826 it was deeded separately (Figures 3 and 4). During this early period, the lot measured 20 by 74 feet and was known as 66 Duane after 1836 and formerly as 20 Barley between 1805 and 1808 and 88 Duane from 1809 to 1835. John Pool, the lot's first occupant, purchased the property from an unknown source in 1799, built a house, and moved in the same year (Tables 27 and 28). The 1800 federal census suggests that Pool, a cooper, and his wife had two sons and two daughters, all under ten years old. They were no African Americans in

their household. Two households, headed by James Liseroft and Abraham Quick, appear in the census after Pool and before William Williams, who lived on Lot 17. These families may have shared the house with the Pools or they could have lived on a nearby lot. Both households were young white families, and both sets of parents were between 16 and 25 years old. The Liserofts had a daughter under ten, and the Quicks had two daughters under ten. The year before, Liseroft, who was listed as a painter, lived at 6 Fair Street. Quick's address during that year is unknown. Pool only occupied the house for a couple of years. In 1802, he sold the property to Sarah Beekman (New York City Land Evidence, Liber 61:477). Pool relocated to Chambers Street, while Quick, a coach painter with a shop on Chambers Street, stayed on Block 154 by renting 14 Upper Reade Street (Longworth 1799).

The property stayed in the Beekman family until 1826 when it was sold to David Hosack (New York City Land Evidence, Liber 208:155). Although Sarah actually held the title, the taxes were charged to John from 1802 to 1809, Peter from 1810 to 1815, and finally to Sarah from 1816 until 1826. As members of one of Manhattan's wealthiest landholding families, the Beekmans did not live on Block 154 but instead rented out the property. Tenants turned over quickly. Between 1802 and 1820, at least 14 households occupied the house. Records indicate that two or three households shared the house each year, and the average stay was about two years. The tenants' occupations varied greatly. A number, such as John McCarter and Francis Denous, were artisans, and a few held white-collar jobs, such as Washington Kenley and Isaac Van Vleck.

Abner Curtis was listed as a marshal, but he turned out not to be an ideal tenant. The city's Common Council minutes note that Curtis, who rented the house in 1814 and 1815, was cited for a nuisance on June 19, 1815 (Common Council of the City of New York 1917:8:240). The nature of the nuisance is not recorded, but it may be no coincidence that this was to be Curtis's last year at the address. Another tenant, 54-year-old Abraham Vosburgh, styled himself a gentleman. Vosburgh, who lived in the house in 1819, was one of the few people on the block at this late date to have enslaved African Americans. The 1819 New York City census notes specifically one female servant who served his household of ten. The 1819 tax assessment, however, estimates his personal estate at $100, suggesting that Vosburgh was not a particularly wealthy gentleman.

The lot ceased to be a rental property once Hosack purchased it in 1826 and established the Rutgers Medical College. From this time onward, the property was combined with the adjacent land to the west to form Lot 18.

Table 27. Owners of Lot 18 (formerly 88 Duane and 20 Barley)

Name	Begin Date	End Date	Occupation	Source	Comments
Pool, John	1799	1800	Cooper	T	
Beekman, Sarah and John	1802	1809		T, L	
Beekman, Peter	1810	1815		T	
Beekman, Widow	1816	1826		T, L	
Hosack, David	1826	1835	Physician	L	Owned jointly with partners, combined 66 and 68 Duane into one lot
Van Wyck, Abraham	1835	1836	Merchant	L	
Many Short-term Owners	1836	1850		L	

Key: L = New York City Land Evidence; T = New York City Tax Assessments

Table 28. Occupants of Lot 18 (formerly 88 Duane and 20 Barley)

Name	Begin Date	End Date	Occupation	P. Est. Value	Source	Comments
Pool, John	1799	1800	Cooper	60	T, D, C	
Quick, Abraham	1800				C	
Liseroft, James	1800				C	
Kenley, Washington	1802		Accountant	75	T	
Carter, John	1802			75	T	Probably McCarter
McCarter, John	1802	1807	Carpenter	200	T, D	
Denous, Francis	1809		Segarmaker	100	T, D	
Pall, John	1809			100	T	
Griffths, Jane	1810	1812	Mantuamaker		C, D	
Francis, John	1810			100	C, T	Also listed as Frank
Young, John	1814	1815	Sexton	150	T	Sexton of the Brick Church
Curtis, Abner	1814	1815	Marshall	200	T	
Dlum, John	1816			400	T	Moves to Lot 14 in 1818 as Clum
Keating, John	1816			300	T	
Vosburgh, Abraham	1819		Gentleman	100	C, T	
Van Vleck, Isaac	1819		Clerk		C	
McCarty, Frederick	1820			100	T	

Key: P. Est. Value = Personal Estate Value; C = U.S. Census or New York City Census; D = Longworth's directories; T = New York City Tax Assessments

3.7.9 Lot 20, 64 Duane, Formerly 22 Barley and 86 Duane

Lot 20, known as 64 Duane after 1836 (formerly as 22 Barley between 1805 and 1808, and then 86 Duane between 1809 and 1835), measured 19 feet 7 inches fronting Duane Street, 20 feet fronting Republican Alley, and 78 feet 6 inches in length (Figures 3 and 4). Early owners who apparently did not occupy the lot included Isaac Van Vleck and Robert Snow (Table 29). The lot's first known occupant was Edward Mitchell, who purchased the lot from Robert Snow in 1798 (New York City Land Evidence, Liber 59:70) (Table 30). At this time, Mitchell was listed as a bookbinder, but the 1802 and 1803 directories list him as an accountant (Longworth 1802, 1803). In 1800, the Mitchell household contained five people: Mitchell and his wife, who were both between 26 and 45 years old, a girl between 10 and 16, and two girls under 10 (U.S. Bureau of the Census 1800). At this time, the Mitchells seem to have shared their house with two other households. "John /a Black/" is listed immediately below Mitchell's name on the census returns. John and the other member of his household were both listed as free non-whites. James Poillon, a young white male between 16 and 25 years old, and another man and woman of the same age group also shared the Mitchells' house in 1800. The occupations of these individuals are unknown. By 1802, Caleb Boyle, a portrait painter who stayed in the house for several years (New York City Tax Assessments 1802; Longworth 1803, 1804), replaced Poillon.

By 1807, the Mitchells were no longer sharing their home with other families. That year, Mitchell was still listed as a bookseller with a shop at 24 Pearl Street, but by 1809, Edward had become a minister (New York City Tax Assessments 1807, 1809; New York City Land Evidence, Liber 97:230). Between 1810 and 1812, the Mitchells moved a few blocks away to 40 Duane Street and turned the house on Lot 20 into a rental property. In 1818, the Mitchells sold the lot to David Lyon. A year later, Mitchell was listed as a 49-year-old clergyman with one enslaved female; he also employed a "coloured" servant. Besides himself, his household also contained six white females and three white males (New York City Census 1819).

Lyon continued to use Lot 20 as a rental property. For example, in 1819 he rented the house to 27-year-old journeyman printer John W. Donnington. Donnington's household included four white males, six white females, a free "coloured" male, and two free "coloured" females (New York City Census 1819). Like most

of the block's tenants, Donnington's stay was short. He was no longer living in the house the following year (New York City Tax Assessment 1820; U.S. Bureau of the Census 1820).

By 1823, Lyon was unable to pay the mortgage on the property, and the lot was purchased by the Washington Insurance Company at auction in January 1824 (New York City Land Evidence, Liber 174:128). The following year, John Englishbe, a house carpenter, bought the property. Tax assessments suggest that Englishbe, who also owned 10 Republican Alley and 22 Reade Street on Block 154, probably used Lot 20 as a rental property. Yet, the 1830 federal census lists a James Englishby as an inhabitant. This suggests that John himself, or a family member, lived on the lot. Within a few years, however, Englishbe sold that property to Abraham Van Wyck and the property was once again used to procure rents (New York City Land Evidence, Liber 354:326).

Table 29. Owners of Lot 20

Name	Begin Date	End Date	Occupation	Source
Van Vleck, Isaac		1796	Public Notary	L
Snow, Robert	1796	1798	Accountant	L
Mitchell, Edward	1798	1818	Book Binder	T, D, L
Lyon, David	1818	1824		T, L
Washington Insurance	1824	1825		L
Englishbe, James	1825	1836	House Carpenter	T, L
Van Wyck, Abraham	1836	1839	Merchant	L
Myers, Myer	1839	1851		T, L

Key: D = Longworth's directories; L = New York City Land Evidence; T = New York City Tax Assessments

Table 30. Occupants of Lot 20

Name	Begin Date	End Date	Occupation	P. Est. Value	Source	Comments
Mitchell, Edward	1799	1810	Bookseller	100-200	T, D, C	
John "a Black"	1800				C	
Poillon, James	1800				C	
Boyle, Caleb	1802	1803	Portrait Painter	75	T, D	
Curtis, Abner	1812		Marshal		D	Moved to Lot 18 by 1814
White, Fairchild	1812				D	
Lowrey, John	1814	1816		300-500	T	
Corbier, William	1815	1816		100	T	
Woodworth, Samuel	1818			400	T	
Donnington, John	1819		Printer	100	T, C	
McLeon, Patrick	1820			300	T	
Keating, John	1825			100	T	
Englishby, James	1830				C	

Key: P. Est. Value = Personal Estate Value; C = Federal Census or New York City Census; D = Longworth's directories; T = New York City Tax Assessments

3.7.10 Lot 20½, 62 Duane, Formerly 24 Barley and 84 Duane

Lot 20½, known as 62 Duane after 1836 (formerly 24 Barley between 1805 and 1808, and then 84 Duane between 1809 and 1835), was an approximately 29-by-78.5-foot lot bounded to the north by Duane Street and the south by Republican Alley (Figures 3 and 4).

The dividing line between the Van Borsum patent and the Damen patent ran through Lot 20½. To form the lot, Isaac Van Vleck purchased the northern part from the Barclays and combined it with the southern

section he had inherited from Sarah Roeloff (New York City Land Evidence, Liber 52:328) (Table 31). Van Vleck sold the combined lot to Richard and Elizabeth Wilkeson before February 18, 1796, at which point the Wilkesons sold the property to Frederick Bindover (New York City Land Evidence, Liber 52:328).

Bindover, a tanner, left the property as an open lot for a couple of years before having a house built about 1801 (New York City Tax Assessments 1799, 1802; U.S. Bureau of the Census 1800). As the property value jumped from $300 in 1799 to $1,600 in 1802, and remained among the highest on the street through 1820, it is likely that the new house was fairly substantial. Bindover, however, did not live on the property, but instead rented it out. Its first known occupant was Andrew Peach (Table 32). Peach, who had no listed occupation but was styled a gentleman in 1819, became a long-term resident of the neighborhood. Although he only lived on Lot 20½ for a year or two, he subsequently lived at the corner of Reade and Elm, and later at 74 Duane (Longworth 1804; New York City Census 1819). In 1819, the 54-year-old Peach was listed as an alien, as were all 13 members of his household. After Peach, the house was rented to Monsieur Tabaro and Monsieur Dulice, both of whom had estimated estates of $200, but whose occupations are unknown.

Sometime before 1810, Mary Decan, sometimes listed as Decamp, moved into the house. Decan seems to have been widowed at a young age. She is listed as being between 26 and 45 years old in both the 1810 and 1820 federal censuses. If these estimates are correct, then she was widowed before her 35th birthday. Decan is listed as an alien and was probably well off. In 1810, her household included, besides herself, two white men over 45, two free non-whites, and two enslaved African Americans (U.S. Bureau of the Census 1810). By 1819, her household had changed to three other alien females and a free "coloured" female (New York City Census 1819). The following year, the federal census lists a "Mrs Decost" with a boy under 10, a second between 10 and 16, a female between 16 and 26, and a female between 26 and 45. If Decan and Decost are the same person, and the 1825 tax assessment listing Mrs. Decamp as the occupant suggests they are, then the turnover in occupants suggests that Decan was taking in boarders—a common source of income for widows. Decan left the house between 1826 and 1829, and by 1830, Isaac Johnson, mariner, and his family of seven took over the house (U.S. Bureau of the Census 1830; Longworth 1830). In 1834, a legal dispute over the property allowed James Englishbe to purchase the lot at public auction (New York City Land Evidence, Liber 307:594). Englishbe, who already owned Lot 20, continued to use the house as a rental property as did subsequent owners (New York City Land Evidence, Liber 354:326; Longworth 1849).

Table 31. Owners of Lot 20½

Name	Begin Date	End Date	Occupation	Source	Comments
Barclay and Kip, Henry	Unk	Unk		L	
Van Vleck, Isaac	Unk	Unk		L	
Wilkeson, Richard	Unk	1796	Mason	L	
Bindover, Frederick	1796	c. 1834		L, T	House by 1802
Englishbe, James	1834	1836	House Carpenter	T, L	
Van Wyck, Abraham	1836	1839	Merchant	L	
Myers, Myer	1839	1851		T, L	

Key: L = New York City Land Evidence; T = New York City Tax Assessments

Table 32. Occupants of Lot 20½

Name	Begin Date	End Date	Occupation	P. Est. Value	Source	Comments
None	1799					Open Lot
Peach, Andrew	1802				T	
Tabaro, Monsieur	1807	1808		200	T	
Dulice, Monsieur	1808			200	T	
Decan, Mary	1810	1825	Widow		C, T, D	Listed as an alien, also called Decamp
Bard, Mrs.	1812		Wash		D	
Decost, Mrs.	1820				C	May be Mary Decan
Johnson, Isaac	1830		Mariner		C, D	

Key: P. Est. Value = Personal Estate Value; C = U.S. Census or New York City Census; D = Longworth's directories; T = New York City Tax Assessments

3.7.11 Lot 21, 60 Duane, Formerly 26 Barley and 82 Duane

Lot 21, known as 60 Duane after 1836 (formerly 26 Barley from 1805 to 1808, and then 82 Duane from 1809 to 1835, and occasionally as 14 Elm Street), was an approximately 24-by-45-foot lot at the corner of Duane and Elm Streets (Figures 3 and 4). Unlike the other excavated lots on Duane Street, Lot 21 did not back onto Republican Alley. Instead, Lot 22 bordered it to the south.

Like Lot 20½, the boundary between the Van Borsum and Damen patents ran through Lot 21. Isaac Van Vleck, who had inherited the southern portion of the lot from Sarah Roeloff (New York City Land Evidence, Liber 65:441–455), purchased the northern portion of the lot before February 17, 1796 (New York City Land Evidence, Liber 52:242) (Table 33). Van Vleck combined the two parcels to form Lot 21 and sold it to Robert and Elizabeth Wilkeson, who in turn sold the property to Peter Pride, a builder, in 1796 (New York City Land Evidence, Liber 52:242). Pride probably developed the lot soon after he purchased it. Certainly, by 1799 a house stood on the lot (New York City Tax Assessments 1799). The identity of the house's first occupants is unclear, but it is possible that Pride himself lived in the house for a few years (Table 34). Pride is listed as living on Little Ann (later Elk) Street in the 1798 directory and is listed in the 1799 tax assessments as having a house on the lot. However, Pride owned other property on Little Ann Street and the tax assessments do not list an estimated personal estate value for Pride, suggesting that he could have lived elsewhere. Therefore, it is unknown if he actually occupied the house.

In 1802, Pride sold the lot to David Wagstaff, a grocer (New York City Land Evidence, Liber 62:440). Wagstaff, who at the time lived at 117 Pearl Street, remained an absentee landowner from the purchase until his estate sold the property in 1860 (Longworth 1802–1820). From 1800 through 1825, two or three households usually rented the house at a time. Like the other lots on Block 154, the majority of tenants were artisans. Most of these households stayed two or three years, but John McClure and his family lived on the lot for about twenty years. McClure, a grocer, moved to Lot 21 between 1803 and 1806 and stayed until his death (c. 1821–1824). In both 1810 and 1820, McClure (born about 1782) had large households. The 1810 federal census lists a boy under 10, a man between 26 and 45, a man over 45, two girls under 10, a woman between 16 and 26, and a free African American of unknown gender. Ten years later, the household had grown to twelve people including a boy under 10, two men between 26 and 45, two girls under 10, two girls between 10 and 16, a woman between 16 and 26, two women between 26 and 45, a free-black male under 14, and a free-black girl under 14 (U.S. Bureau of the Census 1820). According to the 1819 New York City census, McClure's household was slightly different the year before. It contained sixteen individuals classified as two white males, five white females, two female aliens, two male aliens, three free "coloured" males, and two free "coloured" females. McClure seems to have signed a long-term lease for the property between 1810 and 1814, because in 1814 the tax assessments start listing him as responsible for the property tax even through the deed remained in Wagstaff's name (New York City Tax Assessments 1814, 1818, 1819, 1820, and 1825). The tax assessments list him as owning a personal estate between $100 and $200, which is consistent with most of the block's inhabitants.

Table 33. Owners of Lot 21

Name	Begin Date	End Date	Occupation	Source	Comments
Barclay, Anthony and Heirs of Sarah Roeloff		1796		L	
Van Vleck, Isaac	1796	1796		L	
Wilkeson, Richard	1796	1796	Mason	L	
Pride, Peter	1796	1802	Builder	L	
Wagstaff, David and Estate	1802	1860	Grocer	L	Probably leased property to John McClure between 1810 and 1830

Key: L = New York City Land Evidence

Table 34. Occupants of Lot 21

Name	Begin Date	End Date	Occupation	P. Est. Value	Source	Comments
Pride, Peter	1799		Builder		T	May not have occupied the property
Fletcher, George	1801	1802	Coachmaker	100	T	
McClure, John	1807	1820-1825	Grocer	100	T, C, D	Died between 1820 and 1825
Davis, George	1807		Sawyer	100	T	
Howland, Henry	1810		Carpenter	100	T, C	
Slater, William	1810	1812	Carpenter	100	T, C	
Stevens, William	1810	1815	Rigger	100	C	Sometimes spelled Stephens
King, Robert	1812	1815	see comments	100	D	Mathematical Instrument Maker
Davis, Luke	1814	1815		100	T	
Lynar, Anthony	1818			100	T	
Kilman, Thomas	1819			200	T	
Darling, N.	1825			100	T	
Decourse, Peter	1825			500	T	

Key: P. Est. Value = Personal Estate Value; C = U.S. Census or New York City Census; D = Longworth's directories; T = New York City Tax Assessments

3.7.12 Lot 22, 12 Elm

Lot 22, known as 12 Elm Street, was a 24-by-31-foot lot bounded by Elm (later Elk) Street to the east, Lot 21 to the north, Republican Alley to the south, and Lot 20½ to the west (Figures 3 and 4). Lot 22 fell within the bounds of the Van Borsum patent. Throughout most of the eighteenth century, the lot was part of the African Burial Ground. As with the southern portions of Lots 20½ and 21, Isaac Van Vleck inherited Lot 22 from Sarah Roeloff in the 1790s (Table 35). Van Vleck sold Lot 22, along with Lots 20½ and 21, to Richard and Elizabeth Wilkeson who in turn sold Lots 21 and 22 to Peter Pride in 1796 (New York City Land Evidence, Liber 52:242). Tax assessments suggest that the lot was not developed in 1799. Yet, by 1800 a house stood on the property. At this time, it was owned by James Robertson and had a value of $1,200. No deed conveying the lot from Pride to Robertson exists; however, a 1803 deed conveying the lot from Robertson to Pride is recorded in the city's land evidence (New York City Land Evidence, Liber 65:283). It is likely that this later deed represents a mortgage for the property, although it is possible that ownership of the land had been under dispute and that this deed resolved the problem.

In any case, Robertson did not live on the lot but rented it out (Longworth 1800; New York City Tax Assessments 1802). The first known occupant of 12 Elm was Gilbert Hystep who was living on the lot by 1800 (Longworth 1800; New York City Tax Assessments 1802) (Table 36). Hystep's occupation is unknown, but the tax assessments estimated his personal property at only $75, suggesting that he was not wealthy. Between 1803 and 1807, Joseph Earle purchased the lot. Earle is listed in the 1804 city directory as a mariner, but after that Earle is always listed as a measurer (Longworth 1807). Earle was born about 1762 (New York City Census 1819). The 1810 census suggests that he lived with his wife, Phebe, who was a year or two older than Joseph, a daughter who was between 16 and 26 years old, and a son who was between 10 and 16 years old. Ten years later, the daughter no longer lived at 12 Elm, but a young African-American girl (under 14 years old and probably employed as a servant) lived with the family (U.S. Bureau of the Census 1820). In 1830, Earle and his wife, then about 70 years old, were still living on the property. Their household included a white male between 30 and 40 years old, who was probably their son, and a 30-to-40-year-old white woman, suggesting that their son had found a wife (U.S. Bureau of the Census 1830). At this time, the census lists no African Americans as living in the household. During Earle's residence, his property value gradually increased. Earle purchased the property in 1807 for $491.71 (New York City Land Evidence, Liber 124:283). By 1810, Earle's property was worth about $800; by 1816, its value jumped to $1,000; and by 1820, it reached $1,300 (New York City Tax Assessments 1810, 1816, 1820). When he sold the property in 1832, Earle received $2,150 (New York City Land Evidence, Liber 285:350). During this time, his estimated personal estate also rose from $150 to $200 (New York City Tax Assessments 1809, 1810, 1816, 1820).

Throughout his stay at 12 Elm, Earle seems to have rented part of the house. The first identified renter was William Berandt who is listed in the 1809 tax assessment as having an estimated personal estate of $100. Berandt appears to have left the property by the following year (U.S. Bureau of the Census 1810). The next known renter was Ichabod Hoit, a printer, who lived at 12 Elm from 1816 to 1820. The 1820 federal census suggests that Hoit (born about 1788) lived with his wife and a son and a daughter who were both under 10 years old. A young African-American woman (between 14 and 26 years old) also lived with the Hoits. She was probably employed as a servant, but it is also possible that she was a boarder. During his stay at 12 Elm, Hoit seems to have done well financially. His estimated personal estate rose from $100 in 1816 to $300 in 1820 (New York City Tax Assessments 1816, 1820). Perhaps as a result of this success, the Hoits moved in late 1820 or early 1821 (New York City Census 1821). Earle quickly filled the empty quarters, as Martin Morton was living in the house by June 1821 (New York City Census 1821). By 1830, however, Hoit and his family were back at 12 Elm (U.S. Bureau of the Census 1830).

On April 20, 1832, Earle sold the property to James McAdams for $2,150 (New York City Land Evidence, Liber 285:350). When McAdams, a grocer, died in 1839, he left the property first to his children and secondly to the Roman Catholic Orphan Asylum (New York City Land Evidence, Liber 585:395–399). In 1851, after the death of both of McAdams's children, Lot 22 was transferred to the asylum (New York City Land Evidence, Liber 585:395–399).

Table 35. Owners of Lot 22

Name	Begin Date	End Date	Occupation	Source	Comments
Van Vleck, Isaac	1796	1796		Barto 1991	Transferred with Lot 21
Wilkeson, Richard	1796	1796		L	Transferred with Lot 21
Robertson, James	1802	1803		T	Ownership may have been contested by Peter Pride
Pride, Peter	1796 and 1803		Builder	L	Acquired the lot from both Wilkeson and Robertson.
Earle, Joseph	1807	1832		L, D, T	Possibly purchased as early as 1804
McAdams, James	1832	1851	Grocer	L	Including Estate of James McAdams

Key: D = Longworth's directories; L = New York City Land Evidence; T = New York City Tax Assessments

Table 36. Occupants of Lot 22

Name	Begin Date	End Date	Occupation	P. Est. Value	Source
Hystep, Gilbert	1800			75	T
Earle, Joseph	1807	1832	Measurer	150–200	C, D, T
Berandt, William	1809			100	T
Earle, Ann	1812				D
Hoit, Ichabod	1816	1830	Printer	100–300	T, C
Morton, Martin	1821				

Key: P. Est. Value = Personal Estate Value; C = U.S. Census or New York City Census; D = Longworth's directories; T = New York City Tax Assessments

4.0 THE ARCHEOLOGY OF 290 BROADWAY

by Charles D. Cheek

4.1 Introduction

The majority of the archeological deposits from 290 Broadway derive from throughout the eighteenth century and from the beginning of the nineteenth century. The purpose of this chapter is to summarize the historical context, the basic stratigraphy and features at the site, and the people that developed and lived on the site who may have left archeological remains. Detailed discussion of the stratigraphy and the features is presented in Appendix A.

The material from the earliest occupation to 1788 is designated Phase 1 and the material from 1788 to when the yards' surfaces were sealed by fill is designated Phase 2. This event (called Phase 3) seems to have occurred at different times for different lots, but before 1810. Phase 4 refers to a series of construction events that occurred throughout the nineteenth century. Phase 5 includes twentieth-century events, and Phase 6 is the disturbance created by the clearing of the area for the construction of the federal building for excavation.

4.2 General History

The original landform of the project area sloped from the southwest to the northeast toward the Collect Pond. The land had a complicated history as detailed in Chapter 3.0. We do not know when the first African or African American was buried there. It could have been as early as the mid-seventeenth century after the Negro Frontier had been established (see Chapter 5.0) when the land was still common land. It was not until 1673 that the land was granted to Sara Roeloff Van Borsum for services rendered. By 1697, at least one church, Trinity, banned African burials in its churchyard. Although there was a common burial ground within the city, it is likely that most Africans were burying their dead at the place labeled as a Negros Burial Ground on the 1735 Buchnerd and the 1755 Maerschalck map. The African Burial Ground seems to have run from Broadway east over to the Five Points area and from Chambers north to Reade Street.

The descendants of Sara Roeloff believed they owned the land and, in 1742, one of the cousins, Van Vleck, a potter, succeeded in establishing a pottery on the southeastern corner of the patent on what came to be called Pot Baker's Hill (Figure 19; see also Figure 11) (Appendix B-2, Barto 1992a:5). The Crolius family, who married into the Van Vlecks, soon ran this pottery. Another related family, the Remmeys, started a pottery on the north edge of the patent. However, the 1740 Carwitham map, depicting New York City around 1730 (Cohen and Augustyn 1997:57–58), shows a pottery in the general vicinity of the project area before Van Vleck acquired legal control of this portion of the Van Borsum parcel.

The potters soon began to use the burial ground as a dump for debris from collapsed kilns, ceramic wasters, and kiln furniture. Both historic maps from the 1750s (Figures 12 and 13) show two potteries: one near the southeast corner of Block 154 and one near the northeast corner. Both were positioned to use the area between them as a dump. The land was also used as a dump for animal bone discarded during some commercial use. The tanneries on the other side of the Collect Pond are a potential source of the bone, although they are not as close as the potteries to the burial ground.

The maps created and published during the 1760s and 1770s (Figures 14 and 15) show additional development of the project vicinity. What is probably the earliest version of the Ratzer Plan of New York (Ratzer [1769]; Figure 14) shows a potash manufactory across from the projected location of the northwest portion of Block 154. The 1776 Holland map (Figure 15) shows a complex of buildings, although less detailed, in the same location. The later and larger edition of the Ratzer map (Ratzer 1776) has less and different detail on the buildings in the project vicinity. The earlier Ratzer map seems to show the northern boundary of the African Burial Ground as well as a developed area on this boundary on the northwest side (near what would become Broadway) and on the northeast corner on line with the Remmey pottery

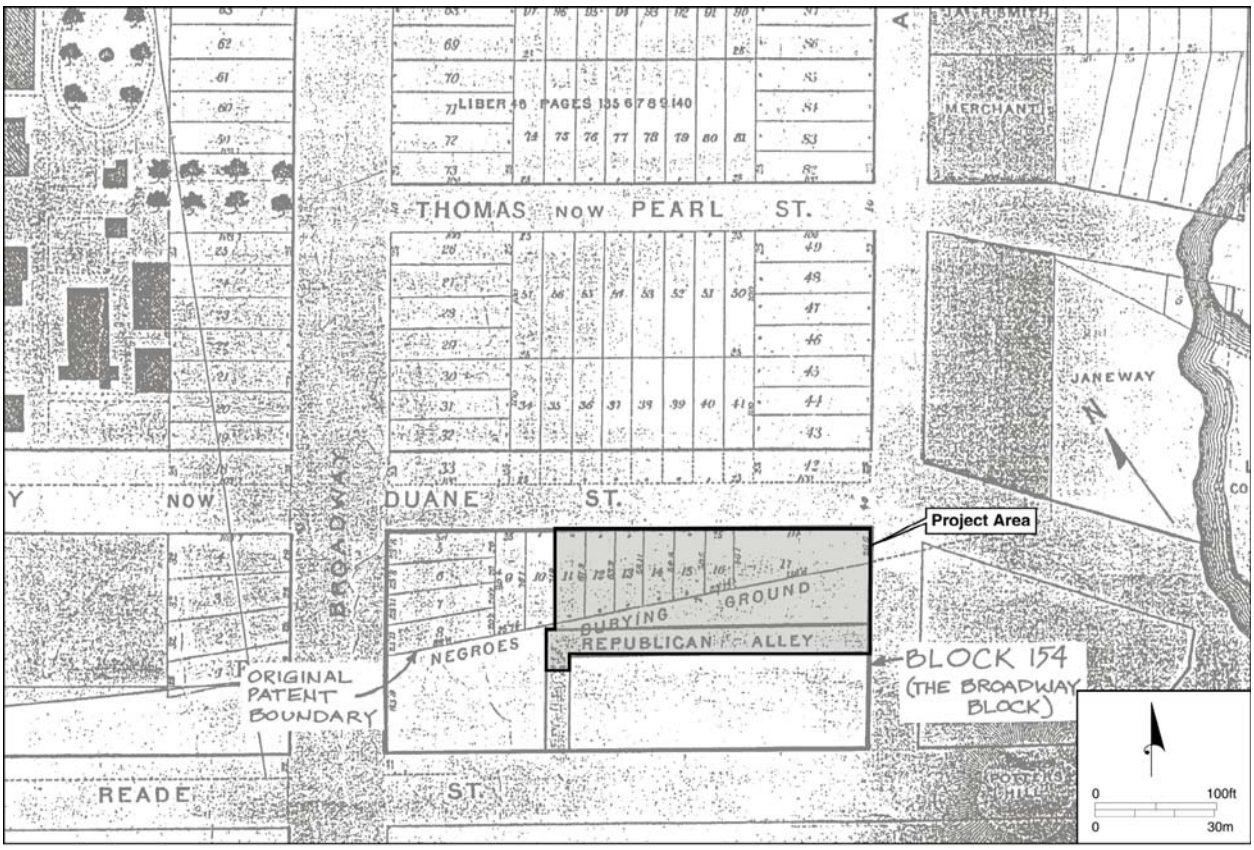

Figure 19. Detail of 1865 survey map showing the 1795 boundary of the African Burial Ground, the lots north of the boundary line, and the location of "Potters Hill" in respect to modern streets (Holmes 1865).

complex. The Holland map shows essentially the same buildings but with less apparent precision and detail.

During the period when the African Burial Ground was in operation, the area was outside the city proper. It was also away from the economic enterprises that were making New York an important colonial city. Many of the trends that were to become important after the Revolution had already started in a small way in New York during the period immediately before the Revolution. During the Revolution, there does not seem to have been any major change in the way the African Burial Ground was used, so this period is designated Phase 1, or the Pre-Revolution Phase.

New York during the next phase, Phase 2, was developing quickly as its position in the capitalist economy of the Atlantic mercantile system got back on track after the end of the Revolution. From the end of the Revolution to 1810, the population grew from 23,000 to 100,000, almost a five-fold increase in 20 years (Taylor 1967:41:Table VII). The economy as measured by foreign trade increased 350% from 1790 to 1825 (Davison 1967:69), and New York was increasing its share of the coastal trade as well; the city's merchants owned about one-half of the total coastal tonnage in the hands of Boston, Philadelphia, Baltimore, and New York by 1820. Additionally, the city's hinterland, which looked to New York City as the entity to which it could sell its products and from which it could buy what it needed, was growing faster than the hinterlands of New York's rival port cities (Davison 1967:70). Given these factors, as well as its innovations in finance, New York had become in most respects the premier American city by 1825 (see White 1991:25–26).

All of these factors restructured New York's economy. In association with the restructuring were changes in the way work was organized, changes in the relationship between home and work, changes in the structure of the city, and changes in material culture to support and express the new relationships and structures. All of these changes took place over several years, although some proceeded fairly rapidly. Thus, the twenty-year period for which we have archeological evidence is a very important transitional period. The restructuring of the economy and the further development of capitalism affected all of the economic groups in the city, from merchants to the developing middle class to artisans, journeymen, day laborers, women, and enslaved and free African Americans (see Montgomery 1970; White 1991:224–27; Wall 1994). What capitalism is all about, as someone said, is simply the "buying and selling of goods, including labor-power, in order to make a profit" (Giddens 1987:101).

To participate in this economic system, labor must be a commodity and have a price, something bought and sold. Day laborers were already in the position of having to depend on wages for their subsistence, as were women who worked in production outside the home. Journeymen, who in the past often resided with the master, were now increasingly dependent on wages and could not depend on their masters for food or lodging. Besides the increase in wage laborers, labor was reorganized and the role of the traditional artisan was replaced with a system of small to medium workshops established by ambitious master artisans, called by Sean Wilentz a "metropolitan form of industrialization" (Wilentz 1984:32; Warner 1970:62). Although few of the industries in New York depended on labor-saving machines, they increased productivity by rationalizing the work and breaking it down into segments carried out by less-skilled people working in groups (Burrows and Wallace 1999:343–346). With this reorganization, the work group may "have become a source of discipline, loyalty, and culture" (Warner 1970:66). On the other hand, historical research shows that pre-industrial values of less-regularized and less-formal work habits continued and that many workers initially resisted the new work regime (Johnson 1978; Shackel 1996:59–60).

Another far-reaching change was the separation of the place of business from the residence. Once laborers that resided in households were detached from the household (the displacement of the journeyman), the separation of the place of business from the residence could develop. This happened as Diana Wall, among others, has demonstrated during this period. Wall found that in 1790 only one middle-class or elite family (two percent) had a separate home and workplace. By the end of our period, 1810, 21 percent had separate homes and workplaces and a quarter of these were artisans (Wall 1994:Appendix B).

The economic opportunity presented by New York drew many people to it. They came from abroad and from the hinterland and included old New Yorkers who had fled the revolution and merchants from smaller surrounding towns looking for opportunities. All of these people needed housing, and the city began to expand north between the two rivers. As Blackmar (1989) has shown, housing expanded rapidly in this period. In the 1780s, demand was such that 4,000 new homes were built in New York (Lankevich 1998:53–54). A band of housing occupied primarily by renters developed in the new construction area north of city hall. But the elite were also moving north. While the majority stayed in the center of the city, substantial numbers moved north on Broadway and further out as well.

Associated with this march north was the transition from the structure of the pre-industrial to the industrial city with neighborhoods being sorted on the basis of class. Commodification of labor led to separation of home and work and allowed the tendency for the segregation of economic groups to accelerate and create economically segregated neighborhoods. Rothschild's study of the 1789 New York tax records showed geographical separation by occupation and tax status (Rothschild 1990:108–133). In 1791, "A Citizen" noted that economic segregation was the basis of the wards (White 1991:41). The initial neighborhoods of the elite were concentrated in the center of the city on certain streets (Rothschild 1990:116). By 1828, this pattern had become clearer (Pessen 1973:172–179). Middle-class folks (or those who were to become middle class) were able to buy houses or rent them in the newer areas, and the poor laboring classes were restricted to areas with older housing stock. African Americans were gradually becoming free in this period, and when they could establish their own households, they tended to congregate in clusters, scattered across the city, of three or four families. African Americans also tended to leave those areas of the city where they had been slaves or servants and congregate in higher numbers in some areas in preference to others, although they were often in the worst housing locations, such as basements (Berlin 1998:250).

African Americans benefited from this growth spurt and from the changing ideology associated with the Revolution, but only gradually and fitfully. Because slaveholders were not eager to give up the institution of slavery, slavery was eliminated only gradually in New York and other adjacent states. African Americans became free in New York between 1799 and 1827 (Berlin 1998:232–234; White 1991:38). African Americans were gradually excluded from the artisan jobs that they had as slaves. Many moved into service jobs. The enslaved parts of the population were also more concentrated in service jobs as servants. Some free members of the population retained their positions in food-industry jobs, such as the butcher and confectioner in our project area. Our block had both enslaved and free servants as well as free households. The free households tended to cluster in the center of the project street face.

This has been a brief introduction to the major changes that took place in society in New York during this period. Since this was a transition period with change happening over several years, one might expect that change on the level of material culture would reflect this uneven advance of capitalism. On the other hand, given its position in the economy of the U.S. and the larger world, capitalism was probably more organized in New York than elsewhere, and many of the changes to more regularized behavior might be seen here first.

The material that follows will present the overall development of the site from the historical and archeological perspective and discuss the kinds of archeological resources with which we are working. Also discussed are the social composition of the neighborhood and, briefly, the distribution of African Americans in the neighborhood. With the neighborhood and its people in context, the kinds of archeological features and deposits found in these areas are discussed by site area, by phase, and by industry or households that have deposited them.

4.3 The Sequence

4.3.1 The Early Development of the Block (Phase 1)

The project area was located on a gentle slope at the foot of the palisades overlooking the Collect Pond. Today, the preserved portion of the site is two blocks south of city hall at the corner of Duane and Elk (formerly Elm). The African Burial Ground, called at that time the "Negroes Burying Ground" (Figure 19),

extended from approximately Chambers Street almost to Duane Street. The project area straddled two historic parcels of land. The one on the south, the Van Borsum parcel, was the parcel that was used as a burial ground and that had a pottery on its southeast corner. The boundary between the two ran from southwest to northeast through the project area (Figure 19).

Given that the northern boundary of the African Burial Ground angled to the northeast, portions of the project area were outside of the African Burial Ground. Archeologically, this is clearest in Lot 12 on the west end of the project area. There are three trenches in Lot 12 that could have marked the formal boundary of the African Burial Ground. No burials were found between the northern and southern trenches, or beyond, suggesting that the southern trench was the boundary at least for the majority of the time the African Burial Ground was in use, at least in this portion of the site. These trenches may represent successive versions of the boundary of the African Burial Ground because the northern and middle ones were filled in the 1760s and the southern one in the post-Revolution period. One of the trenches may represent Isaac Teller's fence around the African Burial Ground (if it had been placed in a large trench). As one of the claimants to the African Burial Ground land, Teller erected a fence around at least a portion of it, perhaps in the early 1760s (Appendix B-2, Barto 1992a:10).

However, burials were discovered in the other site areas north of the surveyed 1784 boundary line, indicating a difference between the burial practices of the early period and the actual surveyed property lines. It is unclear where the northern boundary was located in the earlier eighteenth century or if there even was a formal boundary. In the MID Area, burials appear north of the projected line of the southernmost Lot 12 trench. Little excavation was done north of the line of the middle trench, but no burials were found north of it. No testing was done north of the northern trench.

The land north and south of the 1784 boundary line between the Van Borsum patent and Calk Hook was also used by the adjacent potteries. Three potteries were near or in the Van Borsum parcel. The location of the Campbell redware and pantile (clay roof tile) pottery is somewhat ambiguous. A newspaper ad reports it as "at the upper end of Broadway, opposite the Negroes Burying-Ground" (from *Rivington's New-York Gazetteer*, May 19, 1774, as quoted in Gottesman 1938:84). "Opposite" the burial ground is not precise, but Ketchum (1987:43) interprets this location to be on the Van Vleck property, although he places Campbell on the west side of Broadway in the 1790s. However, Barto's analysis (Appendix B-2, Barto 1992a) found no trace of a Campbell in the records associated with the Van Vleck and subsequent Crolius use of this land on Pot Baker's Hill. Barto did find an unrecorded indenture among the Henry Barclay papers concerning land that Campbell leased on the west side of Broadway (Appendix B-4, Barto 1992c:4). On this basis we are suggesting that Campbell was located on the west of Broadway, placing his enterprise opposite the west side of the African Burial Ground (Figure 10). On the north, on what became Duane Street, was the Remmey pottery that made salt-glazed stonewares. This seems to have been outside the African Burial Ground from the historic maps (Figures 13 and 14), but possibly a portion was on Block 154. Inside the southeast corner of the Van Borsum parcel (Figure 10) on a rise known as Potters Hill (Figure 19) was the Crolius pottery, which also made stoneware. The Crolius pottery was in this location because one of the claimants to the land, Abraham Van Vleck, was able to claim this corner of the Van Borsum patent to build a pottery that eventually was taken over by the Crolius family (Appendix B-2, Barto 1992a:6). It is unlikely burials were made in this northeast corner of the patent after the pottery was established here in the 1730s (Appendix B-2, Barto 1992a:5).

Evidence of redware pottery waste, including pantiles, was found primarily in Lot 12, and in moderate numbers in the NE Area; redware kiln wasters and kiln furniture were found in only small numbers in other parts of the site. In fact, about 90 percent of the ceramics from the northern trench in Lot 12 (AU51) were redware wasters and kiln furniture. There was also a series of pits on Lot 12 that had very few artifacts that have been interpreted as clay mining or prospecting pits.

Stoneware kiln furniture and wasters were found across the entire site. Piles of wasters, kiln brick, and kiln furniture were found in the SE Area. In this area, wasters were dumped over earlier graves and some graves had been dug through the wasters. In the NE Area, there was debris from the potteries also. Two feature complexes that were only partially excavated may relate to pottery production, but their function remains uncertain.

The dateable fine-ware ceramics from undisturbed contexts in both the NE and SE pottery debris areas are primarily tin-glazed ware, white salt-glazed stoneware, and some creamware. These date the surface to the middle of the century or at least to the pre-Revolution period. This leads to speculation that the pottery was prevented from dumping after Isaac Teller included this portion of the property in his fence in the 1760s. The intrusion of later post-1780 artifacts in portions of the SE and NE Areas may have come after the British burned the fence or possibly from the building of unknown function (labeled "O" on Figure 10 and seen on the Ratzer [1769] and Holland 1776 maps, Figures 14 and 15).

Two features possibly related to burial activities were found in the middle of the block. Two circular pits were located among the burials. Both may have been fire pits, and one had bones interpretable as the remains of animal sacrifices. The excavations in the NE Area also revealed two stones interpreted as head- or footstones to mark graves.

4.3.2 Initial Urbanization—Barley (Duane) Street Neighborhood (Phase 2: 1788–1810)

The British left New York in 1783, and landowners immediately began identifying land for subdivision and development. The northern portion of the project area was developed first. Based on a 1784 survey (Bancker 1784), the Barclay family began to sell and lease lots north of the African Burial Ground in 1788. The descendants of Sara Roeloff, mostly the Kip family, in 1795 eventually got the right to subdivide and sell lots in the Van Borsum parcel, but portions of it were north of what was to become Republican Alley that separated the Reade and Duane Street lots. The property boundary angled across the Duane Street lots, creating a triangular portion of land the deeds called a "gore" of land that the Kips controlled between what would become Republican Alley and the boundary line. This extended from Lot 11 through to the east edge of the block.

The pieces of the gore in Lots 11 through 16 were relatively small (Figure 19), and were sold separately from Barclay's Duane Street lots until 1804. The lots with the larger pieces of the gore, starting with 17, were amalgamated earlier with the Barclay portions and not developed until after 1797 (for Lot 17) or after 1799 for the eastern lots (18 to 22).

For example, Isaac Van Vleck, an heir of the Van Borsum patent, was given title in 1796 to the southern portion of what became Lots 18 east to 21 and all of Lot 22; this land was included in Lots 58 and 59, which were distributed to him as an heir (Figure 16). He then acquired the northern half of the lots from the Barclays, and in the same year, sold each lot as one piece (see Section 3.7). The next two owners rapidly sold them as well. Although there is no direct evidence that this occurred for the 18 East lot, it seems logical given that it is east of the boundary of Lots 58 and 59. The 18 West lot could have had something similar happen to it. None of these lots were developed until after 1799 and probably not until the street had been raised in that year. In fact, there was little archeological evidence of occupation or use of these lots in Phase 2.

The lots in the western portion of the project area (Lots 12 through 17) also were developed in the 1790s, but between 1794 and 1799. For example, the first recorded sale of Lots 14 and 16 occurred in 1794, Lot 15 in 1796, and Lot 17 in 1797. Although Lot 13 was initially sold in 1792, the first recorded use was not until 1799. A Barclay did not sell Lot 12 until 1802. However, we know that lot was leased by Grant Cottle in 1794. This land transaction data suggest that households did not occupy the project area until after 1794 at the earliest.

Some of the western project area lots may not have been developed until after the street and the lots were raised in 1799 and, therefore, there was probably minimal European-American use of the African Burial Ground surface. However, there is archeological evidence that the owners or occupants of at least Lots 12, 15, and 16, and possibly 17, did construct houses, excavate privies and pits, and generally live right on top of the African Burial Ground. While they may have assumed that they bought and built on land that had not been part of the African Burial Ground, the archeological evidence suggests most lot occupants would have noticed their excavations cut into burials. They may not have originally realized that the African Burial Ground extended so far north because the 1784 survey positioned the boundary south of the real northern limit of burying activity.

The archeology revealed what appears to be a line of postholes running from Lot 12 northeast to the approximate border of Lot 17 (Figure 20). The best evidence for the fence line is in Lots 14 and 15, which were never, as far as we can tell, under the same ownership. There are gaps in the evidence in Lot 13 (due to a deep basement) and in at least part of Lot 16. The possible fence line is only five feet south of the projected location of the Bancker survey line in Lot 16 and on the line in Lot 12. Although the overlap is not precise, it is likely the postholes were intended to be on the rear property line established by Bancker. Assigning the posthole line to an earlier period, such as the Teller fence line in the 1760s, is problematic since the postholes are further south than the possible boundary trenches in Lot 12, and the African Burial Ground extended well beyond the fence line.

The possible fence line stops at the Lot 16–17 boundary, between the lots that were bought and sold as one piece (from Lot 17 east) and those that sold in two parts, one being the gore (from Lot 16 west to Lot 12). One explanation for this could be that the fence was not erected until after 1797 when the Sergeants bought the entire Lot 17.

A number of the features in the lot seem to be oriented to the fence, suggesting again that it dates to the 1790s. None of the privies and pits associated with the Duane Street houses is found south of this fence line and many are up against it. Several of the privies are actually oriented to the fence rather than to the street.

The three earliest documented residents are Grant Cottle, an upholsterer and paper stainer (an early interior decorator?), on Lot 12 in 1794; Wiert Valentine, a carter, on Lot 15 in 1796; and Freeland, a merchant, on Lot 16 in 1799. The historical record does not provide much information on this period, and it is possible that the previous owner of Lot 16, Henry Fink, could have lived on the lot after he bought it in 1796.

Although all of the Phase 2 shaft and pit features are north of the postholes, some are south of the Bancker line, so one could propose that some features actually belonged to the occupants of Republican Alley, later called Manhattan Place. However, the alley was not established until 1803 and not finished until 1804 (Common Council City of New York 1917), the date that the gore of land was sold to Sergeant. Indeed, there is no historical record of residents on the Republican Alley side of the Duane Street lots until 1807. This is also true of Lot 17 owned by Sergeant, even though it did not have split ownership like the lots to the west. Furthermore, there is little reference to Republican Alley in the tax or directory information from 1799 to 1807 (only 12 to 14 entries depending on how they are counted; see Appendix C-2).

Furthermore, there is no archeological evidence of the existence of the alley in the rear of Lot 12, the only place where it was investigated. The one profile through the alley revealed an early-nineteenth-century midden that was approximately five feet above the surface of the center of Lot 12 (Field Maps #59 and 239). It was covered with a fill and the paved alley must have been some distance above it. If the alley were five feet above the surface of Lot 12, it would have been at least seven feet above the surface of the African Burial Ground in the MID Area. If it was proposed that the features in the MID Area were dug from even this elevation, which is certainly lower than the actual alley surface, the features are much deeper than one would expect. For example, AU58a, a privy, would have been at least 13 feet deep which would have been unusual for New York City. Thus, we are assuming that the features that appear in the African Burial Ground were excavated from its surface rather than from the surface of the filled-in lots.

4.3.3 The Raising of Barley Street (Phase 3: 1799–1810)

As discussed earlier (Section 3.4), Duane Street, then called Barley, was raised in 1799 in spite of the neighborhood's protests. Since Barley sloped down to the east, raising the street involved a considerable amount of fill. This would have the effect of leaving any house previously constructed at least several feet below the road surface. Additionally, Reade Street to the south was also several feet higher than Barley. Thus, those lots and probably Republican Alley (after 1803) would also loom over the houses on Barley.

Determining when each specific Duane Street lot was filled is problematical. Some owners on Barley were fined in 1806 because they had not filled in their "sunken lots." These lots were termed sunken because the

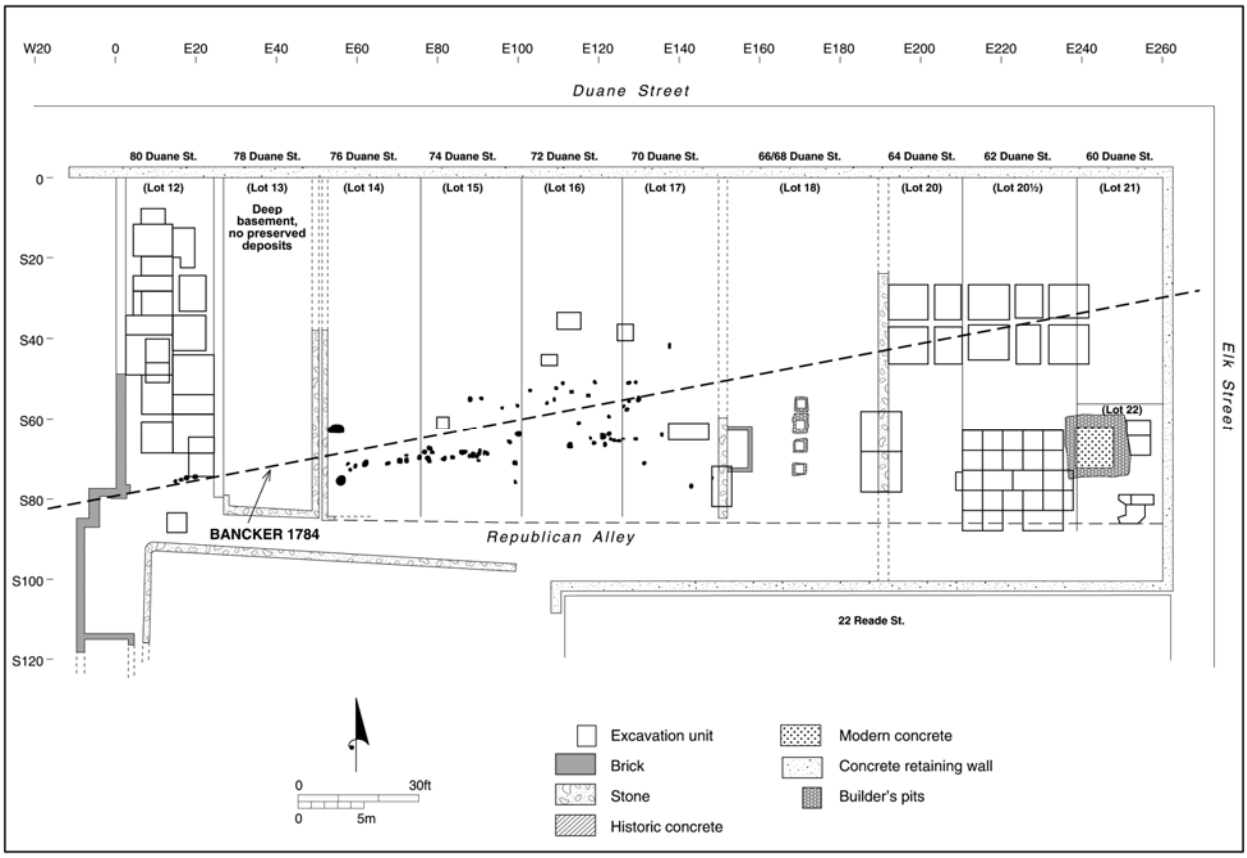

Figure 20. The 1784 boundary between the African Burial Ground and the Barclay property and the possible reconstructed 1790s posthole line.

streets in the area had been "regulated," that is, raised to the level of the surrounding streets. Valentine was probably one of these owners as he lived on Lot 15 until 1809 or 1810. In 1810, the house on the lot was unfinished, presumably because the new owner was building it on the new ground surface. It seems unlikely that the eastern lots from 18 to 22 were occupied before filling. The cases for the other lots are discussed in the next section.

The archeological data support an end of occupation before the end of 1810. No whiteware (generally assigned an 1820 beginning date, Miller 1980:2; Noël Hume 1969b) is found except in disturbed contexts, and even those are very few. Additionally, no transfer prints with stippling were identified. This later decorative technology was introduced c. 1807 in England (Coysh and Henrywood 1982:9). Previous to this invention, the copper plates for transfer prints were made with line engraving. Although technically this new design technique could have appeared in New York as early as 1807, in reality, the political climate made it very unlikely that it could have been developed, put into production, and sent to the U.S. before about 1810. Thomas Jefferson's embargo of 1807 against all trade (Burrows and Wallace 1999:411) may have prevented this ceramic element from entering New York until after the embargo was lifted in 1809. However, the Non-Intercourse Act that replaced the embargo forbids direct trade with Britain and France, probably delaying the import of this feature further. It wasn't until the end of 1810 that the port was again open for business (Lankevich 1998:59–60).

Thus, the maximum period of occupation during Phase 2 is from 1788 to 1810. However, it is more likely to date from 1794 to 1810. Some lots were not developed until after 1800. Others may have had varying lengths of occupation from as short a time as 1797 to 1799 or as long as from 1796 to 1810 when Valentine on Lot 15 sold his property. It is possible that many of the lots started to be filled in 1799 or 1800 when Barley Street was raised. Indirect evidence from late-nineteenth-century street records suggests that the lots were filled at least 10 to 12 feet deep to meet the street levels. This means that the area was raised another five or six feet at some later time to reach its current height of 24 feet above sea level.

4.3.4 The Development of the Barley (Duane) Street Neighborhood (Phases 4 and 5: 1810–1890s and 1900–1990)

The archeological evidence from this period is limited. It mainly takes the form of foundation walls that have penetrated into the ground surface. A few shaft features, with few to no artifacts, were also found. One concrete and stone pier may also be from the end of Phase 4. Because the surface was much higher than before, most archeological resources were removed during the various rebuilding episodes. One building that may have been characteristic of this neighborhood was captured on film in 1919 (Figure 21). The building is on Lot 12 and was probably the one George Miller built when he took over the property in the early nineteenth century (Ingle et al. 1989:101).

4.3.5 The Construction of 290 Broadway (Phase 6: 1990–1992)

The only evidence of this period is the foundation of a concrete pier that was started in the SE Area of the site, which was going to be for the planned pavilion in this area. However, burials were noted while the concrete foundation was laid, and work was stopped until archeology could be done. Eventually the construction of the pavilion was canceled altogether.

4.4 Relationship of Lot Occupants to the Archeological Deposits

Who lived here? The neighborhood constructed over the African Burial Ground was transitional in several ways. The houses were transitional as part of the new housing stock built for the northern expansion of the city. The neighborhood was transitional between the upper-class residents on Broadway (Chapter 3) and the poor people of Five Points, a block or two to the east (Yamin 2000). It was also transitional from the middle-class residents of Chambers and Reade to those of Duane and beyond (Chapter 3).

Figure 21. Early-nineteenth-century house on Lot 12, 80 Duane Street, in 1919 (courtesy of New York Public Library, Special Collections).

While the occupants of Reade and Broadway were the "better sort," representatives of practically all the major classes and laboring groups lived on Duane except for the elite and wealthy merchants. There were five merchants, one of whom lived in the project area. At least one and possibly two households lived separately from their workplace, both in 1807. One on Lot 20 was a bookbinder who by 1807 was a bookseller and had a shop in the center of town; the other, also in 1807 on Lot 13, was possibly the owner of a brewery on Mulberry Street. Various artisans rented or boarded. These included carpenters, masons, painters, a hatter, a cabinetmaker and chair maker, a shoemaker, and a sailmaker among others. Grocers, bakers, and a distiller, who were white, and a butcher and a confectioner, who were black, represented food services. Women without husbands were represented by a number of widows who did not have any employment and a mantua-maker, that is a silk worker. Day laborers were rare until after Republican Alley was constructed. However, there was one household of cartmen that also included a free African-American woman who appears in the census as a head of household. As indicated earlier, several free African-American households, the butcher, and the confectioner lived on the block and included in their households other black residents, often women with children. There was also an enclave of French who had fled Haiti on Upper Reade between city hall and the Collect Pond, many of whom held enslaved people in bondage (White 1991:31).

Grant Cottle, an upholsterer, is the earliest documented resident in the project area. He leased Lot 12 from 1794, had a house on Lot 12, and by 1799 a frame building on Lot 13, which was possibly his shop. He was not living at Lot 12 in 1800, and in 1802 the occupants included a mason and another upholsterer. It is unknown if these were journeymen or independent artisans, probably the former. By 1804, Michael Miller, a distiller and grocer, had moved onto the lot. He bought the lot in 1807 and continued to board two to three white males, possibly with families.

Lot 14 was one of the lots bought by the Johnsons. Although tax assessments show a house on the lot by 1799, there is no evidence of occupants until 1802 when Henry Traphagen was living on the lot. There is only a shallow trash pit on the rear of Lot 14 on the border with Lot 13. Compared to the extensive features in Lots 12, 15, and 16, this suggests that the lot was not occupied before the lot surface was raised.

Lot 15 had a relatively stable ownership and occupation history. It was bought in 1796 by cartman Wiert Valentine, who lived there until 1809 or 1810. Cartmen made relatively good money, comparable to skilled artisans in New York, and were a political force as well. Valentine is likely to have had a good estate since he bought this lot in 1796 and by 1799 had the highest-valued house on the block. The high value suggests that it was brick. Valentine also had some known boarders including the Meyers family, another cartman, and the Ramseys. A black woman, Harriett, was listed in his household in 1800. All of these were identified in the 1800 census. Harriett was probably another boarder since servants are not listed by name in the census. There are a half-dozen features at the rear of the lot that contain artifacts from this period. This house was probably built soon after Valentine bought the lot and it seems unlikely the lot was filled before he sold it in 1809 or 1810. There is no transfer of ownership before 1810, and it is unlikely that Valentine had made enough money to fill his lot and build another house.

It is not certain who the first resident of Lot 16 was. Henry Fink, the laborer who bought the lot in 1794, may have lived here before he sold it to John Freeland (also recorded as Vreelandt), a merchant from Bergen, New Jersey, in 1797. The earliest privy is oriented toward Barley rather than to the fence line like the succeeding privy. Since the other privies, including those in adjacent lots, are oriented toward the fence, this suggests the occupants built the privy before the fence was erected. A construction date for the fence of around 1797 fits the data.

Freeland was one of the merchants from the surrounding area who probably moved into New York to take advantage of the commercial development that was booming in this period. However, Freeland did not make a good choice of location. He built his house before the street was raised and then left one year after the street was raised. It seems likely that this location, and possibly his neighborhood, did not meet his expectations. On the other hand, his situation may not have been particularly good. His personal estate was slightly less than that of his cartmen neighbors and little more than his carpenter boarder. He sold the lot in 1803 to John Bacon.

It is not surprising that as a merchant, and probably of Dutch descent, Freeland had an enslaved female. The Dutch were known to have resisted the decline in slavery (Berlin 1998; White 1991), and merchants were the largest users of slaves in New York, primarily as servants. Merchants were the biggest slaveholders of the economic classes in New York by 1800; 35.7 percent held slaves in 1800 compared to only 20.1 percent for artisans (White 1991:31). However, like his artisan neighbors, Freeland took in at least one boarder, a carpenter, during this period. After Freeland moved out, he rented the house to tenants, as indicated by the 1802 tax lists.

Besides buying the Duane Street side of the lot in 1803, John Bacon also bought the rear triangular portion on Republican Alley from James Sergeant in 1804, unifying the lot. Bacon, a non-resident, established and maintained two houses on the property, one on the alley and the other on the street. There is no record of occupants from 1804 to 1806; however, information for these years is generally lacking for the entire block. It seems likely that Bacon filled the lots and built the houses after he bought the lot.

Free African Americans often had to reside in the worst housing, including the lower floors in buildings on lots that had not been raised to the level of the streets. Bacon's tenants in his Duane Street house were primarily African Americans, raising the possibility that the house was still in a sunken lot. The first of Bacon's known tenants on Duane is the black butcher Hendrickson in 1806, and Bacon continued to rent to African Americans.

James Sergeant and his wife bought all of Lot 17 in 1797. The documents show he had African-American tenants from at least 1799 to 1802. Data on occupants are lacking from 1803 to 1805. In 1805, he sold the front of the lot to Madame Magdalen Bertin dite Zaire, a "colored" woman from Haiti (U.S. Bureau of the Census 1810; New York City Census 1819; New York City Wills, Liber 57:550). By that date, he had constructed a house on the rear portion of his property facing the alley (New York City Land Evidence, Liber 70:242–244).

Again, it is not clear if the lot was raised before 1799 or between 1803 and 1804. Perhaps Sergeant was able to sell the front lot to Madame Bertin because he had recently improved it. It seems unlikely that she would buy a sunken lot and improve it herself. If the lot were filled when Madame Bertin bought the front of the lot, none of her trash would have been recovered since it would have been deposited on the surface of the fill.

The documents indicate at least one free African-American family, the Williams, lived on this lot in 1799. The 1800 census suggests that other free African Americans may have lived with Williams or possibly on the rear of the lot in another house. A white laborer may also have lived on the lot. William Williams was a confectioner. The occupations of the others, except for the laborer, are unknown. The 1802 directory identifies a widow Williams, also a confectioner, at the same address.

There are very few post-Revolution features on this lot, which can be interpreted to mean the lot was filled shortly after the Sergeants bought it. If the lot surface was occupied before it was raised, it seems unlikely that there was a permanent building, if any, on the rear of Lot 17. There are no traces of stone, brick, or even post-in-ground walls, as unlikely as that would be. However, a house on piers, or one resting directly on the ground without a foundation, would not be evident in the archeological record. If so, it would have been a mean building, perhaps built to rent to blacks. Alternatively, the few pits and lack of shaft features could mean the free blacks did not dig features into the subsoil. It is likely that they knew the area was part of the African Burial Ground and they may have not wanted to disturb the dead.

In summary, documentary records and the number of archeological features in the rear yards are used to infer that Lots 12, 15, and 16 were occupied before the surface of the block was raised to the level of the 1799 street (Table 37). Lots 14 and 17 have few features, suggesting that if they were occupied before the lots were filled, occupation must have been concentrated in the unexcavated portions of the lots nearer the front of the lots or that shaft features and pits were not dug in the rear of the lot. Among the lots, it seems likely that Lot 15 was filled latest, possibly in 1809 or early in 1810. Lot 12 may not have been filled until Miller settled on the property in 1803. Lot 17 also may have been filled at this time, between 1802 and 1804, before Bertine bought the property in 1805. Lot 14 had a new house by 1802, also suggesting it was raised by this

time. Lot 16 changed hands in 1803, and a long-term resident, John Day, was last noted in 1802. This suggests that Lot 16 was filled shortly thereafter, although it is also possible it could have remained open for a few more years, possibly until 1808 or 1810. Table 37 summarizes which residents probably contributed to the archeological deposits on each different lot.

Table 37. Residents Possibly Contributing to the Archeological Deposits

	Lot 12	Lot 14	Lot 15	Lot 16	Lot 17
1794–1797	**Cottle (t)**			*Fink (o)*	
1797–1799	**Cottle (t)**		**Valentine (o)**	**Freeland (o)** **Day (t)**	**Williams (t)**
1800–1802	**Cottle (t)** **Simmons (t)** **Ashmore (t)**	*Traphagen (o)*	**Valentine (o)** **Meyers (t)** **Ramsey (t)** **Harriett (t)**	**Freeland (o)** **Day (t)** **Brower (t)** **Haviland (t)**	**Williams (t)** **Sanay (t)** **Primus (t)** **Highland (t)**
1803–1806	**Miller (t)**	*Traphagen (o)* *Carpenter (t)*	**Valentine (o)** **Meyers (t)**	No data	*Bertin (o)*
1806–1810	*Miller (o)* *Ward (t)* *McAvoy (t)*	*Stillwell (t)* *Latch (t)* *Craven (t)*	**Valentine (o)** **Meyers (t)**	*Hendrickson (t)*	*Bertin (o)* *Passel (t)*
1810	*Miller (o)*	*Hendrickson (t)* *Ceasar (t)* *Nicolas (t)*	*Williams (t)*	*Williams (t)* *Leurs (t)* *Wallace (t)* *Marian (t)* *King (t)*	*Bertin (o)*

Key: (o) owner; (t) tenant; **Bold** indicates the most likely contributors; *Italics* indicate households that are represented if the interpretation of the filling sequence is not correct.

Based on the documentary analysis presented above, Lot 12 was occupied by an artisan upholsterer, artisan tenants, and a distiller/grocer. One owner family, the Valentines, occupied Lot 15 for the entire time. Besides artisan boarders, a single black woman resided there during at least one year. A merchant owner with a family and slave lived on Lot 16 for two or three years with occasional artisan boarders before the merchant left and rented the house to other artisan tenants. If occupation continued after 1806, Charles Hendrickson, a black butcher, may have left archeological deposits. If Lot 17 was not filled until 1803–1804, then a series of African-American families, male- and female-headed, lived on the lot. However, the general lack of features suggests the lot was filled before any occupation.

Available data do not tell us if Cottle or Miller had a family. Although some of their boarders may have had families, we would expect to see differences between their artifacts and those of Lot 15 where two long-term occupants raised families on the lot. Lot 16 should be more similar to Lot 15 since it also contained an early family, although the Freelands lived there only one to three years compared to the Valentine's and Meyers's occupation of a dozen years. We do not know if the tenants had families. Lot 17, if occupied, also was occupied by families, African-American families.

In sum, we have a series of housefuls of people. The Cottle and Miller occupations can be characterized as non-family artisan or early middle class. As discussed above, the occupants of Lot 15 were primarily two families of carters, who could be classified as semi-skilled laborers (Rothschild 1990:120), but who had an income equal to many artisans. Lot 16 could have as many as four kinds of occupation: a laborer (unknown if he had a family); a small merchant family; white artisans, probably with families; and an African-American family whose head, Charles Hendrickson, worked in food service, although it is unlikely that he lived on the lot before it was filled (Table 38).

Table 38. Households and Lots by Sociocultural Characteristics

		Family		Non-family	
		White	African American	White	African American
Owner	Merchant	16 – Freeland			16 – enslaved woman
	Artisan/Carter	15 – Valentine			
	Laborer	16 – Fink			
Tenant	Merchant				
	Artisan/Carter	12, 15, 16 – various	*16 – Hendrickson* 17 – Williams	12 – Cottle, Miller	15 – Harriett
	Laborer	*17 – Highland*	17 – Sanay, Sackett		

Key: *Italics* indicate that it is doubtful that there is archeological material.

4.5 The Southeast Area

4.5.1 Introduction

In addition to the discovery of burials (and some unassociated human bone), also discovered were trenches, pits, postholes, and modern features (Figure 22), as well as tens of thousands of artifacts from the early stoneware potteries in the area. The waste from the potteries included kiln furniture, kiln bricks, and wasters from vessels ruined during firing. Analysis of the field and laboratory data identified twenty non-grave features (Table 39). The words feature and analytical unit are used interchangeably throughout this report with the analytical unit abbreviation (AU) being used with the number designation. Features that were divided into two or more analytical units are designated by a suffix, for example AU58a.

Two of these features are probably related to burial practices. They were interpreted in the field as grave markers (AU143 and AU149). There were also 54 burials defined in the general southeast area, most of which were oriented east–west along the Van Borsum patent line. The eighteen non-mortuary-related features are analyzed here. The Howard University team has presented the analysis of the burial-related features (Perry et al. 2006); however, the relationship of specific burials to the non-mortuary features will be mentioned as appropriate.

All but three (AU140a, AU140b and AU138) of the eighteen features date to Phase 1. AU138 is a barrel dating to the late nineteenth century. This feature may have been used as a barrel privy or been related to industrial activities. AU140a is a poured-concrete pier and its builders' trench; they are associated with the construction of the pavilion portion of the proposed 290 Broadway construction (Phase 6). AU140b is a builders' trench along the edge of Elk Street. This trench is the result both of nineteenth- and twentieth-century foundation excavations. The material collected from AU140a and AU140b both date primarily to Phase 1 and has been analyzed as such.

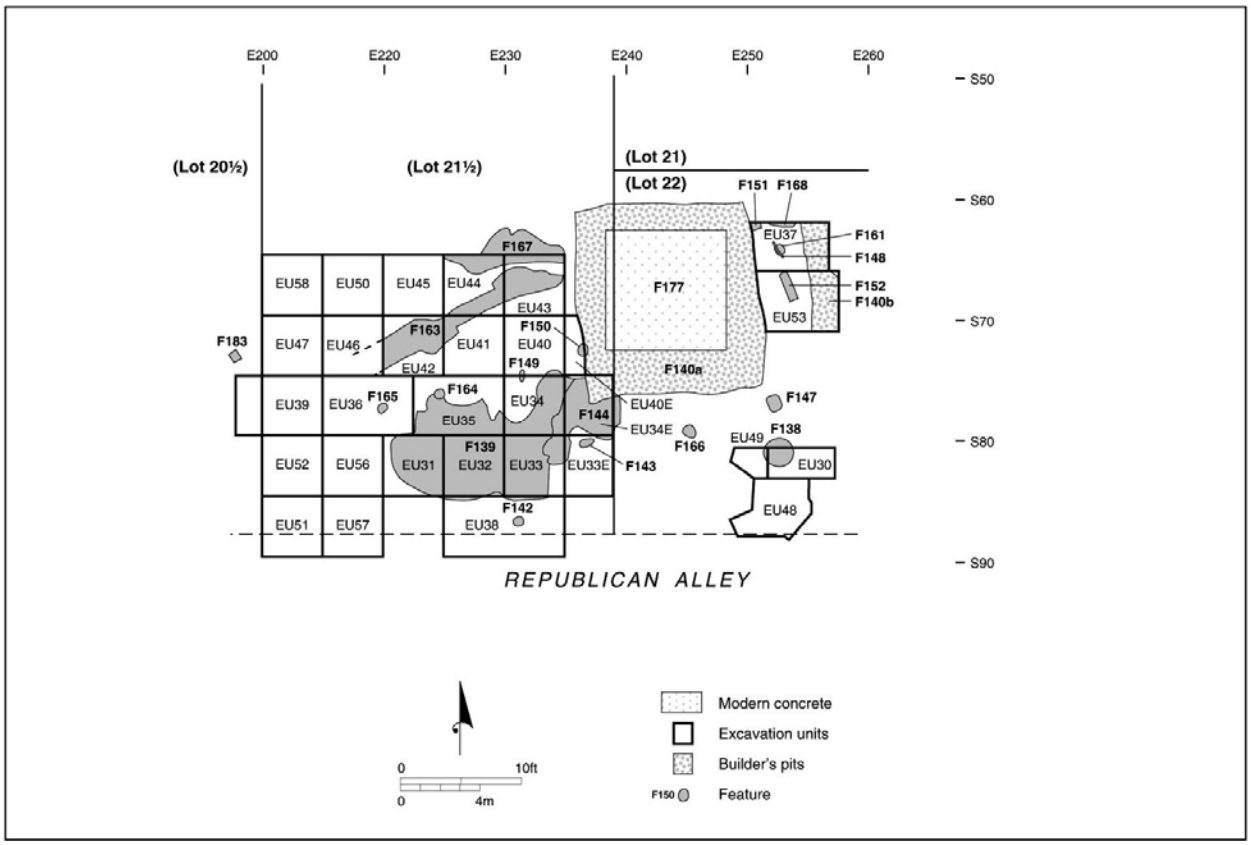

Figure 22. Feature locations, Southeast Area.

Table 39. Features From the SE Area and Their Dates

Feature	Function	TPQ[1]	MCD[2]
138	Barrel	1840	
139	Irregular Pit	1780	1780*
140a	Footing		
140b	Builders' Trench	1820	1814*
142	Posthole		
143	Grave Marker		
144	Irregular Pit	1670	1733*
147	Posthole		
148	Wood		
149	Grave Marker		
150	Posthole		
151	Pit	1762	1791*
152	Pit		
161	Posthole		
163	Trench	1762	1757
164	Posthole		
165	Posthole		
166	Posthole		
167	Irregular Pit	1762	1772*
168	Irregular Pit	1720	1763*

*Less than 10 sherds
[1] TPQ—terminus post quem—the oldest date before which an artifact could not have been deposited
[2] MCD—mean ceramic date

Although several of the features overlap each other, which one came first is difficult to determine from the field data. This is due to a variety of factors. The primary ones are the intermingled and varied colors and textures of the soils in the C horizon, and the dense concentration of ceramic waste that inhibited seeing successive features. The irregular edges of the larger features suggest the strong possibility that multiple features have been included in a feature number. As discussed in the following section, a tentative sequence can be suggested based on the presence and absence and relative density of household-related artifacts.

The two features with the highest concentration of pottery waste are AU139 and AU144. The eastern pit features (AUs 151, 152, and 168) are much smaller and seem to be single-dumping-episode pits. One of these pits (AU168) was defined in the lab through an examination of the profiles and had been excavated into a ground surface with a dense concentration of ceramic waste products. Much of the pottery waste seems to have been piled on the surface, rather than placed in pits, across the historic ground surface. The densest concentration of the waste pile was in two clusters of units. In the east, units 37 and 53 contained slightly more than 8,000 artifacts. On the east edge of the large block of units, EUs 32, 33, 34, and 34E (the location of AU144 and AU139) contained almost 11,500 artifacts. The two concentrations are separated from each other by the modern concrete footer (AU140). However, the concentrations may be two parts of a larger concentration cut by the footer. If so, the concentration seems to roughly follow the angle of the property line, as do many other features in the project area, including AU163, a trench.

The linear feature, AU163 (Figure 22), could originally have been excavated for some other purpose, perhaps prospecting for clay. Its alignment to the property line reflects the importance of that line in orienting activity on the landscape. Someone disposed of half a cow in AU167. This feature was cut through a scatter of pottery waste and included domestic trash (a wine glass and liquor-bottle fragments, nails, and other household pottery). In general, domestic artifacts are rare in the SE Area. Pottery industry byproducts comprise 98 percent of the total artifacts from the SE Area.

The field team identified seven postholes (AUs 142, 147, 150, 161, 164, 165, and 166) within the SE Area, scattered within and outside of the EUs. Although the field team did not excavate most postholes, all the SE ones were excavated. Three (AUs 142, 147, and 150) did not have any artifacts, and perhaps dated to before the initiation of dumping or were excavated into an area with a low density of kiln debris except for AU150. The latter idea seems unlikely, given the more or less continuous distribution of debris in this area. However, the location of AUs 142 and 147 south of the area of concentration is suspicious. There was little field information on AU150, and so its nature or time period is uncertain. The other four contain only material from the ceramic dump. They were dug after the dumping had started.

Some of the posthole features appear to be related to one another because of their size, location, and depth. The three features AU 164, 150, and 161 line up roughly parallel to trench AU163, also following the Van Borsum property line. The distribution of domestic trash seems to be concentrated north of this possible fence line as discussed below. However, such projected fence lines are inconsistent with all maps showing the Van Borsum patent division in 1788, which is roughly 30 to 50 feet north, or with the angle of the property line. The relationship of the postholes to the other features is obscure. A piece of wood, thought to be part of a broken coffin, was also given a feature number (AU148) in the field.

4.5.2 Dating

There is relatively little stratigraphic information from this area. Several features overlap, but the complexity of the sediments in the C horizon, the mixing from pit excavation, and the focus on the main goal of finding grave shafts resulted in puzzles rather than a stratigraphic sequence. However, a combination of datable ceramics and differences in the kinds of artifacts in features provides us with a tentative grouping of features into early or late.

Some features that contained mostly Phase 1 material were disturbed by later events. AU140b is the builders' trench associated with the 1899 rebuilding of the foundation wall for the Elm Street side of Lot 22. A five-story brick building with a 17-to-20-foot basement was constructed (Ingle et al. 1989:96). This activity and the associated builders' trench (AU140b) account for the disturbed nature of the deposit in units 37 and 53 in Lot 22. The uppermost layers were a mix of ceramic kiln furniture wasters and mid- and late-nineteenth-century artifacts. Included in these was an American Flying Eagle Cent that was manufactured between 1857 and 1858.

The total number of non-stoneware sherds from intact deposits with defined beginning and end dates in the SE Area, mostly refined tablewares, is 55 out of over 30,000. All of the early features in the SE Area have more than 93 percent stoneware (Table 40). The analysis of the ceramics suggests that the features fall into two groups based on the number of non-salt-glazed stonewares, which are all placed in the industrial group. In Group A, six analytical units have creamware (1.45 to .09%) and of these, three have pearlware (.12 to .33%). In this group of features with creamware, four have white salt-glazed stoneware, and three have oriental export porcelain, three tin-glazed earthenware, and three slipware. The MCD based on these ceramics is 1768. The TPQ is 1780. Given the small number of dateable sherds, the post-1780 sherds make up about 12 percent of the total dateable sherds.

Table 40. Percent of Ceramic Ware Groups by SE Phase 1 Analytical Units

AU	Feature Type	WW	PW	CW	OEP	TG	WSW	R/Y SW	RW	SW	N
Group A											
140b	Builders' Trench	0.04	0.04	0.14					0.11	99.68	2,851
167	Pit		0.33	1.00	0.33		1.00	0.33	3.65	93.36	301
Burials[1]	Shaft		0.12	0.09	0.09	0.09	0.18	0.03	0.34	99.05	3,261
521	A/B Horizon			0.09	0.02	0.02	0.06		0.19	99.63	5,363
163	Trench			0.37		0.37	0.24	0.49	0.49	98.05	820
151	Pit			1.45						98.55	69
Group B											
168	Pit						0.05		0.10	99.84	1,935
144	Pit				0.03			0.01	0.01	99.95	7,551
139	Pit									100.00	3,224
152	Pit									100.00	1,646
161	Posthole									100.00	149
165	Posthole									100.00	118
149	Grave Marker									100.00	65
164	Posthole									100.00	20
166	Posthole									100.00	13

Key: AU-analytical unit; WW-whiteware; PW-pearlware; CW-creamware; OEP-oriental export porcelain; TG-tin glazed; WSW-white stoneware; R/Y SW-red- and yellow-bodied slipware; RW-redware; SW-stoneware; N-total number.
[1] The shafts investigated included only those with dateable ceramic artifacts and did not include artifacts from the lower portions of the shaft, which were studied by the Howard University team.

A close analysis of the location of the dateable sherds revealed that 18 of them originally assigned to AUs 139 and 521 were actually in the backfill of grave shafts. These graveshafts contained burials 333, 379, 382 or 379, 388, 388 or 432, 355, and 360 or 378. When two graves were separated by "or" it means that one of the shafts was excavated into the other, making it unsure which shaft contained the sherds. Two of these, burials 333 and 388 or 432, contained pearlware, suggesting excavation after that date. However, it is also possible that the features were dug after the grave shafts and pearlware included in the debris dumped in the features. If this were the case, then AU139 would be later than suggested in Table 40 and placed in Group A instead of B. Some of the sherds assigned to AUs 163 and 167 may have come from grave shaft contexts also since they are over shafts, but others come from places in the features that are not over shafts. The information from the grave shafts together with the distribution of the other dateable wares (Table 40) gives us some information on the relative dates of the SE Area features and some suggestions for when the kiln debris was dumped on the site.

The evidence from Table 40 suggests that almost all of the features were created before 1780, before pearlware, and many before the 1760s, before creamware. It is assumed that if the features were dug through a surface with household debris on it, artifacts from that surface would be incorporated into the fill of the pit. The features in Group B in the table have almost no refined ceramics, suggesting that they were created before much trash accumulated in the SE area. The graves that were dug through the kiln deposits, on the other hand, show that the surface of the SE Area had accumulated trash after the kiln debris was deposited. The transition area between the A and the B horizons, incorporating the bottom of the A in some cases (especially in EUs 37 and 53), is designated AU521. This AU had no pearlware but a complex of creamware, white salt-glazed stoneware, and tin-glazed ceramics typical of the 1760-to-1780 and somewhat later period. The features with that complex may date to the 1760s and 1770s. At least two of the burial shafts (for Burial 333 and Burial 388 or 432), as well as AU167, appear to date after 1780 since they contain pearlware sherds.

The assumptions in the above argument are: (1) the fill of features, especially large features, excavated through a ground surface will incorporate artifacts that were on the surface; (2) trash accumulation

increased over time; (3) trash deposition was evenly distributed over the surface. If these assumptions are true, then most of the ceramic waste dates before the 1760s when domestic occupation of the surrounding area was minimal and the ground was being used as the African Burial Ground. Later, more domestic trash accumulated and a few features were dug into the surface, including some graves. Some features could have been dug into the surface during the 1760s and 1770s, but the number seems rather low. Perhaps this is due to the Teller fence, erected in the 1760s and destroyed in the late 1770s.

If assumptions two and three are incorrect, other interpretations are possible. For example, if all the trash was deposited after the Teller fence was destroyed and the trash was unevenly distributed over the surface, then all of the ceramic waste could belong to Phase 2 rather than Phase 1. This, however, seems unlikely given the situation in AU139. In that feature, conservatively about 100 square feet with dimensions roughly about 12 by 8 feet, the only domestic artifacts, including pearlware, occurred in the grave shafts; none occurred in the feature itself. The exception to this is the two tobacco pipe stems in the northeast portion of AU139 that is adjacent to AU144. AU144 does have two domestic sherds, oriental porcelain and a redware sherd, as well as seven pipe fragments, and it is possible that there was some mixing between the fills of the two features when AU144 was excavated into AU139.

There is also evidence that another fence that followed the Van Borsum property line, represented by AUs 164, 150 and 161, may have affected the distribution of domestic artifacts. The distribution of the domestic artifacts not found in burial shafts is almost completely restricted to the area north of this projected fence line. In AU521, the remnants of the original ground surface and the transition between the A and B soil horizons, there are only two domestic artifacts, a white salt-glazed stoneware sherd and an unglazed redware sherd, both in EU38. A manganese-glazed redware sherd appears in AU521 in EU52 that is bisected by the projected fence line. All the domestic sherds from EU37 are northwest of the posthole AU161. Both features AU151 and AU168 seem to have been dug through this surface.

The distribution of the other artifact groups suggests the same division of features into an earlier and a later group or an undisturbed and disturbed group (Table 41). A separate analysis (not shown) demonstrated that the percent of non-industrial-group artifacts was not correlated with the total number of artifacts in a feature. AU144 did have a somewhat higher than expected number of non-industrial artifacts, but it was cut by AU139 and by AU140a, which may have added some non-industrial artifacts.

Table 41. Percentage of Artifact Groups in SE Analytical Units

AU	Feature Type	Total Non-Industrial Artifacts	% of All SE Non-Industrial Artifacts	Total Artifacts	% Non-Industrial Artifacts of Total Artifacts
Group A					
167	Pit	167	44.5	451	37.0
163	Trench	82	21.9	886	9.3
151	Pit	2	0.5	70	2.9
Burials	Shaft	47	12.5	3,279	1.4
140b	Builders' Trench	24	6.4	2,865	0.8
521	A/B Horizon	31	8.3	5,379	0.6
Group B					
144	Pit	14	3.7	7,566	0.2
139	Pit	5	1.3	3,229	0.2
168	Pit	2	0.5	1,935	0.1
152	Pit	1	0.3	1,647	0.1
161	Posthole			149	
165	Posthole			118	
149	Grave Marker			65	
164	Posthole			20	
166	Posthole			13	
Totals		375	99.9	27,672	1.4

4.5.3 Land Use

In summary, this portion of the African Burial Ground seems to have been used as a pottery debris dump from the 1730s or 40s (when the potteries started) through the 1760s (when Teller closed the area). The area became available for activities other than burial when the British burned Teller's fence sometime after they retook New York in 1776. The evidence of a fence line south of the projected line of Teller's fence may indicate an earlier fence, or it is possible that the Teller fence was further south than we have placed it.

Evidence from a number of areas in the site suggests that the African Burial Ground and other areas of the site also were used as a dumping ground for animal bone. Pipes, the author of the analysis of the faunal remains (Chapter 10), classified the bone assemblage into four groups: dietary refuse, processing waste, butchering waste, and intrusive material. The first two categories represent household refuse. Butchering waste is craft-related and/or commercial waste. The intrusive material group includes commensal animals such as cats and rats.

The bone from the SE Area was very fragmented and decomposed; few bones were identifiable. Household refuse (dietary and processing waste) made up about 72 percent of the identifiable bone with the remainder being butchering waste. The Group B features, those that are earlier or least disturbed, have fewer identifiable bones, 12 percent of the total. These observations suggest that tanners or other craft people only minimally used the area as a bone dump.

The features on the northern end of the area had a series of intrusions of post-1780 material. In fact, the portion of AU167 that had a part of a cow buried in it may actually date from this period instead of the earlier period. No archeological evidence of later lot use occurs except for two mid- to late-nineteenth-century features: the builders' trench for a building wall on Elk Street (AU140b) and a barrel (AU138), possibly associated with the same building event. The pavilion pier and builders' trench (AU140a) are recent twentieth-century disturbances.

4.6 The Northeast Area

4.6.1 Introduction

An area in the northeast was cleared and a grid of 10-foot squares was laid out in Lots 20, 20½ , and 21. The grid extended 50 feet east from the west wall of Lot 20. The only feature found which definitely dates to the period in which the lots were formed is the building wall between Lot 20 and Lot 18 to the west. Most of the remaining features date to the pre-Revolution period. There was no historical evidence of occupation in this area during Phase 2, although neighbors may have thrown some trash from their lots onto this area.

The northern units were designated EUs 7, 10, 3, 6, and 4, and the southern units were EUs 1, 5, 9, 8, and 2 (Figure 23). As in other areas, this section of the site was stripped nearly to the historic ground surface by backhoe. The units were shallow and generally dug to about 0.5 feet or less, penetrating in most units into the A/B Horizons. In the NE Area, the strata under the later fills include a number of complex fills or occupation deposits over a gray-brown historic surface, similar in color to soils from the rear units of Lot 12. This suggests that the same events led to the soil formations in both areas. A number of features were cut into this surface (Figure 23). However, it is difficult to discern the relationship of the features to one another because of the limited time allowed for excavation in this area.

Prior to the most recent demolition debris (Phase 6) in the NE Area, the latest archeological event of interest was the construction of the west wall and builders' trench (AU169) between Lots 18 and 20. We do not know if construction occurred in Phase 5, the late nineteenth century, or in Phase 4, the early nineteenth century.

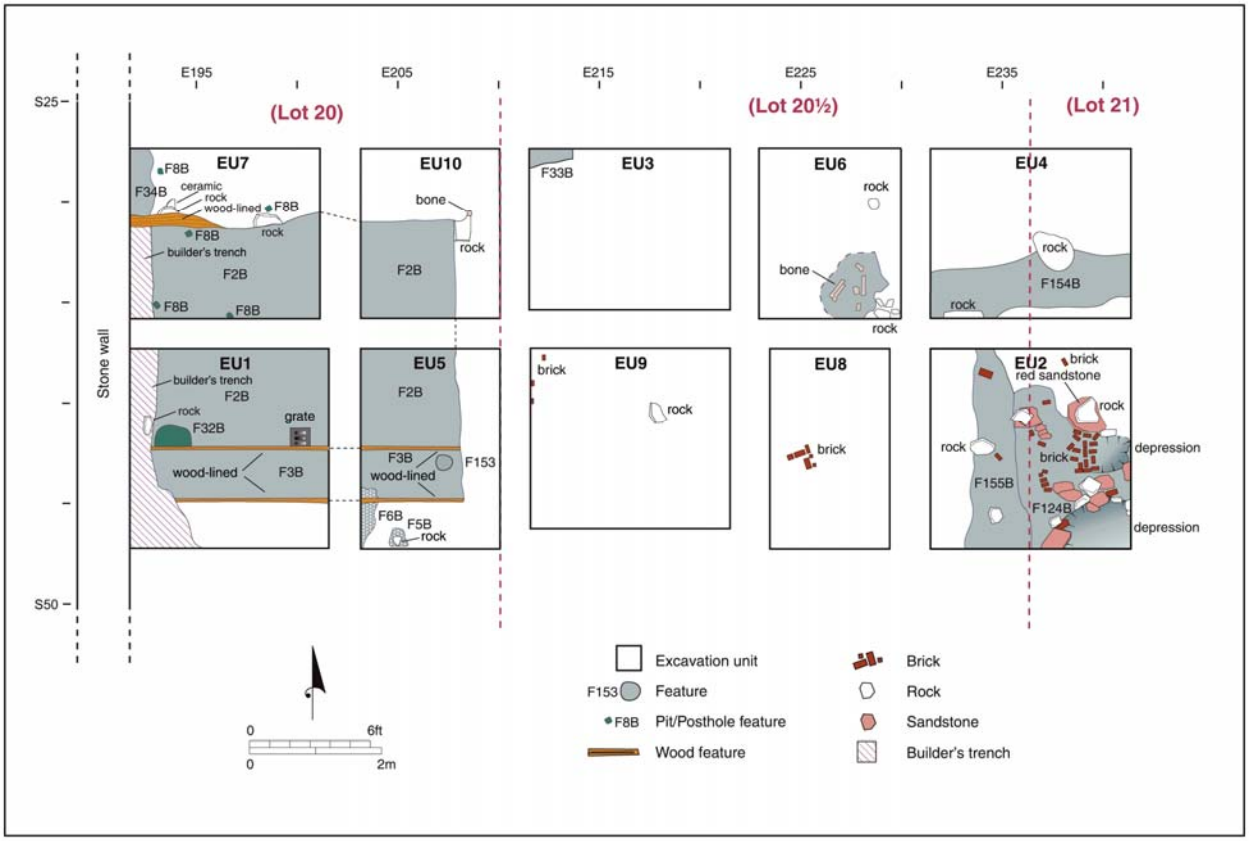

Figure 23. Feature locations, Northeast Area.

The wall cut through the Phase 3 fill of the lot. Varied strata (typically sandy, sometimes with pebbles and rubble) characterize the Phase 3 fill overlying the early features (Phase 1). Bricks were also recovered from Phase 3, which could be remnants of building destruction during the raising of the level of the block. No definite evidence of Phase 2 was found. The recovery of large amounts of kiln furniture, wasters, and other material from these deposits supports the Phase 1 date of the undisturbed material. There is a clear ground surface of dark gray-brown sediments in all the units. The western and eastern features were not stratigraphically superimposed; however, features within both these areas could be related to one another. The largest feature in the western area was a possible puddling box (AU2B, AU3B); on the eastern side, two bone pits (AU154B, AU155B) and a feature complex containing burnt material, brick and mortar, and sandstone (AU1B, AU4/7B, AU9B) were found. Basic information on each feature is presented in Table 42. As mentioned in Chapter 2, the uppercase letters acting as a suffix to some of the feature numbers differentiate them from other features with the same numbers in different parts of the site.

Two sets of features may relate to the ceramic industry, possibly to the Remmey pottery, which was in operation from the 1740s into at least the 1760s (see map data in Chapter 3). The first is a possible puddling box (AU2B and AU3B), which is a container where clay is mixed with water to make it more useable for the potter. The second feature complex is AUs 1B, 7B, and 9B. This may be the remnant of a kiln, although not enough of the feature was excavated to support this interpretation unequivocally.

Features 2B and 3B, the puddling boxes, could also be associated with the kiln. There are several variations on the "dry" and the "slop" methods of turning raw clay into a prepared plastic body that can be thrown (Cardew 1969:80–84). However, all methods, even the dry method, first convert the dry clay to a slurry or creamy solution called a "slip" by soaking the dry material in water (also called slaking the clay). The slip is then placed into a vat or pan where the water can evaporate. Where the clay has too much grit or undesirable particles, such as lime, the potter must also screen the slip. If the slip is thin enough, the undesirable particles may settle to the bottom, but screening is safer. After the water has evaporated, the clay is cut into blocks and removed for the next preparation stage where it is mixed preparatory for throwing. These vats can be made of various materials. Greer, in her book on stoneware pottery, describes outdoor vats called "sun-pans." These are "large open vats with low walls and floors of earth, wood, or brick" (Greer 1981:33–37; see illustration in Greer 1981:45).

Table 42. Non-Mortuary Features and Their Dates, NE Area

Feature	Function	TPQ	MCD
3B	Puddling box	1820	1785.5
2B	Puddling box	1795	1765.2
32	Posthole	1780	1783.0
34	Wood-lined pit	1780	1794.1
169	Builders' trench	1780	1755.9
1B	Burnt area	1762	1747.8
4B/7B/9B	Bricks	1762	1753.4
154	Linear pit (bone)	1762	1736.4
33	Trench (?)	1720	1745.5
5B	Posthole		
6B	Trench/pit		
8B	Postholes		
155	Linear pit (bone)		

4.6.2 Dating

Although stratigraphically the majority of the features are assignable to Phase 1, artifact analysis suggested that either the eastern units had been seriously contaminated by Phase 2 material or the ground surface had been used during Phase 2. Because of this analysis, the fact that the area was divided into lots in Phase 2 was taken into consideration. Although the lot divisions did not exist in Phase 1, in Phase 2 the lot divisions

might have affected what happened in the units. The artifacts were placed in two groups: those from Lot 20 and those from Lots 20½ and 21. The two easternmost units included only a small portion of Lot 21 (Figure 23).

MCDs were calculated by lot for all NE Area stratigraphic proveniences: disturbed surface material (AU509), Phase 3 fill (AU515), feature fill, and the historic ground surface (AUs 520 and 521). In each case, Lot 20 was twenty to thirty years later than the eastern lots (Table 43). The exception was the disturbed surface assemblages (AU509). Additionally, the highest percentages of post-1780 ceramics are in Lot 20 (Table 44). It should be noted that except in Lot 20, none of the features had any post-1780 ceramics.

The ceramic dating of the features and the historic ground surfaces (Tables 42 and 43) in the eastern units suggest the eastern lots were used from the 1740s to the 1760s. The dates from the four western units in Lot 20 suggest either a disturbance or use in Phase 2. The sharp division by lot lines suggests a use in Phase 1 and a disturbance in Phase 2.

Table 43. MCD for NE Area Proveniences by Lot

Provenience	Lot 20	Lots 20½ and 21	All Lots in NE
All NE	1780.0	1754.1	1763.4
AU509	1779.0	1772.2	1776.9
AU515	1788.3	1755.6	1756.7
Features	1776.2	1747.2	1762.2
AUs 520/521	1787.6	1754.2	1762.8
N	374	666	1040

Table 44. Percent of Post-1780 Ceramics by Lot and Provenience for the NE Area

Provenience	Lot 20	Lots 20½ and 21
All	21.7	3.9
AU509[1]	24.3	6.8
AU515[2]	43.8	6.6
Features	9.2	0.0
AUs 520/521	23.7	3.8

[1] Overburden
[2] Phase 3

The dateable pipes support the interpretation of the ceramic dates of the deposits in the NE Area, especially in the eastern units. However, some of the dateable pipes are earlier than the mean dates based on ceramics. The AU154 assemblage, the bone pit in EU4, has three pipes dated on their form to 1680 to 1720 and 1740. This implies an early use of at least the eastern portion of the NE Area for disposal of bone waste. The ground surface in EUs 2, 3, and 9 have similar pipes and pipe dates. Besides two other Bristol bowls (1680 to 1720 and 1760), there is a Tippett (1678–1722) and two Jenkins (1709–1739). Two Dutch pipes may also date this early: a Souvee (1740–1782) and a pipe stamped "GOUDA" with rouletting. Overall, the pipes date from 1680 to 1760. The presence of creamware in most of the same proveniences suggests the later part of this time range, except for AU154.

The only later pipes in either the eastern or the western units were in Phase 3 deposits. In EU4 there is a Viner (1765–1806) and a Dutch pipe (Maerling, 1733–1788). In the western units there is a Morgan (1788–1845) and a leaf design on a stem (1760–1900).

The late dates for western units throw doubt on the identification of AU2B and AU3B as puddling boxes, which presumably would have been used early in the history of the site, perhaps by the Remmey pottery to the north of the project area. However, they could have been in use pre-1760 and then been disturbed in Phase 2.

Layers of colored clays were found in AU2B in the field, giving rise to the puddling-box hypothesis. Features 2B and 3B are wood lined on their north and south sides, but not on the east side; this physical feature could match that of a sun-pan. However, a sandy mixture with gravel and some post-1780 ceramics was found in AU2B. There is also an iron grate at the top of this sand fill. One could argue that the sandy fill and the drain were in place to aid the drainage of water from the clay.

The formal boundary of the African Burial Ground in 1783 seems to be on the south edge of the NE Area and is probably the same as that established by Teller when he built his fence. Thus, it is possible that the potters expanded into the area previously used as the African Burial Ground. There are two alternative interpretations of the presence of the later ceramics in this feature complex. The first is that it is a feature from Phase 1 that has been disturbed by post-Revolution-period activity. Second, the feature complex is a drainage feature associated with one of the post-1800 buildings on the lot, which incorporated portions of the Phase 3 fill into the feature fill.

Because of the different nature of the western four units in Lot 20, they will be considered as a Phase 2 occupation. The deposits in Lots 20½ and 21 are considered Phase 1 occupations with some slight Phase 2 disturbances. The distribution of the different ware groups in Table 45 reflects this classification.

Table 45. Percent of Ceramic Ware Groups by Phase for NE Analytical Units

AU	WW	PW	CW	OEP	TG	WSW	R/Y SW	RW	SW	Other	N
Phase 3											
515		0.6	1.5	1.1	0.7	1.2	1.7	59.1	33.6	0.5	4137
Phase 2											
34		28.6	42.9					28.6			7
169		10.6	22.3	5.3	29.8		2.1	8.5	20.2	1.1	94
2B		10.3	20.7	5.2	1.7	1.7	1.7	20.7	36.2	1.7	58
3B	0.8	8.7	26.2	2.4	4.8	1.6	1.6	12.7	41.3		126
32		1.3	8.0	1.3	1.3		1.3	21.3	65.3		75
005B									100.0		1
Phase 1											
520/521		0.6	2.1	1.3	0.8	1.1	0.7	32.5	60.6	0.3	5027
4B			1.1	1.6	0.5	0.7	2.4	55.2	38.3	0.2	825
154			0.3	3.8	5.6	1.7	0.7	6.3	81.1	0.3	286
1B			0.3	0.6	0.5	0.7	2.8	53.2	37.5	4.5	2117
33						2.7	10.8	62.2	24.3		37
155								11.6	88.4		43

Key: AU–analytical unit; WW–whiteware; PW–pearlware; CW–creamware; OEP–oriental export porcelain; TG–tin glazed; WSW–white stoneware; R/Y SW–red- and yellow-bodied slipware; RW–redware; SW–stoneware; N–total number.

4.6.3 Land Use

The Phase 1 portion of the NE Area was used for several activities. First, although we do not know for sure that burials occurred in this area, it seems likely. We know, from excavations in the MID Area, that graves were dug in the area north of the formal boundary, as defined in the late eighteenth century and at least part of their area was within the Van Borsum parcel (Figure 20). Not enough excavation was done to verify the presence of burials in this area, although field observations suggested grave outlines existed. Second, it was used as a ceramics dump, although the kiln waste composition is different from the SE Area. Third, it has a high concentration of craft-related/commercial-butchering waste that was not found in the SE Area. Last, there is a feature complex in the NE Area that may indicate that some craft or commercial activity took place in the NE Area.

The Phase 1 deposits have moderate amounts of industrial ceramics (both redware and stoneware). The NE Area had 50 percent non-industrial material, while the SE Area had only 1.3 percent and Lot 12, 86 percent.

Table 46 shows the percent of non-industrial group for each provenience by lot. We see again that the west lot is very different from the central and eastern lots with higher percentages of non-industrial groups in Lot 20 than elsewhere except for AU33.

Table 46. Percent of Non-Industrial Artifact Groups for NE Proveniences by Lot

AU	I[1]	Non-I[2]	Total	% Non-I per AU	% of Total Non-I
Lot 20					
153	0	1	1	100.0	0.0
169	6	144	150	96.0	3.2
034	1	15	16	93.8	0.3
003B	12	132	144	91.7	3.0
002B	6	45	51	88.2	1.0
521	7	29	36	80.6	0.7
520	109	445	554	80.3	10.0
032	21	50	71	70.4	1.1
005B	1	0	1	0.0	0.0
Lot 20 Total	163	861	1,024	84.1	19.3
Lot 20½					
033	6	35	41	85.4	0.8
001B	656	1,150	1,806	63.7	25.9
004B	253	371	624	59.5	8.3
521	54	66	120	55.0	1.5
520	1,978	1,807	3,785	47.7	40.7
154	180	137	317	43.2	3.1
155	26	18	44	40.9	0.4
Lot 20½ Total	3,153	3,584	6,737	53.2	80.7
Grand Total	3,316	4,445	7,761	57.3	100.0

[1] I = industrial artifacts
[2] Non-I = non-industrial artifacts

The composition of the industrial material is different in the NE than the SE. While there seem to be no differences in the types of either stoneware wasters or kiln furniture between the two areas, there is considerably more redware kiln furniture and probable redware wasters here than in the SE (Table 47). The redware artifacts from the unidentified group are included on Table 47 as redware wasters because most of the artifacts are probably actual wasters from the kilns. The predominate type was manganese-glazed (black) redware (53 percent). At least two sherds of this type had glaze on their broken edges. The other two types were unglazed and redware-other, comprising 17 and 30 percent respectively. Many of these could be parts of saggers. This analysis assumes the saggers made of redware clay were not used in the production of stoneware. None of those examined had salt-glaze residue on them, which would have been inevitable in a salt-glaze kiln.

Table 47. Comparison of Stoneware and Redware Ceramic Debris[1]

	SE		NE		
	#	%	#	%	Total Industrial
Stoneware kiln furniture	17,205	65.3	3,171	34.4	20,376
Stoneware wasters	9,088	34.5	2,127	23.1	11,215
Total stoneware	26,293	99.8	5,298	57.5	
Redware kiln furniture	10	0.0	885	9.6	895
Redware wasters	25	0.1	3,032	32.9	3,057
Total redware	35	0.1	3,917	42.5	
Total	26,328		9,215		35,543

[1] Sherds from AU515, cataloged as fill, are not included in either NE or SE numbers.

The conclusion here is that a redware pottery was dumping its debris in the NE Area and that it was making a majority of manganese-glazed redware. However, stoneware kiln debris was also dumped here.

Pipes, in Chapter 10, reports that the composition of the faunal bone assemblage in the NE and SE is also different. The NE Area yielded the largest concentration of bone at the site during Phase 1. Most came from the two bone pits AU154 and AU155, the rest from the historic ground surface. The NE had a high percentage of butchering waste (Figure 107) compared to the SE (Figure 108), which had a high dietary refuse. The processing waste was about the same. The butchering waste was composed primarily of craft-related refuse in the form of cattle feet, which had probably been deposited by tanners. The date associated with Phase 1 is 1760 and earlier, possibly as early as the early eighteenth century, based on the pipe dates. This implies that tanners used the area inside the African Burial Ground as a bone-dumping site in the early and mid-eighteenth century. Some of the bone was in pits, but most was thrown on the surface and became incorporated into the ground surface. Little of this activity occurred in the SE, perhaps because it was already covered with ceramic dumps.

The third activity in the area is associated with a feature complex in EU2. Destruction debris from the feature complex was spread into EUs 2, 6, and 9. AU1B was a thick layer of burned material and kiln debris (both redware and stoneware, although more of the latter), wasters that covered sandstone piers (AU9B), and sections of laid brick (AU4B/7B). The piers and brickwork surrounded a pit in the southeast corner (Figure 23). Sandstone, as well as brick and mortar, was also scattered around the southern portion of EU4. The entire feature complex (the structural elements of the sandstone piers and laid brick and the pit) was designated AU4B.

A sandy mix of brick, mortar, and burnt material covers about 3/4 of the unit (Figure 23). In the northeast, there was a clay layer over a portion of the feature that slopes northeast, suggesting both a later fill unit and a pit or depression in this area. The layers of sandy material with burnt material and debris were called AU1B. Under these layers were the structural elements of feature complex AU4B. Sandstone slabs (AU9B) were stacked on top of each other to form piers and patches of broken brick (AU4/7B) articulated with each other and with one of the sandstone stacks. Between these structural elements were depressions filled with sand. To the south and west of the structural elements was brick rubble. A pit dug into the southeast corner of the unit is probably also associated with this feature complex (Figure 23). The pit seems to have material similar to the rest of the feature complex, but it is difficult to tell from the field notes. It could have been cut into the feature complex at a slightly later time, as suggested by the strata, or it could have been part of the feature complex and the fill was added later.

This configuration of the major elements of the feature complex could be interpreted as a pit into which rubble was dumped; however, the articulated brick and stacked sandstone slabs belie this interpretation. One could also interpret the articulated areas as an actual construction feature with a north and east wall composed of broken, but articulated, brick, stretching between stacked slabs of sandstone.

One possible interpretation of the feature complex is a ceramic kiln. Only a portion of the feature complex was exposed, yet it is worthwhile to draw attention to this possibility, as information on early pottery production facilities in America is rare. If it is a kiln, the exposed elements are most similar to an early German downdraft kiln illustrated by Rhodes (1968:48,Figure 50). Such kilns were either rectangular or round. The fireboxes were arranged around the sides, and the flames were deflected upward by short walls (bag walls) and then drawn down through the holes of the kiln floor into a collecting flue, which led to the chimney (Rhodes 1968:47). The downdraft kiln is more efficient than an updraft kiln, distributing the heat more evenly. The pit filled with bricks in the center of the unit could be part of the sunken flue. The sandstone piers could be either support for the kiln floor or the sides of the brick-paved fireboxes.

In Trenton, New Jersey, a stoneware kiln, dating to the Revolution and after, was recently excavated (Hunter 2001). This kiln has a completely different form. It is rectangular, and the firing floor is about three feet off the ground. Two flues run under the floor, parallel to the long axis, with the firebox at one end and the flue at the other. This seems most similar to a horizontal kiln, versions of which were found in both England and Germany (Rhodes 1968:45–47). Vents from the flues through the floor allow some of the hot gases to rise into the firing chamber from the front to the back unlike the kilns illustrated by Rhodes, which

have floor vents only in the rear. This speculation about the feature complex AU4 is interesting, but more excavation would have to be done to clarify its function. Since this is in the African Burial Ground site, such excavations are out of the question.

In summary, the NE Area was used to dump bone, probably tanners' waste, at least during the middle of the eighteenth century if not earlier. Debris from both redware and stoneware kilns was also deposited in the area. Assuming that Teller fenced the property in the 1760s and that the fence may have run through this area, the ceramics probably predate the fence. Considering the similarity of the NE kiln wasters to those in the SE, the kiln wasters and bone must date from about the same time. There are indications of disturbance by post-Revolution domestic activity (Phase 2), especially in the western units. However, since the kiln waste was no longer being deposited here, most or all of it can be assigned to Phase 1.

4.7 The Mid-Block Area

4.7.1 Introduction

The MID Area includes Lots 14, 15, 16, and 17. These are in the center of the area excavated and, with the exception of Lot 12 (which is reported separately), yielded the evidence for the transformation of the block from a burial ground into a residential neighborhood in Phase 2. There are very few deposits from Phase 1 that can tell us what the ground surface was like during the African Burial Ground period or what other kinds of activities occurred on it.

This area contains evidence of a fence separating what the 1784 Bancker survey defined as the Van Borsum parcel from the Barclay (Calk Hook) parcel to the north. The Barclay parcel is the portion that was initially divided into lots and developed. These four lots contain the most domestic features, including privies and pits as well as postholes. The dates of the materials in the majority of the features, as well as their stratigraphic position, demonstrated that most of these features were excavated into the surface of the African Burial Ground before the yards were raised (from 1799–1810) in response to the regulation of the street level in 1799. As discussed in Section 4.3.3, the lack of stippling on transfer printing shows that all of the Phase 2 deposits date before 1810.

In Lots 15 and 16, it is clear that these features were made and closed before the lot surfaces were raised. The evidence for such features in the end two lots is much scantier. There were also a few natural and cultural features that dated to the African Burial Ground period (Phase 1) and a few from Phase 4 or 5 nineteenth-century events. The time span in which most were made and abandoned is short (maximally from 1788 to 1803 or 1810), so it is difficult to order these features within that period, especially since few are stratigraphically related. Each lot will be discussed in turn, going from west to east. Within each lot the features will be discussed in rough chronological order. Postholes from all lots are discussed in a separate section.

Figure 4 and the figures in this section show definitive lines representing the lot boundaries; however, where there are no actual wall remains, the exact location of the lot boundaries may not be precise. The boundaries were located using the dimensions found on the early deeds and measuring east and west from existing walls. In spite of this, and because there is no evidence of fences between the lots, the exact boundary could be a little to the left or right of what is depicted. For example, in Lot 15, AU77 extends slightly into Lot 16 and a cluster of related postholes in Lot 16 may extend into Lot 17. However, the calculated boundary locations seem to be a good approximation of the original boundaries.

4.7.2 Dating

Where chronologically diagnostic artifacts were lacking, we used evidence of features cutting or being cut by grave shafts to separate Phase 1 and Phase 2 events. It was particularly difficult in the field to decide whether postholes cut or were cut by grave shafts. Thus, in the sections on the dating of features in each lot below, we exclude discussions of the stratigraphic relationships of the postholes to grave shafts, although in most cases they seem to cut grave shafts.

There are some artifacts in the features that appear to be intrusive by virtue of their rarity with their TPQ being much later than any other artifact. The TPQs in the tables below exclude such artifacts, but they are mentioned in the text.

The Phase 1 features include four features cut through by burials: AU106 (Lot 14), AU111/12 (Lot 16), AU131 (Lot 16), and AU141 (Lot 17). AU116 is a shallow pit. AU131, a fire pit, is assigned to Phase 1, although there are no diagnostic artifacts since it is similar to a fire pit with artifacts AU141. A natural water channel (AU111/120), which was open and filled during at least part of the time the African Burial Ground was in operation, was in Lot 16. The two latest features are two drains belonging to Phase 5: AU112 (Lot 14) and AU100 (Lot 15). AU103 and AU57 belong either to Phase 4 or 5. The remaining eleven of the nineteen analyzed features belong to Phase 2. Not much attention was paid to the later features, and their artifacts were generally not analyzed. The 69 postholes (not part of another feature) are assigned to Phase 2, although there are few artifacts or stratigraphic data to be confident of this assignment.

The Phase 1 features have few dateable artifacts. AU141 is the only one that has an adequate number (25 sherds) to produce a good ceramic date. The MCD is 1745.4 and the TPQ is 1720.

The MCDs for Phase 2 (based on sherds) mostly fall between 1784 and 1806 (see Table 48 for each lot below), the time period suggested by the historic documents. The only earlier MCD is AU107 (Lot 14), which has only three dateable sherds. The grouping of the MCDs for Lots 15 and 16 suggests that the features in Lot 15 are generally more recent than those in Lot 16 with some overlap. Two features in Lot 15 (AU74 and AU91) have the latest MCDs and two in Lot 16 have the earliest dates; the rest overlap. The 1804 date in Lot 16 came from only two sherds and is stratigraphically the earliest part of the Feature 58/108 complex. Although it may be hazardous to attempt to stratify features on MCDs that are so close together in time, the temporal order suggested by the MCDs (Table 48) matches the interpretation of the historic documents with Lot 15 staying open until 1809–1810 and Lot 16 being filled shortly after 1802. The MCDs for Lot 17 also suggest an earlier occupation and an earlier fill date, as suggested by the interpretation of the historic documents, by 1802 or even earlier. When compared to dates in Lot 12, the date array in Table 48 suggests that Lot 12 was also filled relatively early.

Table 48. Mean Ceramic Dates by Half-Decade for MID Area Phase 2 Features in Lots 15–17

Half Decade	Lot 15	Lot 16	Lot 17
1805	1806		
1800	1801	1804*	
1795	1797 1795*	1797 1796	
1790	1794	1794 1792	1793 1791
1785			
1780		1784	

*Less than seven sherds

4.7.2.1 Postholes

Postholes can provide information on lot boundaries and structures or boundaries within yards. They can also provide information on the kind of debris that was in the surface layer and used to backfill around the post. Ideally, they may also contain dateable artifacts from the time they were excavated or when the post

was removed. Of the 69 features that appear on the maps in the MID Area as postholes, 16 were not documented in field notes and four were not numbered on the base map. Of the remainder, only 17 (25 percent) had artifacts; 12 of these had artifacts other than rocks or wood or brick fragments. All of the artifacts were undateable nail fragments, glass, salt-glazed stoneware, and bone or shell, none of which help identify when the postholes were created. The one copper button in AU162 was not temporally diagnostic. The lack of artifacts suggests that they were excavated into ground surfaces that had few artifacts on them, either before the residential development or very early in the domestic occupation of the lots.

As is often the case with postholes, it is difficult to identify patterns. It is clear that there are no boundary fences with deep postholes between the lots. The only possible boundary feature was a line of postholes that seemed to run from the southwest corner of Lot 12 to the projected boundary between Lots 16 and 17. The rest of the postholes do not appear to outline any building or interior division for a lot.

The postholes in Lots 14, 15, and 16 appear to form a fence line (Figure 20). However, there is considerable variation in the postholes' form and location, which suggests they are either the product of a variety of different activities or the fence was repaired and replaced a number of times. For example, the postholes have different shapes; some have rocks and others don't; there are gaps in the projected fence line; the holes are not oriented the same way; the bottoms vary from rounded to pointed and some are stepped; and some are not on the same line. However, the simplest explanation is that these postholes define a fence; it is difficult to suggest another explanation as to why postholes are clustered in a linear fashion in this restricted area.

Assuming this is a fence line, the first question is, does the fence line reflect land boundaries? To investigate the relationship of the posthole line to the Bancker 1784 line, it was assumed that the north side of the existing building at 22 Reade Street was the historic southern edge of the alley. Then, it was assumed that the alley was 20 feet wide, as shown on the 1795 map filed in 1827 (New York County Records Department 1795; also with New York City Land Evidence Liber 46:139; see also, Ingle et al. 1989:Figure 12). The Block and Lot Index for Block 154 shows the distance from the north edge of the alley to the Duane Street property line as 76' 7". This places the front of the northern line of the block approximately at grid line S9 rather than at S0.

With the northern edge of Block 154 established, the location of the Bancker survey line could be plotted from the 1795 map (New York County Records Department 1795; see Figure 20). The measurements place the Bancker line close to the posthole line, but at a different angle.

This line of postholes could be the same as the one mapped by Maerschalck in 1755. The line representing the northern edge of the Negros Burial Ground on this map is dotted unlike any other line on the map. Perhaps this is meant to represent a fence. This line also could be the same as the one surveyed by Maerschalck in 1763 (Appendix B-1, Barto 1991:Block 154-N. Half, n.3 and n.4) and/or that Teller used to build his fence around the African Burial Ground in the 1760s. If a later fence was placed on the same line as Teller's fence, this could explain why the postholes that make up the line are so different from one another. However, it would not explain why the line stopped where it did.

Teller's fence may also be represented on the Ratzer map, surveyed in 1766 and 1767. This map shows a dividing line between the African Burial Ground and the area to the north that is angled like the patent border, and a building at the northeast corner of what became Block 154 (Figure 14). Perhaps the features in the NE Area that are north of the projected fence line are part of a complex represented by the building on the Ratzer map (and also the Holland 1776 map, Figure 15). However, the boundary line separating the African Burial Ground from the northern parcel continues northeast through what would be Lots 17 to, and including, Lot 21, unlike the archeological evidence of a fence line. Although the Ratzer map suggests a fence turning north at the approximate Lot 16–17 boundary, this does not explain why the line of fence posts stops or why another archeological fence line does not turn north.

The second question is, when were the postholes excavated? Since there is little artifact data, the date of this possible boundary fence is problematical. The few artifacts, which include some salt-glazed stoneware

(presumably wasters from the kiln dumping), suggest that the surface had few artifacts on it at the time the postholes were excavated. Therefore, they are unlikely to have been excavated after the houses and yards were established after 1794. If the stratigraphic relationships of the postholes to the grave shafts were clearer, we could identify which, if any, belonged to Phase 1. However, there are some problematical cases of relationships between postholes and burials. The fill of the burials and the postholes was apparently indistinguishable in the field. Thus, if part of a posthole overlapped a burial, the field crews could not determine which was first. Some larger postholes on the fence line seem to be excavated into the grave shafts. Since there is no demonstrated case of a posthole being cut by a burial, we are assuming that the fence line was installed after the land ceased being used as a burial ground. This would place the fence line construction early in the development of the Duane Street lots.

Arguments in favor of the fence line being associated with the rear of the Duane Street lots, rather than earlier, derive primarily from the position of the other rear-yard features. All of the shaft features are north of that line; early owners could have fenced off the lots and the lot residents excavated the shaft features at the back of the lots. This would explain why the fence line stops at the Lot 16–17 boundary. That lot was owned by another household, which bought the lot complete with its gore of land, unlike the lots to the east. It seems most likely that the fence line was intended to mark the border between the Barclay lots and the gore that belonged to the heirs of the Van Borsum parcel.

However, there is also evidence that the line of postholes marked the edge to Teller's enclosed parcel. The burials are much more closely packed to the south of this line (Perry et al. 2006: Figure 17) implying a constraint like Teller's fence.

In summary, it is probable that this is the location of Teller's fence. However, the angle of the postholes is slightly different than the boundary line derived from the maps. That there was disagreement about the boundary, at least before Teller put up his fence, is seen by how far north the burials are found beyond the Bancker 1784 survey line, at least 35 feet in Lot 16 (Perry et al. 2006: Figure 17) .

4.7.2.2 Lot 14

Lot 14 contained two irregular pits (AU106 and AU107), a drain feature (AU112) (Table 49), a rodent burrow (AU59), and eleven labeled postholes (AUs 59, 60, 61, 62, 67, 68, 97, 98, 105, 200, and 201) and one unlabeled one (NF) (Figure 24). All the postholes except the two northern ones (AU97 and AU98) are part of the probable fence line that runs southwest to northeast. AU106 dates to Phase 1 and AU107 to Phase 2 (1788–1810). These are located in the southwestern section of the lot. The drain feature (AU112) lies on the southern border of the lot and dates to the late nineteenth or early twentieth century. The one irregular pit feature and the postholes are the only evidence of post-African Burial Ground use in the lot until the late-nineteenth- or twentieth-century drain (AU112). The date of the brick wall forming the west side of the lot is unknown. AU106 was cut by Burial 197 (B197) but contained no artifacts.

Table 49. Feature Dates for Analytical Units in Lot 14

Feature	Function	TPQ	MCD
106	Irregular Pit		
107	Irregular Pit	1780	1761*
112	Drain		

*Fewer than 10 sherds.

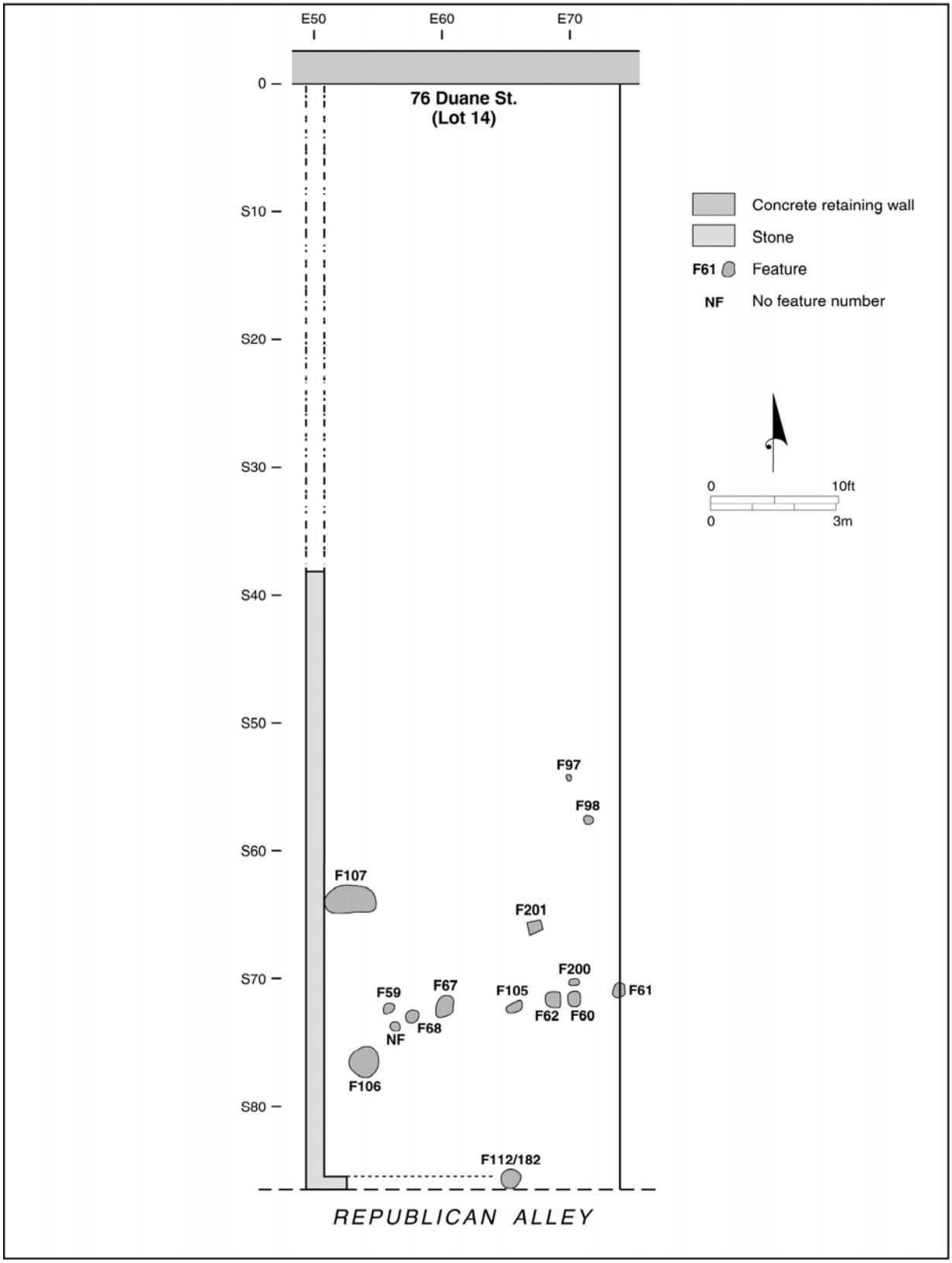

Figure 24. Feature locations, Lot 14.

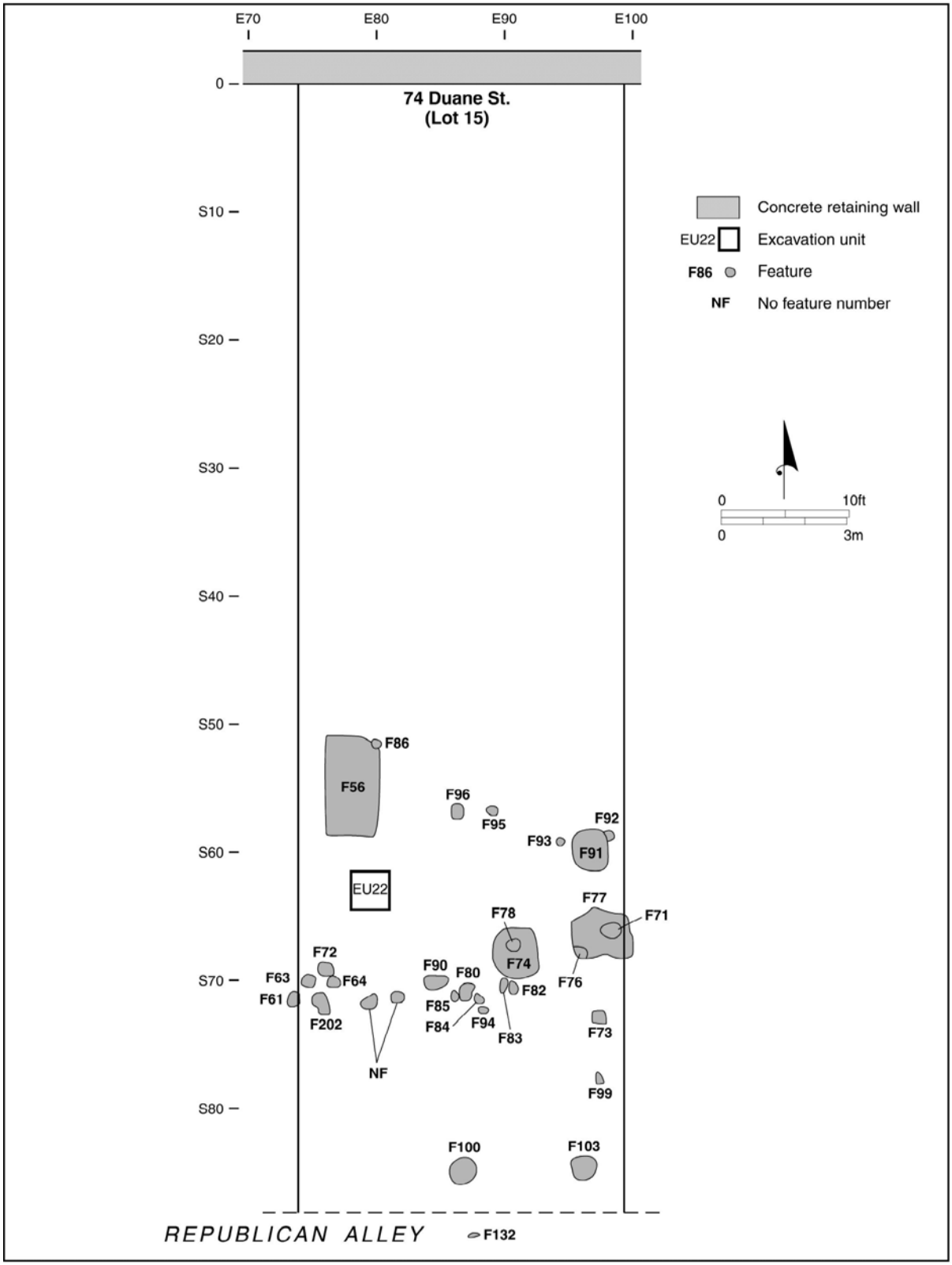

Figure 25. Feature locations, Lot 15.

4.7.2.3 Lot 15

Lot 15 contains two large wood-lined privy features (AU56 and AU77a), one smaller wood-lined privy feature (AU74), and two pit features (AU77b and AU91), all dating to Phase 2 (1788–1810) (Figure 25). AU77a is earlier than AU77b, but both date within Phase 2. The three wood-lined privies within this lot may reflect the long-term occupation of two households. In addition, postholes (AUs 61, 63, 64, 72, 80, 82, 83, 84, 85, 90, 94, and 202) are part of the fence line. Postholes AUs 92, 93, 95, and 96 are north of this fence line, and AUs 73, 99, and 132 are south of it. There are also two unnumbered postholes between AUs 202 and 90. AU86 may be associated with another feature, and AU71 is a late pit or posthole dug into the surface of AU77. AU76 may be a corner post of AU77 and AU78, although it appeared to be a root to the field crew. The most recent feature was a drain (AU100), located in the southwestern area of the lot, which is similar to the drain (AU112) in Lot 14, both of which were assigned to Phase 5. A shallow pit south of the fence posts (AU103) was identified in the field as a late-twentieth-century fire pit created after the excavations started. This may actually date to the late nineteenth century since it contains a clock key from 'INGRAHAM & CO" "BRISTOL CONN." This watch-making family first used the "CO" in the name of their firm in 1856 (Murray 2001). The rest of the features belong to Phase 2.

Several Phase 2 features cut into the burials. AU77 cut into two sets of two superimposed burials (B192 and B193; and B225 and B252). AU91 cut B158, and AU56 cut burial shafts of two graves (B153 and B203). The Phase 5 AU100 cut into B213 and 247.

According to the MCDs (Table 50), AU56 is the earliest and AU74 the latest, with the rest within nine years of each other. Only AU56 has the density of artifacts to suggest that it was a major deposition event. It also has the lowest frequency of architectural artifacts. When the TPQ is considered, the two green shell-edged vessels with an even scalloped edge and impressed straight lines dates to 1805 (Miller and Hunter 1990:116). This date then places the feature with the earliest MCD in Lot 15 with the latest TPQ.

Table 50. Feature Dates for Analytical Units in Lot 15

Feature	Function	TPQ	MCD
56	Privy	1805	1794
74	Privy	1780	1806
77a	Privy	1790	1795*
77b	Pit	1780	1797
91	Pit	1800	1801
100	Drain		

*less than 10 sherds

4.7.2.4 Lot 16

Lot 16's features date from Phase 1 (pre-Revolution), Phase 2 (1788–1810), and Phase 5 (late nineteenth/early twentieth century), and possibly Phase 6 (twentieth century) (Figure 26). A large portion of the southern half of the lot was disturbed by a late-twentieth-century disturbance. The two earliest features (Phase 1) are AU111/120, an irregular trench, and AU131, a fire pit; both were cut by grave shafts. AU111/120 is a natural channel about 26 feet long, which yielded few artifacts in the area excavated; it is best considered a relatively undisturbed portion of the ground surface of the African Burial Ground. AU131 is a flat-bottomed pit with burnt rocks, but with no dateable artifacts, which lies east of the northern half of the AU111/120 (Table 51). It has some characteristics similar to the fire pit in Lot 17 that has been assigned to Phase 1 and may be associated with the African Burial Ground.

Lot 16 contains the most complex non-mortuary-related feature (AU58) at the site. AU58 is made up of five overlapping features, indicating multiple uses over an extended period: AU58a (wood-lined privy), AU58b (wood-lined privy), AU58c (irregular pit), and AU58d (support pier), plus the distinct AU110 (posthole) which cut into AU58d. AU58a is the earliest (Phase 2) and AU58d and AU110 the most recent (Phases 5 and 6). AU58a was a large deep privy oriented toward Duane Street. It is possible it contained abandonment artifacts, but most of them would have been removed when the smaller AU58b was

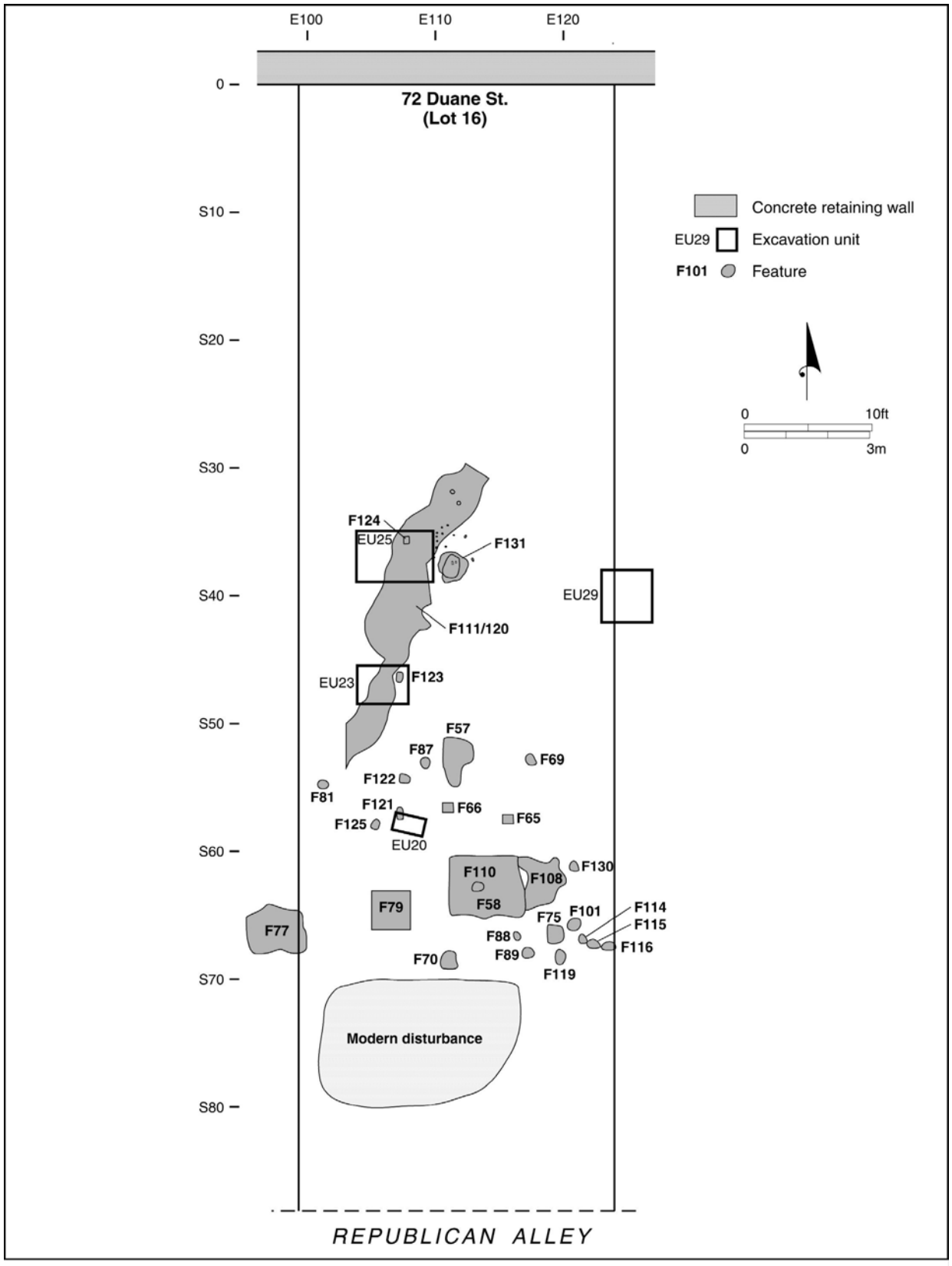

Figure 26. Feature locations, Lot 16.

constructed inside the early privy. AU58b was at an angle to AU58a, following the line of the boundary fence. AU58c was actually a roughly circular pit that was dug into the center of AU58b and was full of artifacts. Artifacts were less dense in the other two early features. AU58d was actually dug in Phase 5 but through the three earlier Phase 2 features and contains mostly material from Phase 2. Although we cannot tell from which of the earlier features most of the artifacts in AU58d came, all the artifacts from AU58 are analyzed together when it is appropriate. However, from the crossmends of the glass and ceramics vessels, we can say that AU58b had few and small sherds of ceramics and glass and no definable vessels. Its bottom was separated from AU58a by some very low-density deposits. Most of the crossmends were within either AU58a or AU58c and only a few crossmended between AUs. These crossmends could be due to disturbance by AU58d or some other event, or they could signal that the same households deposited AU58a and AU58d.

The later ceramic artifacts from AU58d include two whiteware and four yellowware sherds, which are reflected in the TPQ (Table 51). An Indian Head small cent (TPQ 1859) suggests a post-1860 date for AU58d. The three cut nails in AU58c, if they are fully machine-made (TPQ 1830), are in strata near the intrusive AU58d pier, which also had over 40 such nails in its fill. This feature also included sherds of cylindrical tumblers, which have a TPQ of 1800. None of these occurred in the other portions of the feature so it is uncertain if these tumblers were originally deposited in the earlier features.

AU108, a shallow, irregular, flat-bottomed pit, lies directly east of AU58. Modern artifacts, mostly construction-related, were recovered from AU108, indicating a late disturbance of this Phase 2 feature. It has mostly Phase 2 artifacts in it. AU101 is a shallow pit. AU57 seems to be a modern disturbance and will not be discussed further.

AU79 was a wood-lined feature, initially identified as a privy, located west of AU58. It was partially disturbed by either earlier construction or the demolition and clearing before the archeological excavation as evidenced by recovery of concrete from the fill. However, its TPQ and MCD are among the earliest in the MID Area, indicating it did not receive a major disturbance.

Probably both AU58a and 58d cut B181, which lay south of the feature. AU58a and AU108 cut B287. AU79 probably cuts B182.

Like the other lots, Lot 16 has a number of postholes. Some continue the fence line from the west (AUs 70, 75, 88, and 89). Other postholes to the south (AUs 114, 115, 116, and 119) and north (AUs 65, 66, 69, 81, 87, 122, 125, and 130) of the line relate to other undefined activities. The postholes AUs 121, 123, and 124 may be modern, or at least not Phase 2. Although there is no definite evidence, their north–south orientation and their rectangular shape suggest they are different from both the scatter of small round postholes north of the fence line or the fence line itself.

Table 51. Feature Dates for Analytical Units in Lot 16

Feature	Function	TPQ	MCD
111/120	Channel		
131	Fire Pit		
58a	Privy	1795	1794
58b	Privy	1780	1792
58c	Pit	1805	1796
58d	Support Pier	1840	1796**
79	Privy	1780	1784
108	Irregular Pit	1740	1804*

*Less than 5 sherds
**If the four post-1820 sherds were added, the MCD would be 1797.

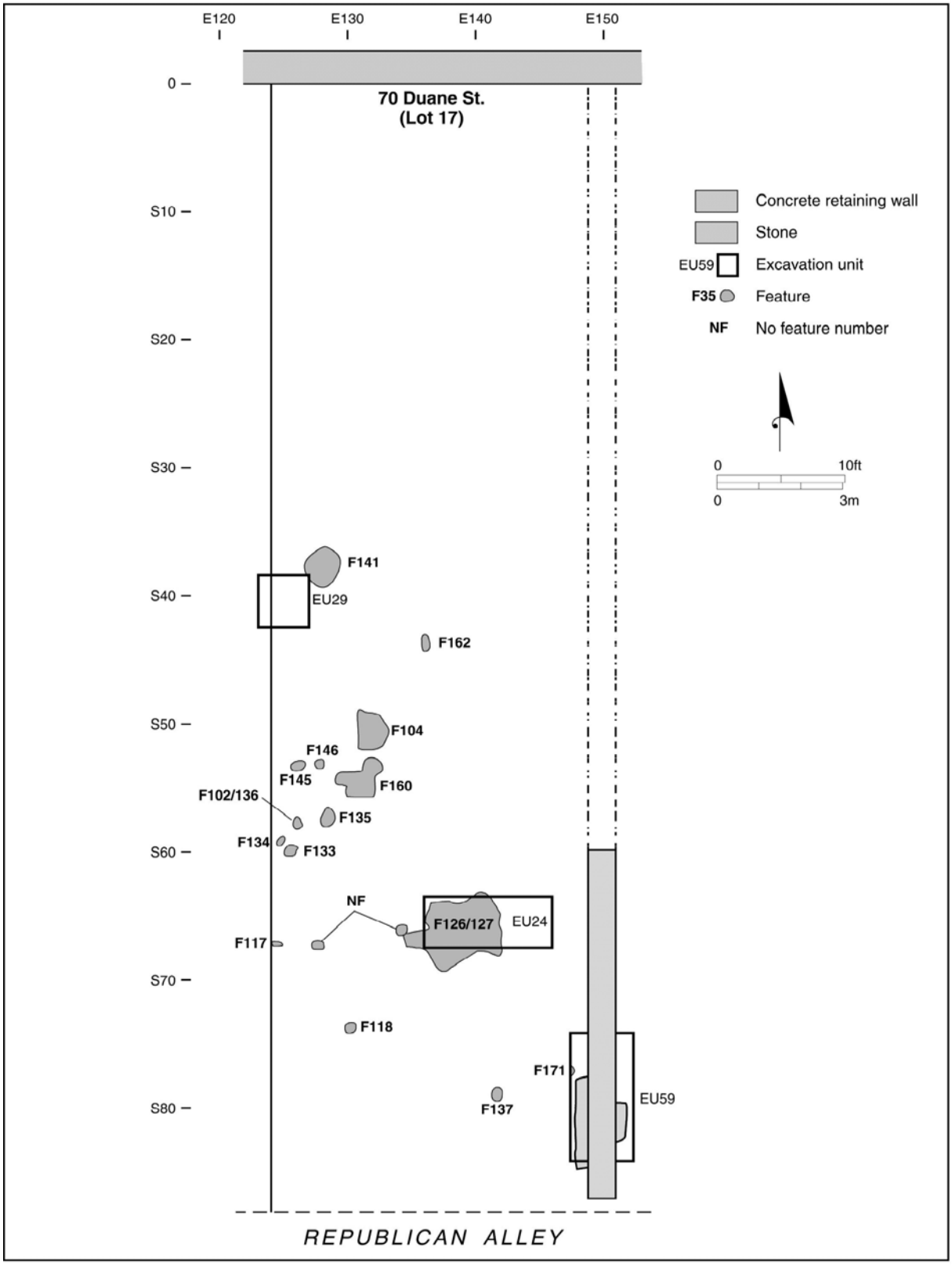

Figure 27. Feature locations, Lot 17.

4.7.2.5 Lot 17

Lot 17, like Lot 14, had fewer features than Lots 15 and 16. Lot 17 contained four pits and twelve postholes (Figure 27). The boundary-fence postholes do not extend into this lot.

The oldest pit was AU141, dating to Phase 1 (Table 52). AU141, the northernmost feature in the lot, has a circular shape and predates B337, which cut into it. It may have been used as a pit for animal sacrifices associated with the African Burial Ground. Like AU131, it is circular with a flat bottom.

Three later pit features (AUs 104, 160, and 126/127) all date to Phase 2 (1788–1810). AU104 has an irregular shape and contains a variety of artifacts. AU160, also with an irregular shape, is located about four feet south of AU104. AU104 cuts B342 and possibly B327, and AU160 cuts the grave shafts of B342 and B369. The largest pit feature (AU126/127) is shallow and overlays B325 and B348. The Phase 2 pits are not as well defined as the privy features located within Lots 15 and 16. AUs 104, 160, and 126/127 are generally shallow with irregular shapes and were used to discard refuse materials. The ceramics in AU104 probably date it to no later than 1800 and probably earlier since the only TPQ after 1795 is from five sherds of polychrome pearlware in AU104.

It is possible that AU160 belongs to Phase 1. It is also similar to AU108 and AU141 in having bone waste material in it. The features are not related stratigraphically.

However, there are some other miscellaneous postholes (AUs 102/136, 117, 118, 133, 134, 135, 137, 145, 146, 162, 171 and two without numbers.) That may indicate an occupation on this surface before the lot was filled. For example, the posthole AUs 102, 145 and 162 contained, besides the wood, faunal remains, kiln furniture, ceramics, and glass.

Table 52. Feature Dates for Analytical Units in Lot 17

Feature	Function	TPQ	MCD
141	Circular Pit	1720	1745
104	Irregular Pit	1795	1793
160	Irregular Pit		
126/127	Irregular Pit	1780	1791

4.7.3 Land Use

The landscape of the central part of the project area sloped from south to north like the other areas of the site. The slope from north to south (c. 68S to c. 35S) was about one in ten feet. This assumes that when the topsoil (or A horizon) was removed, it was relatively uniform over the site. In the NE Area where it had not been removed before excavation, the A horizon was approximately one foot thick.

One natural feature of the landscape was excavated. This was AU111/120, a natural channel that ran roughly southwest to northeast, toward the Collect Pond (LaRoche, this report, Vol 3:Figure 5). Burials were on either side of the feature, so it may have been visible during the African Burial Ground period. Although no dateable artifacts were found, small bits of artifacts and charcoal occurred in the darker upper surface of the fill in the channel.

During Phase 1, much of the excavated MID Area was used as part of the African Burial Ground. The MID Area was not used as a ceramic dump, although there is a scattering of kiln debris in many features. It is less clear whether the area was used to dump commercially generated bone waste. Relatively few bones were found in the small number of deposits dating to this phase with the exception of the assemblage in the AU141 circular pit. Although the percentage of butchering waste (Table 53) in the MID Area is similar to that in the NE (66 percent to 57 percent), Pipes suggests in Chapter 10 the waste is not related to commercial activities, as are the bones in the NE. However, Lot 12, a domestic trash deposit, has percentages more in line with non-industrial waste than does the MID Area with 92 percent processing and dietary waste versus only 34 percent for the MID Area. Much of the MID bone comes from AU141, which might be filled with remnants of sacrificed animals.

Table 53. Percentages of Bone Refuse Types by Area in Phase 1

	Processing Refuse	Dietary Refuse	Butchering Waste	Intrusive Materials	MNU*
Lot 12	34	58	6	2	548
MID	6	28	66	0	88
NE	16	26	57	1	959
SE	13	59	28	0	71

*MNU–Minimum number of units is the total number of fragments adjusted by obvious mends within a provenience

Although the initial interpretation was that the bone from the MID Area was not from industrial activity, the results of the analysis of the grave shaft assemblages indicate that it was (Perry et al. 2006:110–111). Most of the graves in the Lot 16 and 17 area that are north of the fence contained significant quantities of cow hoof, horn, and bone material but not comparable amounts of household artifacts. Hoof and horn parts were also found in some of the Phase 2 features in these lots, especially AU58.

Two features near the front of the lots may be associated with burial activities or with other uses of the site. Both pits are unusual in that they are circular rather than irregular. AU141 in Lot 17 has been interpreted (Bonasera 1998) as a pit that was filled with sacrificed animal remains. It predates Burial 337 and was probably contemporaneous with some mortuary activity. AU131, in Lot 16, has no dateable artifacts, but has evidence of burnt rocks and charcoal, suggesting its use as a fire pit. Alternatively, these two features could be associated with non-mortuary activity associated with butchering and perhaps cooking. AU160, also in Lot 17, is similar to these features in being round with a flat bottom. Less was recorded about this feature, so it is not clear if it was associated with these other features. One difference was the larger number of artifacts in this pit, although none was dateable, and the lack of bone.

In summary, there is some evidence for identifying industrial or other activities on the surface of the African Burial Ground in Phase 1 in this area. Although the bone assemblage has a low total minimum number of units (MNU; see Table 53), bone counts in the grave shafts support the idea that a limited area in Lots 16 and 17 was being used as a bone dump, at least intermittently. Bone, as well as ceramic wasters, was apparently scattered over the surface in low density. This conclusion assumes that the frequency of the bone in the features reflects the amount that was on the surface. However, none of the areas investigated had the concentrations of bone or ceramics found respectively in the NE and SE Areas. On the other hand, the pattern of high frequency of butchering waste, especially in Lots 16 and 17, continues into Phase 2 (Table 54).

Table 54. Percent Butchering Waste* by Lot and Species in Phase 2 MID Area

Lot	Beef	Lamb/Mutton	Total Beef MNU	Total Lamb/Mutton MNU
15	4.2	4.5	24	204
16	53.4		118	35
17	33.3		15	14

*Includes beef and lamb/mutton feet and horn cores

In Phase 2, the archeological evidence suggests a range of activities associated with domestic residential use of the properties, at least in Lots 15 and 16 and, probably, 17. Lot 14 has too few features and no yard surface to warrant interpretation. With the removal of the yard surfaces, one cannot tell much about the distribution of activities in the yards, but Lots 15 and 16 have a number of shaft features located at the rear of the yard.

Five features were probably originally dug as privies: AUs 56, 74, and 77 in Lot 15, and 58 and 79 in Lot 16. Another shaft feature, AU91, in Lot 15 is probably a pit rather than a privy. Although it has roughly the same dimensions as AU74 and AU79, it is not wood lined.

AU58 was separated into three c. 1800 features: two privies, AU58a and AU58b, and a circular pit dug into them, AU58c. AU77 could also be divided into two c. 1800 features. The earlier AU77a was the privy, and

the later AU77b was a pit dug into the earlier feature. This function assignment was based on feature form, size, and content. All the privies in the MID Area were wood lined.

Wood lining seems to have been a predominant feature of privy construction in this period or perhaps only during the initial occupation of an area. In the Five Points site (Yamin 2000), sequence of wood-lined and then stone-lined privies occurred. Three of the four Five Points privies whose contents date around 1800 are wood lined. Three of the four with contents dating around 1810 to around 1840 are also wood lined. All of those with contents dating to 1840 or later are stone- or brick-lined privies. Privy contents do not date their construction; however, the wood-lined ones are the earliest in each area, and the only wooden one with post-1825 artifacts is Feature N at Five Points: the privy of the Widow Hoffman, one of the pioneer residents of the Five Points area.

Two of the privies, AU77a and AU58a, were at least partially surrounded by yellow clay on the outside of the wood lining. It is not clear if this was intentional or fortuitous since irregular patches of yellow clay occur throughout the subsoil of the project area. The depth of the privies is uncertain since the ground surface was removed. If we assume that the original A horizon was approximately 1 foot thick, as found in portions of the NE Area, then the privies in Lot 15 were from 3 (AU91) to 4.5 (AU77a) feet deep, and those in Lot 16, AUs 58a and 58b, about 6 feet deep.

AUs 56 and 58, including the pit AU58c, have high quantities of small food seeds, especially *rubus sp.* (blackberry and raspberry), and smaller quantities of grape and tomato seeds. Such seeds, which pass through the digestive tract, are typical of privy contents (see Section 9.4). AU74 has a moderate number of these seeds, more than any other non-privy feature, as well as fig seeds. The other privy assemblages (AU77a and AU79) have 0.5 or fewer small seeds per liter and no other fruit seeds. AU77a seems to have either been thoroughly cleaned, or dug and then almost immediately backfilled after cutting through two sets of two superimposed burials. It had few artifacts and few bones and very few crossmending ceramic or glass sherds. AU79 has high frequencies of architectural remains like the AU91 pit. If AU79 is a privy and not a pit like AU91, it was cleaned out before it was filled and was not filled with artifacts during abandonment.

The circular form of AU58c argues against its original use as a privy and it is not wood lined. However, it contains a dumping event (many conjoinable ceramic and glass sherds) as well as a high frequency of small food seeds. One would expect the seeds to be mixed with the sediments from the earlier filled-in privies. However, the seed density is greater in AU58c than in the other two earlier privies combined and probably was deposited with the dense concentration of ceramics and glass.

In spite of the multiple layers found in these MID Area shaft features, there is evidence that the artifacts and sediments in all were primarily deposited in one episode. Crossmends occur across all the strata from top to bottom in all of the shaft features. The situation in AU58 is more complicated because of the disturbance of the earlier features by a builders' trench for a pier from late Phase 4 or 5. Most crossmends are within AU58a and 58c, and between those and AU58d, the disturbance. There are a few crossmends with the early features, as should be expected, since the later ones were cut into the earlier features.

The distribution of the privies in Lot 15 suggests a spatial division of the lot into two portions, possibly reflecting the two households living on the lot, the Valentines and the Meyers. AU56, on the west edge of the lot, is rectangular; AU74, on the east edge, is smaller and almost square. AU77a, also on the east side, is also roughly square, like AU74.

Most of the features in Lot 16 are adjacent to the posthole line. Several small postholes north of the privies have no discernable pattern. There is also a cluster of small, shallow postholes just south of the posthole line. The two pits in Lot 17 are widely separated. AU104 is close to the center of the lot and AU126/127 is south of the projected line of the postholes. A cluster of postholes is located on the western edge of the lot, again without any particular pattern.

The features on the eastern edge of Lot 16 and the western edge of Lot 17 (all of the features and postholes except AU145/146 and AUs 133–136, which do not appear to have been excavated) have artifacts in them, if only brick fragments. Those features with sufficient bone have only or predominantly cattle butchering

waste and processing waste from craft-related/commercial activities (Pipes in Chapter 10). This pattern carries over to the large features in Lot 16 such as the assemblages in AU108, AU58a, and AU58c. Both Phase 1 and 2 deposits show this pattern. The Phase 1 deposits from Lot 17 are from AU521 and are mostly from the "non-feature" area, the interface with the subsoil, around AU104. These were areas that were excavated but not assigned to the feature.

Since most of these features have Phase 2 artifacts, the bone also is probably from that phase. The distribution could relate to the use of the area by the black butcher. However, given the late date of his occupation, 1806–1809, this is unlikely. Table 54 shows that Phase 2 has considerable butchering waste in Lots 16 and 17. It is possible that two of the features with Phase 2 contents may have been constructed in Phase 1 as tanning vats. This possibility is based on little evidence, but should be discussed. Both features 77 and 58 have yellow clay on two or more sides (the exact number is unknown because of disturbance) and are about the same size, 4.5 by 3.5 feet. Wood-lined features with an outer layer of clay are reported for some tanning vats; the clay kept the tanning liquid from getting out of the vat. The high frequency of craft-related butchering waste around Feature 58 and in Lots 16 and 17 might support this interpretation as the bone could have been on the ground surface as tanning-related bone waste and incorporated into the later features when they were excavated and backfilled. However, such activity must have been short-lived, perhaps experimental in nature. Both features cut through multiple burials and may have been abandoned shortly after construction. If this interpretation were correct, both AU58a and AU77a would be vats rather than privies and the Phase 2 trash in them would be fill as the lots were developed.

4.8 Lot 12

4.8.1 Introduction

Lot 12 is approximately 22 feet wide (excluding the masonry walls) and 80 feet long. The lot was targeted for data recovery because historical research suggested that the remains of the domestic occupation of Grant Cottle, an upholsterer, would be preserved. The lot was explored with four trenches and 19 excavation units of varying sizes, some of which overlapped others since they were excavated at different times. Burials were found restricted to the rear 25 feet of the lot. The rear portion of the lot was part of the African Burial Ground and the front part was used for disposal of kiln debris during Phase 1. The entire lot was used as residential and commercial space during Phase 2.

The original ground surface of the site sloped from southwest to northeast. The historic ground surface remained over most of the lot and was dark gray-brown (A horizon) resting on a yellow-brown subsoil (B horizon). The transition from the A to the B horizon was gradual and marked by wormholes that brought the darker material into the subsoil. The burials in the rear 25 feet of the lot were south of a series of historic trenches.

The historic ground surface contained evidence of two phases of activity, each composed of several events, in addition to the Burial Ground. The early activity, before the Revolution (Phase 1), included the excavation of pits and trenches into the surface and the dumping of redware and stoneware kiln waste on the surface and in some of the pits. The second phase, after the Revolution (Phase 2), was the domestic and commercial use of the lot, which was on and penetrated the Phase 1 ground surface. Several events occurred in this phase. Grant Cottle, the upholsterer, erected a building on the front of the lot. A layer of trash accumulated in the middle and rear of the lot during this phase, most of which can be assigned to Cottle. A building was also constructed facing the rear of the lot, probably after the rear of the lot had been leveled for a floor. Pits cut through the earlier trash deposits and other structural features were placed on top of these deposits. At the end of this phase there were two buildings on the lot: one on the north, which faced the street, the other on the south, which presumably faced the alley. The yard surface between the two buildings was open for only a short time, and a layer of water-borne sand later covered the very thin surface. The original buildings were apparently destroyed during Phase 3, the raising of the lot surface to the street level. This was a rise of at least 8 to 10 feet, possibly more. After this was achieved, structural features associated with the new buildings on the surface were cut into the fill (Phase 4). These included stone side and rear walls that did not receive feature numbers. Several features that appeared to date from

this phase in the early nineteenth century occurred at or close to the Phase 2 level. They included a fireplace at the front of the lot and two shaft features on the east side of the rear of the lot, among others. The exact sequence of events following Phase 4 is not clear, but was not defined as part of the significant elements of the site. The earlier deposits were penetrated by what are probably a coal-storage feature (AU1) and the base of an elevator shaft (AU3) late in the nineteenth century. In 1921, the early-nineteenth-century buildings, both the front (Figure 21) and rear buildings, were torn down and replaced by one with a concrete floor about 6 to 7 feet above the historic ground surface. The stone walls on the sides and rear of the lot from the Phase 4 building were, however, retained.

Phase 1 features (Figure 28), dating to the pre-Revolution period, include irregular pits in the front of the lot that contain almost no artifacts and trenches that ran diagonally across the middle and rear of the lot (Table 55). A number of pits were identified from the field notes after excavation and were given feature numbers so they could be discussed. However, only in a few cases could catalog numbers be assigned to them with confidence. The deposits also include the A/B soil interface (AU521). The original ground surface (AU519) was present but was penetrated by artifacts from Phase 2. Thus it is assigned to that phase although a substantial number of artifacts are probably earlier. Burials were restricted to the area south of AU16, the southernmost trench. There are a few postholes, unnumbered in the field, which run approximately on the same line as the postholes in the MID Area. These penetrated the grave shafts and are assigned to Phase 2.

Table 55. Phase 1 Features, Lot 12

Feature	Function	TPQ	MCD
015	Trench	1790	1766.6
016	Trench	1762	1747.4 *
019	Pit	1762	1749.8
022	Pit		
024	Trench	1762	1742.2
041	Irregular pit		
042	Irregular pit		
051	Trench	1780	1750.1
156**	Oval Pit		
157**	Pit	1670	1732.5
158**	Pit		
159**	Pit		
191**	Pit		
192**	Pit		

*Less than 10 sherds
**Defined from field notes

The Phase 2 deposits include the original ground surface that contains mixed Phase 2 and Phase 1 material (AU519), a layer of trash on top of the surface (AU518), and irregular pits, postholes, and construction features, such as walls (Figure 29; Table 56). There appear to be two buildings constructed at this time. One faced the rear of the lot; the other faced the front of the lot. Both of them are later than the trash layer (AU518) that almost certainly was associated with Cottle. We have associated the trash with Cottle because of the large number of tacks in the trash compared to elsewhere. As an upholsterer, Cottle would have used tacks in his trade. A total of 17 copper-alloy or brass tacks and one iron track were recovered from Phase 2 in Lot 12. AUs 518 and 519 have the greatest concentration of household trash and also have the most tacks; features that cut into or disturbed these deposits have the remainder.

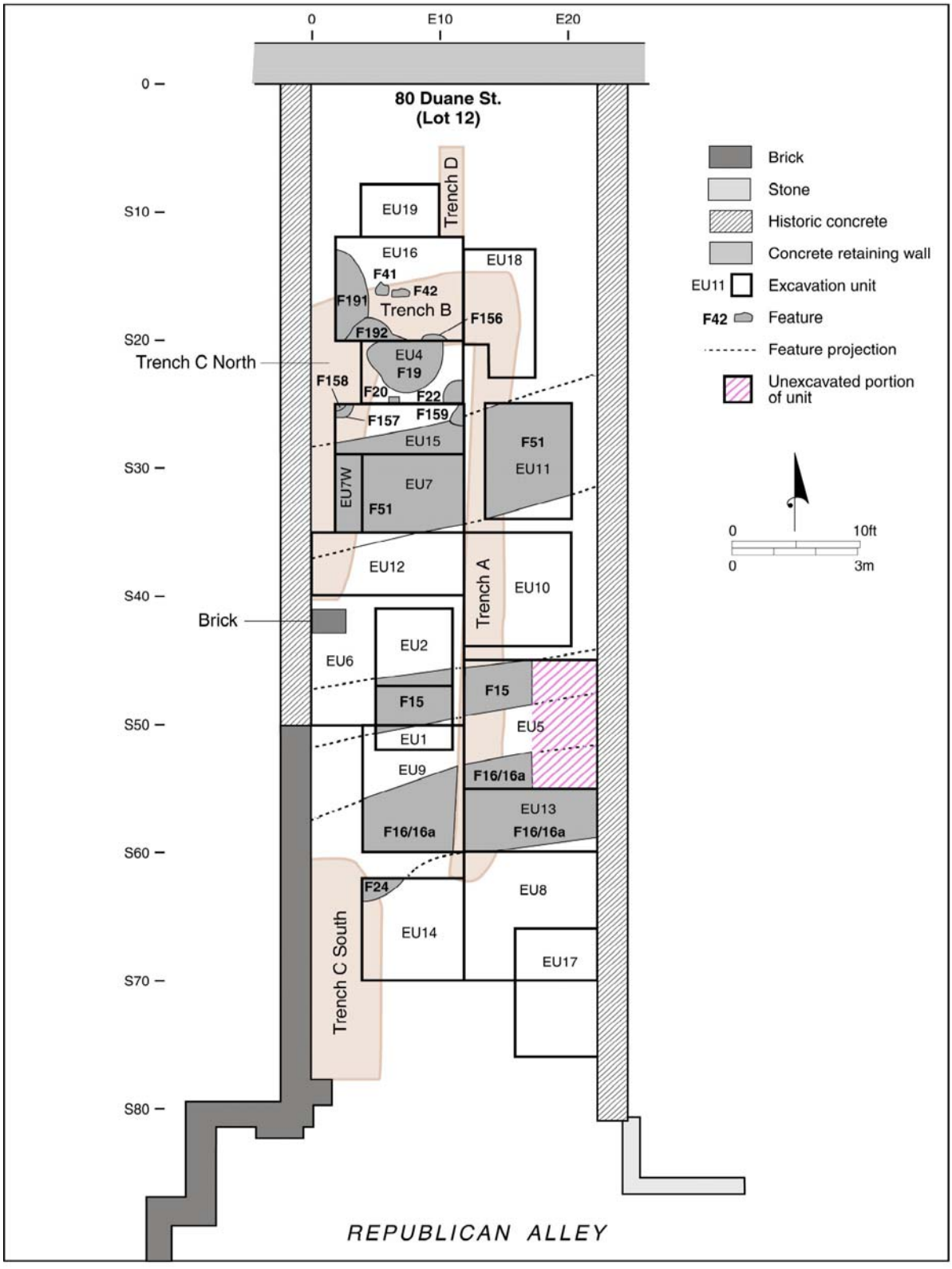

Figure 28. Feature locations, Phase 1, Lot 12.

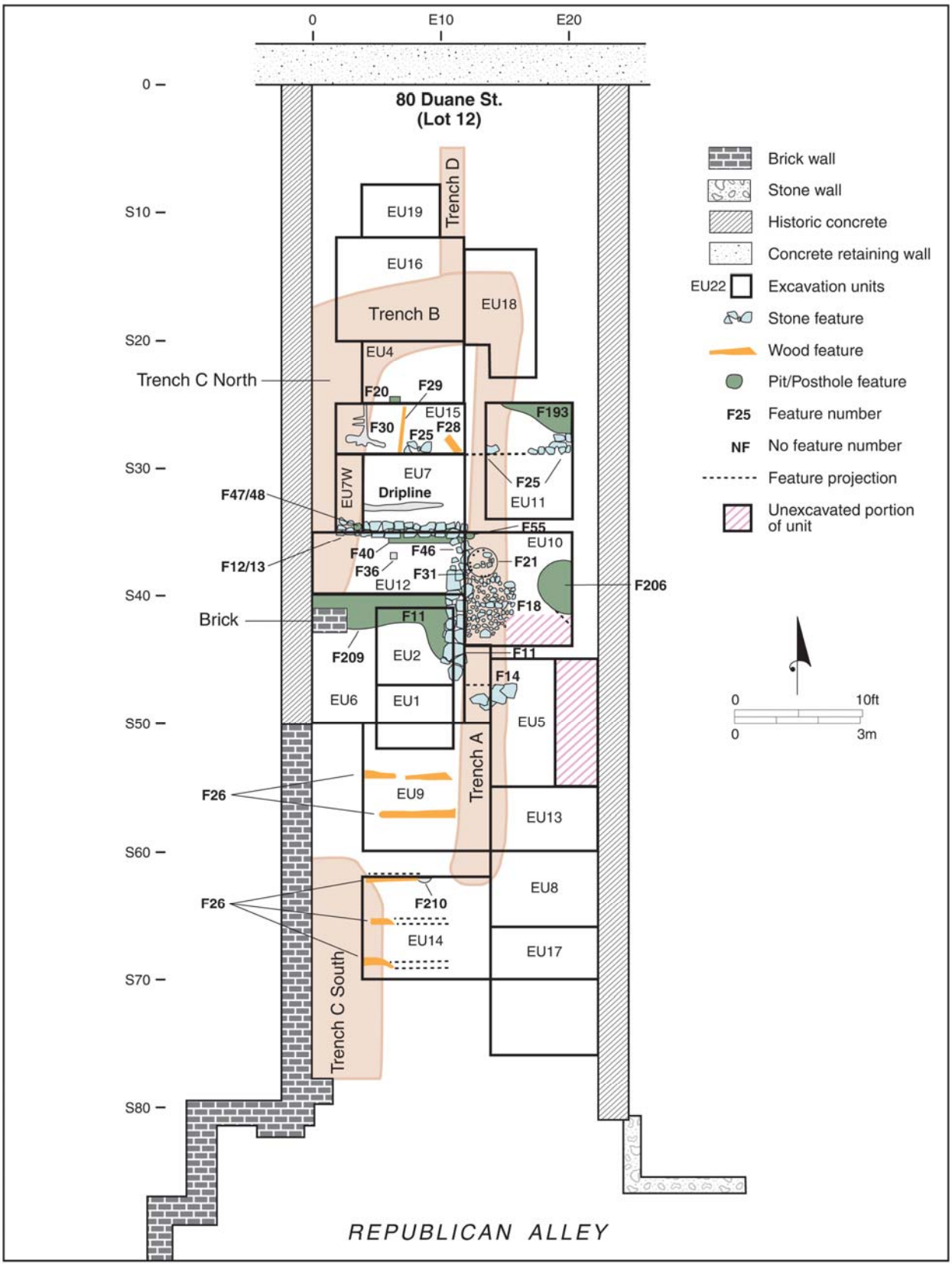

Figure 29. Feature locations, Phase 2, Lot 12.

Only one copper-alloy tack occurs in any of the Phase 2 features from the MID Area (in AU58d); nor are there many tacks in the comparable features from Five Points. Only two of the five temporally equivalent deposits from Five Points have one tack each. Tacks were also used with coffins, but all coffin-related tacks from the African Burial Ground are iron; the three iron tacks from AU104 (in Lot 17) seem to be associated with an adjacent burial. Copper-alloy tacks appear in some other contexts, although many fewer than in Phase 2, Lot 12. In Phase 1, Lot 12, three tacks occur in AU51. These are in the lower levels of the trench and are probably not associated with the Cottle occupation. One also appears in AU15, another early trench, suggesting these were on the ground surface when these trenches were filled. In the SE Area there is one in a disturbed area, AU140b. Also in Lot 12, there are two in Phase 3 fill.

Table 56. Phase 2 Features, Lot 12

Feature	Function	TPQ	MCD
011	Wall, stone	1780	1772.3*
012/13	Wall, stone		
014	Wall, stone	1795	1795.7
016a	Trench Fill	1795	1765.8
018	Concentration, cobble	1795	1789.2
020	Posthole	1780	1800.0*
021	Barrel	1795	1800.5*
025	Wall, stone	1790	1789.7
026	Plank, wood	1795	1791.6
028	Trough, probable plank		
029	Plank, wood-lined trough	1780	1810.0*
030	Trough, probable plank		
031	Posthole	1762	1791.0*
036	Posthole	1780	1800.0*
040	Builders' trench	1795	1796.2
046	Lintel	1795	1790.6
047/48	Post (47) inset in wall (48)		
052	Posthole (?) in EU10		
053	Pit (?) against W. wall of F11	1780	1780.0*
055	Post at east end of F12/13 wall between EU7 and 12		
193**	Pit	1794	1780.0*
194**	Pit		
206**	Pit	1795	1779.3
209**	Pit		
210**	Posthole		

* Less than 4 sherds
**Defined from field notes

Phase 3 sees the filling of the lot. Exactly how it is filled and the sequence of the various fills is not particularly important. However, in one unit, EU4, a portion of the fill was systematically sampled. This sample was composed of layers of household trash and building rubble and actually dates slightly earlier than the last part of Phase 2. The Phase 3 layers contain very few artifacts from later periods, implying that the deposit does date to the pre-1810 period.

Phase 4 dates to the immediate post-fill period. It includes several features, such as a fireplace, that intruded into the Phase 3 fill (Table 57). It is also possible that a stone wall (AU25) facing the street is associated with the fireplace instead of having been built in Phase 2. In any case, the structural features placed in Phase 4 incorporate artifacts from Phases 2 and 3; presumably the earlier deposits were used in the foundations for

the later features. Besides structural features, the bases of two shaft features interpreted as cisterns were identified. It is likely they were used as water storage features for the cordial makers who occupied the building during the first half of the nineteenth century. Since none of the artifacts at the base of these features, the only portions remaining, has attributes that are later than 1810, it seems likely they were constructed immediately after Phase 3 and were not used for later trash disposal. If so, the excavated deposits were probably originally part of the Phase 2 strata that were used during their construction.

Table 57. Phase 4 and 5 Features, Lot 12

Feature	Function	TPQ	MCD
001	Coal storage		
002	Stone-lined cistern		
003	Elevator shaft base		
017	Surface, brick	1795	1782.9
027	Fireplace foundation	1795	1789.0
038	Wood-lined cistern		
211*	Sockets for plank ends		

*Defined from field notes

Phase 5 features include the east and west walls of the lot as well as a probable coal-storage feature (AU1) in EUs 1, 2, and 6 (Figure 30). The coal storage feature was below a 1921 concrete floor that was not given a feature number. Thus, AU1 probably dates to the mid-nineteenth century and was dug into the Phase 3 fill of the lot.

4.8.2 Dating

The ceramic wares show that the major periods of deposition in Lot 12 were Phases 1 and 2 (Table 58), from the middle of the eighteenth century to the first decade of the nineteenth century. The ware percentages in the three superimposed ground-surface strata from these phases (AU521, AU519, and AU518) show an increase in creamware and pearlware over time. There are fewer stoneware sherds than found in either the NE or SE Areas' ground surfaces and as many redware sherds as found in the NE ground surface, although fewer than found in the Phase 1 feature, AU51, which was used to dispose of redware. These trends are broken in Phase 3 and 4. Phase 3 is substantially different from the Phase 1 and 2 deposits in the lack of redware. It has higher percentages of the early wares (tin-glaze and white salt-glaze stoneware) than are found in Phase 2. Phase 4 deposits are more similar to Phase 1 deposits with high percentages of redware sherds. In fact, most of the contents of the Phase 4 features are sherds from the underlying Phase 1 and 2 deposits into which Phase 4 intruded.

Table 58. Percent of Ceramic Ware Groups for Selected Lot 12 Analytical Units

Phase/AU	WW	PW	CW	OEP	TG	WSW	R/Y SW	RW	SW	Other	N
Phase 4		11.0	22.9	10.3	0.2	1.2	2.1	41.3	9.1	1.9	419
Phase 3	0.1	18.4	30.5	8.8	2.5	1.3	4.6	22.7	9.2	1.9	830
Phase 2											
AU518		28.2	28.9	8.4	0.9	0.9	2.3	21.5	7.8	1.1	3,652
AU519		10.1	15.0	3.7	2.9	3.0	4.6	44.8	14.3	1.6	5,240
Phase 1											
AU521		10.4	9.2	3.8	4.4	1.7	6.9	42.1	19.6	2.1	480
AU051		>0.1	1.4	1.0	1.0	2.4	4.5	82.8	6.7	0.2	8,546

Key: AU–analytical unit; WW–whiteware; PW-pearlware; CW–creamware; OEP–oriental export porcelain; TG–tin glazed; WSW–white stoneware; R/Y SW–red- and yellow-bodied slipware; RW–redware; SW–stoneware; N–total number.

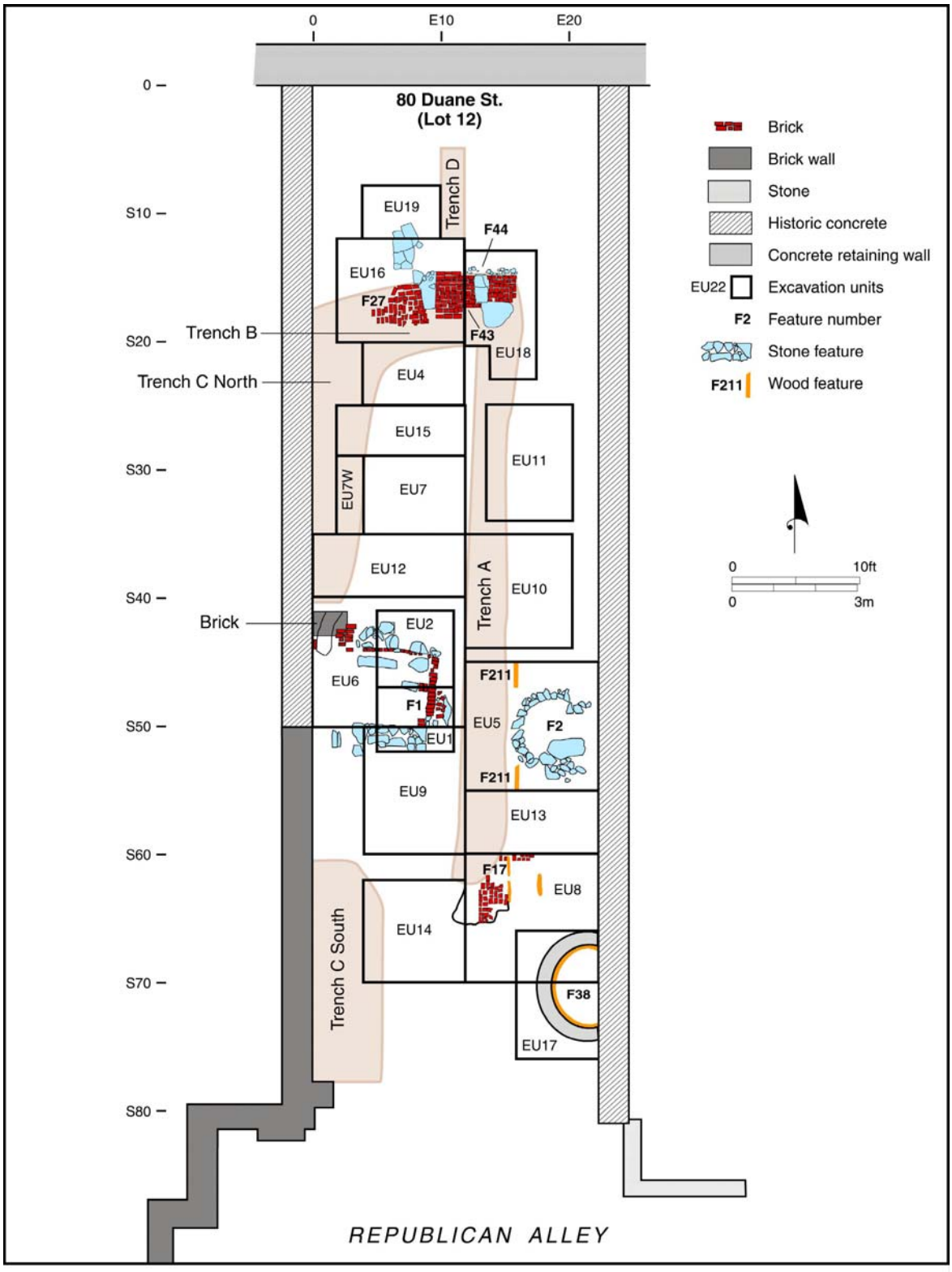

Figure 30. Feature locations, Phases 4 and 5, Lot 12.

The MCDs from the four phases (Table 59) range from 1753 for Phase 1 to the late 1780s and early 1790s for Phases 2 through 4. Although the MCDs from Phases 2 through 4 are slightly earlier than the shaft features in the MID Area (see Table 48 and discussion in Section 4.7.2), this is due to the mixture of the Phase 1 material from the original ground surface with the material from Cottle's occupation. The main Phase 2 deposit (AU518) has an MCD dating to the last decade of the 1700s like the dates from the MID Area shaft features (Table 60).

Table 59. Dates for Lot 12 Phases

Phase	TPQ	MCD
Phase 4	1795	1790
Phase 3	1880	1788
Phase 2	1795	1786
Phase 1	1795	1753

Table 60 shows the MCDs and TPQs for features and surfaces for each phase where available. The largest Phase 1 feature, AU51, is also separated out since its large number of sherds has such an effect on the overall MCD for the features for Phase 1. The table shows that the MCD for Phase 3 fill is earlier than for the occupation surface below it. This suggests that the Phase 3 fill was taken from a location with earlier deposits and moved to Lot 12 as fill to raise the lot's surface. Phase 4 deposits, as discussed above, were cut into Phase 2 deposits and probably, as builders' trench material, and are composed primarily of Phase 2 and 3 artifacts.

Table 60. Dates for Lot 12 Phases, Surfaces, and Features

Phase	Provenience	Function	TPQ	MCD	Dateable Sherds
Phase 4	Features	Features	1795	1790	210
Phase 3	AU515	Phase 3 fill	1880	1788	493
Phase 2	AU518	Phase 2 surface	1795	1794	2,039
	Features	Features	1795	1785	654
	AU519	Phase 2/1 surface	1795	1781	2,205
Phase 1	AU521	A/B interface	1790	1777	157
	Features	Without AU51	1790	1756	114
	Features	With AU51	1790	1749	912

Table 60 and the table of dates for individual features (Tables 55 and 56) also show that the occupation of the lot disturbed earlier features since late sherds appear in most contexts. The most common TPQ for all the surfaces and features is from polychrome pearlware with an introduction date of 1795. However, the number of later sherds in the earlier deposits is much lower.

The ground surface (composed of the A horizon and the A/B interface) contains evidence of three separate occupations or deposits that cannot be easily separated for analysis. The first occupation is represented by a high frequency of redware kiln furniture and probable wasters (in AU521 [A/B interface]). The second (the A horizon) can be identified by ceramics dating mostly to post-1780 and pre-1795 (AU519). This is material that was worked into the ground surface before it was covered by a thicker deposit of demolition debris and trash (AU518). The third (AU518) can be most easily separated in the middle of the lot. This deposit is represented by a layer of construction or demolition debris as well as an occupation surface with charcoal flecks; it has the latest MCDs.

4.8.3 Land Use

4.8.3.1 Phase 1

The front of Lot 12 saw use as a ceramic waster dump, possibly as a clay-mining area, and an area for the disposal of some household trash, but there is no evidence of disposal of industrial bone waste. Since the area of Lot 12 that contained burial shafts had been truncated in Phase 2, we cannot say what the rear surface trash was like. Most of the grave shafts included a few artifacts including delft, stoneware, redware, pipe fragments, animal bone, and some bottle glass. One grave shaft had a creamware sherd. These sparse artifacts, no more than 10 per shaft, suggest a surface with scattered artifacts.

As summarized above, the middle and front of the lot received kiln debris in Phase 1; less was found at the rear of the lot, perhaps because it had been truncated or perhaps because it was inside the African Burial Ground. As shown in Table 61, redware kiln furniture appears in higher frequencies in the lower levels of the historic ground surface (AUs 519 and 521). The very high frequency in the middle area in AU519 is due to the fact that most of the middle EUs are over the AU51 trench, which contains 24 percent redware kiln furniture (over 2,000 items). Redware kiln furniture drops considerably in AU518, deposited in Phase 2.

Table 61. Percentage of Redware Kiln Furniture by Area of Lot 12

AU	Front	Middle	Rear
518	1.0	1.1	2.4
519	7.7	51.1	4.8
521	4.7	3.4	1.6

Redware makes up the major part of the AU51 assemblage (about 94 percent) and probably most of that is kiln debris. This feature also has a low frequency of stoneware (Table 62). Black-, brown-, and clear-glazed redware as well as slip-trailed redware were recovered from the feature. The various irregular pits (AUs 191, 192, 157, 158, 159, 19, and 22) with few to no artifacts dug into the subsoil suggest the area was mined for clay before the surface was used as a dump.

Table 62 shows that AU51 is even more heavily weighted toward redware than was the NE Area, which, in turn, had considerable more redware than the SE area (see Table 47). The latter had few redware ceramic wasters or kiln furniture. As was done for the Table 47 comparison, the redware artifacts from the unidentified group are included on Table 62 as redware wasters because most of the artifacts are probably actual wasters from the kilns. The predominate type in the unidentified group was manganese-glazed (black) redware (44 percent). The categories redware, unglazed, and other made up another 37 percent of this group.

Table 62. Comparison of Stoneware and Redware Ceramic Kiln Debris*

	AU51		NE	
	#	%	#	%
Stoneware kiln furniture	66	0.9	3,872	32.6
Stoneware wasters	357	4.9	2,891	24.3
Redware kiln furniture	2,064	28.4	1,372	11.5
Redware wasters	4,773	65.7	3,748	31.5
Total	7,260		11,883	

*Excludes kitchen and household group artifacts; includes industrial and unidentified sherds

These artifacts reflect the initial use of the area by a redware pottery. This is probably the pottery of John Campbell that we have interpreted as located west of Broadway. It appears the Campbell pottery operated

from the 1760s into the late eighteenth century (Ketchum 1987:42–43). Although this date range is later than the MCD of 1750 for AU51, it fits well with the presence of creamware and the very low frequency of pearlware (three sherds or 0.4 percent of datable sherds [N=798]), although the latter are probably intrusive.

While the area was used for both redware and stoneware kiln debris, it does not seem to have been used for the disposal of bone related to industrial craft activity. In Table 53, the majority of the bone is dietary refuse (58 percent) with little industrial waste (6 percent). There is a moderate percentage of processing waste. These percentages are most similar to those of the SE Area, where most of the bone came from the areas with non-industrial artifacts. Thus, the bone is probably associated with the disposal of household trash on the lot.

We do not know the origin of the household trash. It could have been dumped on the site from anywhere in the city or from the nearest houses (see Figure 15). It could also have been dumped on the African Burial Ground and washed down the slope. A field profile and field notes suggest that a trash midden was located on the slope above the lot in Republican Alley, above some of the graves. Since the midden was not sampled, we do not know its date.

One or more of the three linear trench features on Lot 12 could have been the boundary for the African Burial Ground. Alternately, the trenches in the middle (AU51) and rear (AU15 and AU16) of the lot could have been dug to extract clay, as drainage features (they follow the slope), as trash-disposal features, or as boundary ditches or boundary-post trenches. Extracting clay is unlikely, at least for AU51, since it penetrated a foot or two into sand. Drainage features also seem unlikely, since no water-deposited sediments were noted on the bottom. Trash-disposal features are a possibility. Similar long trenches oriented the same way, southwest to northeast, are found in the SE Area, full of stoneware kiln debris. AU51 is full of redware kiln debris, but the other two are not; in fact, they have relatively few artifacts. Boundary features, either as boundary ditches or as palisade trenches, are possible functions: the trenches seem to separate the burial area from the farm to the north. However, each trench could have had a different function.

Each trench is different. AU51 is the biggest, 9 to 10 feet wide and 2.5 to 3 feet deep. AU15 is narrower (3 to 4 feet) and about the same depth. AU16 is wide (7 to 7.5 feet) and shallow (1.5 to 2 feet). The north side of AU15 is nearly vertical; the other wall slopes. The north wall of AU51 has sections that are relatively straight and others that are sloped; its south wall is sloped. AU16 has two sloping sides; it was partially filled in Phase 1, after which a soil developed on its sloping sides. It was then filled in Phase 2 (AU16a). Of the three trenches, AU51 is the earlier of the two with a dependable MCD, and was filled with trash; the other two seem to have been filled with earth that contained some artifacts rather than concentrated trash. There is ambiguous evidence that AU51 and AU16 held posts. The bottom of the features had what could be interpreted as postholes as seen in photos. However, the field crews did not remark on this in their field notes.

A garden feature that was gaining popularity in the eighteenth century was the ha-ha. It was relatively deep ditch and had one straight wall and one sloped. It was used to keep animals outside of a landscaped area without blocking the view (Thacker 1979:181–184). This trench configuration made it difficult for animals to cross the ditch. Generally, the straight wall faced away from the area that was being protected. Only AU15 had a straight wall facing north, away from the African Burial Ground and toward a source of animals, the Calk Hook farm.

If this feature did function as a ha-ha, it is in an unusual setting since the African Burial Ground was not a garden. Because the angle of AU15 projects into areas that were not investigated, it is possible that it continues northeast and formed some kind of barrier separating the early burial ground from the surrounding area. However, this seems unlikely since AU15 did not stay open for very long, as evidenced by the lack of water-deposited silt on the bottom of the feature.

Another possibility is that one or more of the ditches reflect an African symbolic system that separated the sacred from the profane. Such earthworks were common throughout the savannah and forest regions of West Africa from c. A.D. 1300 (Norman and Kelly 2004:100–101). They represented social, political, and

symbolic boundaries inscribed on the landscape. Although the earthworks seem to have been primarily associated with towns and royal compounds, their general purpose was to differentiate zones of protection and inclusion (Norman and Kelly 2004:101). This purpose could have been generalized in the New World to the cemetery separating it and protecting it from profane interactions.

If any of the trenches were boundaries, they do not reflect the Bancker 1784 line, which was about 20 feet to the south in Lot 12. The southernmost trench, AU16, can be projected into areas that were investigated during the project, specifically in Lot 16. There is no trace of a trench in that area, and burials occur north of the projected line. The projected lines of both AUs 15 and 51 are angled more to the northeast and project further north than any archeologically explored area; thus, it is unknown if they extended further to the northeast.

Whether or not we accept the ambiguous evidence of posts in the bottom of AUs 16 and 51, it is unlikely these features are part of a boundary feature that extended throughout the African Burial Ground. The best candidate for such a feature is AU16, which remained open for some time, although it did not extend very far.

4.8.3.2 Phase 2

This phase is the post-Revolution residential/commercial occupation of the lot. Although the overall picture is clear, there are several ambiguities in the stratigraphic relationships that make a complete understanding difficult. To understand the events recorded in the archeology, the yard has to be divided into three parts: the front, middle, and rear. The rear area includes the area with grave shafts, as well as Phase 2 and 4 historic features, and extends from the rear of the lot to the northern edge of EU5, including EUs 5, 6, 8, 9, 13, 14, and 17. At this point the ground slopes 0.7 feet within 4 feet, or 1.75 feet per 10 feet. At the northern end of EU10, the surface is almost level but continues to slope at a much lower rate. The middle area is considered to be EUs 10, 11, 12, and 7 and part of 15; this generally includes the yard between the front and the rear buildings. The front of the lot then includes the remainder of the lot (part of EU15 and EUs 4, 16, 18, and 19).

There is evidence of a house on the front of the lot before 1795. The lack of polychrome pearlware, available in 1795, on the front of the lot indicates that a building floor protected this portion of the lot, unlike the rest of the lot, from the deposition of that ceramic type. This fits well with the historic documents that place Cottle on the lot in 1794. There is evidence of backyard trash in the middle of the lot. The presumably alley-facing building on the rear of the lot has an ell that protrudes into the middle of the lot. The rear surface of the lot was truncated to make the rear area flat enough for a plank floor, although the stratigraphic information is not clear on whether this occurred in Phase 2 or Phase 4. Since there are no post-1810 artifacts, one must assume the rear lot was leveled and the floor constructed in Phase 2 and removed and filled in Phase 3. It is possible that the floor could have been constructed in Phase 4 (later than c. 1803) and then destroyed and filled sometime later without artifacts from a later period being included in the fill. However, this does seem unlikely.

The ground surface on the front of the lot is primarily designated AU519. The general slope is from the southwest to the northwest; there also is a sharp drop of about 1 to 1.5 feet between 40S and 35S. The deposits are separated from the yard in the middle of the lot by the remnants of a stone wall (AU25). Since a layer of water-laid sand stops at this line all across the lot, even though the western portion of the wall was robbed, we assume the wall extended across the entire lot. However, the stratigraphy associated with the wall suggests that it may belong to Phase 4, not Phase 2. Unfortunately, this cannot be resolved with the existing data. Therefore, we assume that it or a similar wall was associated with Cottle's house and prevented later sherds from accumulating on the front ground surface, unlike the middle of the lot where there was considerable accumulation. Some construction debris and remnants of beams (represented by the shell of the beam that filled with sediments after the wood had decayed like AU28, AU29, and AU30) on part of this surface may be evidence of a salvage operation during the removal of the Cottle house. These beams could have supported a floor.

The middle of the lot saw an accumulation of a thick layer of trash and construction debris (brick and mortar fragments, nails, and window glass) (AU518) on top of the original ground surface (AU519), mostly between the AU25 wall and the wall of the alley-facing building. The surface of AU519 was transformed through use to a gray-brown ground surface with charcoal flecks.

The crossmend analysis of both ceramics and glass clearly showed many crossmends between AUs 518 and 519 in the AUs in the middle of the lot (EUs 10, 11, 12, 7, and part of 15 and 5). The crossmends show the degree of mixing between AUs 518 and 519 or the difficulty in separating the excavated stratigraphic layers into the two strata, or both. However, the higher frequency of early ceramics in AU519 and the higher frequency of post-1795 ceramics in AU518 indicate that the division into two analytical units is justified.

There were few crossmends between the front yard and the middle yard and none between the rear yard and the other two. There were a number of crossmends within the front-yard deposits, as well as within the rear-yard deposits. These results are congruent with the interpretation of the middle yard as the back yard of the street-facing house, with the house keeping most artifacts from penetrating into the deposits in the front of the yard. It is notable that the mends within the front-yard area are almost all redware or salt-glazed stoneware. This is consistent with these deposits being the ground surface when the area was used primarily as a dump for kiln wasters. Most of the mends between the front and middle portions of the lot also were of redware or stoneware and seem to have been from the Phase 1 activity on the site.

The layers of construction rubble probably came from building a rear (alley-facing) building foundation of sandstone walls topped with a brick wall. Several pieces of evidence exist to support the idea that the rear building was also constructed before the raising of the lot. First, it had a door in the east foundation wall (AU11) for access to the space between the two buildings. Second, a drip line off the northernmost wall (AU12) of this ell implies a roofed building with the ground surface exposed. Last, the water-laid sand was on top of the drip line, the construction debris, and the surface deposits of AU518 and up against the walls of both the alley- and street-facing building. Phase 2 seems to be closed by the deposition of this layer of sterile sand between the two buildings. There was no surface on top of this sand, only fill.

The walls of the ell (the north wall, AU12, and the east wall, AU11) were preserved to 2 to 2.5 feet above the ground surface and topped with the remnants of a brick wall. The walls of the ell extended to c. 2.5 feet below the ground surface for a total of almost 5 feet. On the other hand, the northern wall (AU14), east of the ell, was only three stones high (0.8 feet); however, its top was level with AU11. This is because it was located north of the point where the ground dropped to the south.

Before construction of the alley building started, a pit (AU209) was dug into the AU519 surface. The only directly dateable features of the alley building are two builders' trenches on the interior of the ell walls. Both AU40 and AU46 have TPQs of 1795. Associated with the alley building were a post and posthole (AU31) on the south side of the doorway. The same area included a barrel (AU21) sunk into the ground surface, possibly to catch rainwater that drained from the roof. There was a small post hole (AU55) with a post abutting the east end of the north ell wall next to the doorway on the east side. Another post/posthole (AU47/48) was set into the north side of the north wall (AU12) of the building. It separated the main wall from a piece (AU13) that seemed to have been added later. It is possible that AU13 is a stone door lintel like AU46 in the east-side door, although it appears to be too high. Another feature that dated to after the construction of the building was a pile of small cobbles (AU18), which abutted the east wall of the building. If the alley building was not finished before the filling in Phase 3 occurred, perhaps the cobbles were unused construction material; however, all the walls were made of cut sandstone, not cobbles, so the purpose of the cobbles is unknown.

The rear of the lot, like the rest of it, sloped down from southwest to northeast. The area from approximately the S47 grid line to the rear of the lot had to be cut to provide a level surface for a series of joists (AU26) on approximate three-foot centers. Remnants of the joists that ran east to west were found in EUs 14 and 9. The joists probably extended into EU6 as well, but were destroyed by the later coal feature AU1. They do not seem to extend into the eastern part of the lot. However, it is possible that Trench A (an

early exploratory trench), which ran north to south through the area, and later Phase 4 features on the east side, may have destroyed them.

Most of the rear area was leveled. Only the east edge of original ground surface is preserved. If the floor extended all the way to the east edge of the lot, as the wall (AU14) presumably did, the east side would have had to be filled to reach this level. However, there is no good evidence that this happened.

Because the area had been leveled, there is little trace of the ground surface (AU519) or of the trash and construction level found in the middle area. Dumping of kiln material on the rear slope is evidenced by the high frequency of redware in the Phase 1 trenches (8.6 percent in AU15 and 4.8 percent in AU 16) but not on the ground surface (less than 2.4 percent in AU518; see Table 61). In fact, this portion of the lot, especially the east side area, has a high frequency of post-1795 ceramics. Thus, most of the strata belong to AU518 rather than AU519.

Inside the ell in EU6 and EU12, the elevation drop seen on the east side appears on the west side also. There is no trace of how the people would have gotten from the floor in the rear to the surface at the level of the entry door, a drop of 2.5 feet from the top of the joists to the surface in EU12. However, there was a posthole (AU36) in the middle of the surface in EU12 that may be associated with a feature, such as stairs. On the other hand, the lack of such a feature may indicate the building was unfinished before it was filled in Phase 3.

4.8.3.3 Phase 3

Phase 3, the raising of the lot, is best defined on the front of the lot. The original building facing Duane was demolished, and fill composed of construction debris and residential trash from pre-1810 deposits was used to raise the level of the lot. It appears the rear building was also either partially demolished or, possibly, used as the foundation for a building whose use extended into Phase 4. This later interpretation seems unlikely because no late ceramics or other artifacts were found over, under, or around the decaying joists. The fill in the rear of the lot was as heterogeneous as that on the front of the lot. However, the western fill at the rear of the lot was mostly sand, and the eastern fill was various layers of sandy silt with pockets of sand. The fill changed composition along the 16.2E line. There is some indication that that division was related to the features of Phase 4.

4.8.3.4 Phase 4

Phase 4 is represented by a number of features that penetrated into the Phase 3 fill. These included a fireplace represented by a stone foundation and brick hearth (AU27). In the rear there was a remnant of brick flooring (AU17) and the molds of two planks set on end (AU211) along the line of the fill change mentioned above. In addition, there were two shaft features to the east of this line of fill change. These had been truncated by twentieth-century construction activity and possibly further by the clearing of the lot. In any case, they contained few artifacts except those from the early nineteenth century. One of the shaft features, AU2, was stone lined and had construction debris and voids in it, indicting that it was probably not a privy or it had been effectively cleaned out before being filled with debris. Little is known about the other, AU38, since there were no foundation stones remaining, although there was some evidence that they might have been robbed. Both were excavated from a higher ground level on the east side of the lot near the rear. Since there were few artifacts and they did not belong to the period of the major site occupation, little analysis was done on these shaft features.

The other artifacts from Phase 4, however, were generally considered to originate in the Phase 2 or Phase 3 deposits. There were no post-1810 ceramics, so the Phase 4 artifacts were included in the analyses where appropriate. The lack of late artifacts associated with the fireplace at the front of the lot and its clear excavation into the Phase 3 fill suggest that Cottle's building was destroyed and another building, represented by the fireplace remnants, cut into the fill. This building must have been destroyed relatively soon after it was constructed, since only early artifacts are found over it.

The stone walls found on either side of the lot probably do not date to the earliest occupation of the lot, but were installed after the lot was filled. The ones at the front of the lot probably supported the early-nineteenth-century building torn down in 1921 (Figure 21).

4.8.3.5 Phase 5

Several features belonging to the mid-nineteenth to early twentieth century were found. Although they are not discussed here in any detail, they should be mentioned. The rear of the lot had an elevator shaft (AU3) as well as a feature of uncertain function (AU1). AU1 was constructed of brick and had a bluestone lintel (possibly) incorporated into one side. The bluestone was the same kind as found in the foundation of the nineteenth-century pier in AU58. These features were apparently truncated by a concrete floor that was laid down about ten feet above the original ground surface when the early 1840s building (Figure 21) was destroyed and replaced by a 1921 building. The remnants of this building were seen in a concrete floor that covered the lot and the concrete walls that rested on top of the early-nineteenth-century stone walls on the east and west sides of the lot.

4.9 Conclusion

This chapter has summarized the current interpretation of the primarily European-American use of the site of the African Burial Ground both during and after its use as a burial ground. The African Burial Ground is unquestionably the most important of the resources found at the site. However, the evidence of the use of the burial ground by European-Americans for other purposes presents a picture of the attitudes that the dominant culture had to its enslaved servants. The archeological record also presents information on ceramic technology of the pre-Revolution period.

The data from the post-African Burial Ground use of the area have their own importance: a representation of the period of rapid social and economic changes. All the primary materials from Phase 2 were deposited during at most 22 years, from 1788 to 1810. It is more likely that occupation of the lots did not start until the mid-1790s and that the deposition of archeological material was complete before 1807. The rapid rate of physical change can perhaps best be noted in Lot 12, where Cottle's building and the alley building lasted about six years. In fact, the alley building may have been in the process of construction when the lot was filled. The first structure after the filling, represented by the fireplace in the front of the lot, may have been replaced soon after it was built as well, since no post-1810 artifacts were found in the fill.

A recognized, mapped boundary between the Van Borsum and the Damen patent appears first on the 1855 Maerschalck (Figure 12) and then on the 1765 Ratzer map (Figure 14). Other documents suggest Teller was attempting to lay claim to the parcel at the same time. In the 1760s, he reportedly built a fence to control and make money from the Africans and African Americans who were using the Van Borsum parcel as their burial ground. The boundary line was eventually surveyed by Bancker and used as the legal boundary separating the Van Borsum parcel from the Damen patent (then owned by the Rutgers family). It is not clear if there was any formal boundary before Teller started his claims. The boundary could have been one or more of the trenches found in Lot 12. Before the Teller fence was erected, it is possible the cemetery extended further north. On the other hand, the evidence discussed by Perry et al (2006:120-125) suggests that the area north of the Teller/Bancker line was used only after 1776 when the Teller fence had been destroyed by the British.

The calculations used to place the Bancker survey line on Figure 20 are different than the posthole line. The posthole line does seem to be the actual boundary between the Damen (owned by the Barclays) and Van Borsum (eventually split between the Kips and the Tellers) since all the features are north of the line and the graves are denser south of the line. Both of these observations suggest that the Teller and Bancker line were very similar to one another. This conclusion suggests that the reasoning or maps used to identify the Bancker line on Figure 20, although roughly following the posthole line, were inaccurate. For this discussion and the rest of the report, we will assume the Bancker line and the posthole line are the same.

One question is the extent that the African Burial Ground in Phase 1 was used simultaneously as a burial ground and a dump for industrial waste. If Perry et al. (2006) are correct that the Burial Ground expanded

to the north during the Revolution, then most of the industrial waste found there would predate the expansion of the cemetery. The Calk Hook land north of the Teller/ Bancker border has evidence of use as both a dump for bone waste from industrial activity (NE area and the MID area), as well as waste from neighboring potteries (NE area and the northern portion of Lot 12). The artifacts associated with these deposits, at least in the NE area, support a pre-1760 date for the dumping. The bone waste deposits in the MID area are more difficult to date.

In Lot 12, the northern portion of the lot, where no graves existed, has large amounts of kiln related debris, dated to after 1760, especially in one trench. Since the rear of Lot 12 was leveled, removing evidence of the original ground surface, we do not know if this portion of the burial ground (on the southern end of Lot 12) was also used as a dump before or during the area's use as a burying ground. There are some domestic artifacts in the graves in the southern part of the lot but not evidence of a major use as an industrial waste dump. The two interesting trench features on the south half of Lot 12 could be part of a pre-Teller boundary-maintenance mechanism installed by the Africans themselves.

The SE Area is south of the Teller/Bancker line. Besides containing graves, it was also used as a dump for kiln waste. It is not clear if the Teller fence enclosed this area or not. If it was enclosed, then the pottery debris dates before 1760; if not, it could be after 1760. The non-kiln-related artifacts generally support the earlier date. Some graves were obviously cut into the kiln waster deposits and others appear to have been interred before the dumping began, or at least before it was much advanced.

After the Teller fence was erected, it is possible that simultaneous use of the active African Burial Ground south of the fence by European- and African Americans did not occur in the project area or at least the amount of dumping was reduced. However, dumping probably continued on the area north of the African Burial Ground that Teller had concluded was outside the formal burial ground. That dumping may have continued as the Burial Ground extended in the northern after the fence was burned.

The historical and archeological evidence shows that the MID and Lot 12 Areas were occupied for a relatively short time period by artisans and others who seemed to have about the same economic income, which placed them within the emerging middle class. Most of the occupants were white. Exceptions included several recorded families of African Americans on Lot 17, one on Lot 15, and an enslaved servant on Lot 16.

Lot 12 was occupied by Cottle from 1794 and may have been filled as early as 1799 or 1800 or, perhaps, 1802. The Phase 4 features, as will be discussed further in the glass section, probably relate to the occupation of the lot by Miller, who began his distilling business on the lot in 1803 and bought the lot in 1806. This change in function and ownership may be responsible for the construction and then destruction of the Phase 4 features at the front of the lot. If this interpretation is correct, the Phase 2 occupation lasted about eight years. Lot 15 was occupied the longest, from 1797 to 1810 (thirteen years) and has the most yard features. Lot 16 was occupied from 1796 for about six years. Lot 17 had a brief five years of occupation.

Land use in Phase 2 was generally restricted to residential occupations. The exception is Lot 12. Cottle used the lot for his upholstery business, as represented in the documents and by the presence of tacks in his yard trash. In Phase 4, the commercial use continued as the property was turned into a distillery. Differential use of space in the yards is difficult to identify. All the privy and pit features in the MID Area were near the back of the lot, but no other information on yard use could be inferred since the yard deposits were not the focus of the investigation in this area. In Lot 12, where the yard was a focus of research, evidence of the yard was restricted to the area between the two buildings, a 20-by-20-foot area partially taken up by the ell of the alley building. Other than the use of the area for trash disposal, the archeological record documented no other function.

5.0 SACRED SPACE TO SECULAR USE

by Reginald H. Pitts

5.1 Purpose and Goals of the Investigation

The purpose of this study is to attempt to answer a question that has been asked from the time that the human remains in the African Burial Ground were first rediscovered. How could the city have expanded over this property known to have been a burial site and constructed buildings over the bodies of the people buried there? This chapter will show, through documentary research, how this space (i.e., the African Burial Ground) became sacred, and how it was remade for a secular use.

5.2 Historical Background

5.2.1 Enslaved Africans in New Netherland

The Dutch laid claim to the area of the North American continent they called "New Netherland" through the explorations of Henry Hudson, an English sailor in the employ of the Dutch. In 1609, Hudson sailed into New York Harbor and up the Hudson River as far north as present-day Albany (Van der Zee and Van der Zee 1978:9). Eleven years later, the Estates-General, the legislative branch of the Royal Government of the Netherlands, organized the Dutch West India Company. The trading company was organized to colonize and develop the Dutch claims in the New World (Condon 1968:38–41, 55–59), as well as establish trade in furs with the Native Americans and "exploit any other resources that were available" (Page 1984:124). All overseas possessions would then be under the control of a trading company, rather than colonies of the country of Holland. The Dutch West India Company's primary interest would be in pursuing its own affairs with little concern in controlling the lives or behavior of the colonists (Watson 1989:103–104).

On April 16, 1624, the ship *Nieuw Nederlandt* of Hoorn, with thirty families on board, arrived at Manhattan Island to establish and settle New Netherland. The initial settlement of the new colony was established on Manhattan Island, as "the island's topography afforded European colonists a safe shelter and its harbor and rivers provided them with ideal passages for the conduct of trade within the interior and across the ocean" (Foote 1993:8). The Dutch West India Company, among other prerogatives, had the power to grant to individuals newly acquired lands within the colony's borders. They, in turn, would have to work the ground for a set number of years before being able to purchase their plots for a quitrent of one-tenth of their produce (Stiles 1869:89–91).

Tradition holds that twelve African men and women were among the first settlers of New Amsterdam in 1624 (O'Callaghan 1855[4]:353; Van der Zee and Van der Zee 1978:13; Weathers 1993:10), although the first surviving record of enslaved Africans in New Netherland was two years later, in 1626 (Van der Zee and Van der Zee 1978:252; Page 1984:124–125; Moore 1995:8, Wood 1997:111). As the years wore on, Africans were involved in nearly all aspects of everyday life in the colony under both Dutch and British rule (Goodfriend 1984:96–97; Page 1984:124; Moore 1995:8). The majority of the Africans first brought into New Netherland were those enslaved by the Dutch West India Company (Goodfriend 1984:98), who worked at the company's bidding, building forts and houses, loading ships, "clearing animal carcasses," and laboring in the fields (Page 1984:127). As the colony expanded into the Hudson River Valley and over into Brooklyn, the company imported more enslaved Africans and either sold them to these settlers or used them to open up and sustain outposts owned and operated by the company (Wood 1997:111).

Although the first mention of enslaved Africans in the new settlement was in 1626, there is evidence that Africans, free or enslaved, had arrived in the colony much earlier. The first known person of African ancestry in the area that would become New Netherland arrived over a decade before the colony itself was organized. In 1613, Jan Rodrigues, a free mulatto sailor from the Caribbean island of Hispanola, was a member of the crew of the Dutch ship *Jonge Tobias* (Young Tobias), which sailed up the Hudson River. The captain, Thijs Volkertsz Mossel, wishing to be rid of Rodrigues, who appears to have been a troublemaker,

left him among the indigenous people to "arrange trade agreements with the Indians." When Mossel returned the next year, he found that Rodrigues had been very successful in making trade agreements with the Manahattas, as well as other clans, but had affiliated himself with the crew of another Dutch merchantman, the *Fortuyn* (Fortune) (Condon 1968:30). The crew of the *Jonge Tobias* attacked Rodrigues and the crew of the *Fortuyn*, claiming that Rodrigues, "that black rascal," owed them money, and were successful in wounding and capturing Rodrigues (Page 1984:125).

When the Dutch West India Company was organized in 1619, one of its duties involved the sale and transport of enslaved Africans from various points in Africa and the Caribbean. Holland's navy defeated the mighty Spanish and Portuguese forces in a number of battles; these victories made Holland, if only for a relatively short period, a major world power. Upon the defeat of Spain and Portugal, Holland captured a number of their former possessions, including Brazil and Surinam in South America, Curacao and Aruba in the Caribbean, Angola and Mozambique in eastern Africa, and the area called the "Gold Coast" on the western side of the continent. The Estates-General gave the administrative control of a number of these regions to the Dutch West India Company, and to its counterpart, the Dutch East India Company, control of its holdings in Asia and the Orient (Van der Zee and Van der Zee 1978:23).

Due to the previous efforts of both the Spanish and Portuguese, Africans were well established in these and other areas that had once been under their control. Dutch ships also put in at ports in the New World and on the African continent that were controlled by England and France, where Africans had been brought to labor and could be bought and sold (Furnas 1969:42; Morgan 1975:105). Hence, the acquisition and redistribution of Africans to New Netherland was not very difficult for the Dutch West India Company, as those regions formerly held by the Spanish and Portuguese supplied the Dutch with enslaved Africans (Wood 1997:111; *Roanoke Times* 1999). Moreover, as the colony grew and new settlements were made, emigrants from New England and Protestants from France, as well as Spanish and Portuguese refugees, all came to New Netherland (Page 1984:127–128), and many brought enslaved people along with them (Goodfriend 1984:97).

The Dutch West India Company attempted to keep under its control all trade instrumentalities affecting the colony, including the shipping and sale of enslaved persons (Stokes 1915–1928[4]:125–126). Although there were probably many instances of unrecorded slave smuggling, the first ship reported to have brought enslaved Africans directly from their homeland was the *Tamandere*. It landed in New Amsterdam in June of 1646 after a voyage from Africa by way of Barbadoes, where "three negro wenches" had escaped (Page 1984:126). It can be surmised, therefore, that the first African inhabitants of New Netherland arrived in the colony from Dutch possessions elsewhere in the world (McManus 1966:6–7).

The Dutch had no slave law, however, unlike a number of European countries (Wiecek 1977:258; Friedman 1985:85). There were no enslaved people in the United Provinces of the Netherlands at this time, and since the Dutch West India Company controlled New Netherland and other overseas possessions, the Estates-General "would not and did not issue systematic or comprehensive legislation" regarding those enslaved (Watson 1989:104). However, the governing body had not authorized the Dutch West India Company "to take any legal system as governing slavery nor to make a law of its own" (Watson 1989:114).

Therefore, the Dutch West India Company "simply took over Roman law in its entirety" (Watson 1989:114–115), amending it to suit its particular purposes with regard to enslaved individuals. For example, under Roman law, "legally slaves were property. They had no rights. But it was recognized that they were property of a very special kind. For some purposes, a slave was regarded by the law as if he were a human being; for other purposes, as if he were a thing" (Watson 1989:22). Slaves in ancient Rome were of any racial or national type. When the emancipation of a particular slave was proposed, there was no impediment claimed on the basis that the slave was of an innately inferior ethnic lineage (Snowden 1983:66–67), although a number of Romans saw slaves, despite their ethnic or cultural background, as morally inferior (Oakes 1987:27).

Roman law placed few restrictions on the emancipation or manumission of slaves. Essentially, any owner could set a slave free at any time or for any reason short of defrauding his creditors (Watson 1989:23–24). The law also provided slaves with the prospect of being able to save up to purchase their freedom by means of the *peculium,* a sum of money given them by their owners. Although technically the owner's money, this *peculium* could be utilized by the slave for his own uses "within the limits laid down by the master" (Watson 1989:24). Slaves fortunate enough to have access to this fund saw it as a way to purchase their freedom and that of their loved ones, contingent on the whim of the owner, who was not legally bound under the agreement. It is noted that "there is no sign in any text, lay or legal, of a master unjustifiably taking away a slave's *peculium* (except to defraud creditors)"(Watson 1989:24).

Therefore, slavery in New Netherland, following on the Roman model, had little of "the mutual hatred…of the sort that brutalized slave relations in other colonies. The pragmatic Dutch regarded slavery as an economic expedient; they never equated it with social organization or race control. Neither the West India Company nor the settlers endorsed the specious theories of Negro inferiority used in other places to justify the system" (McManus 1966:11–12). Although this viewpoint may not have been universal, in general the "predominant attitude of the Dutch settlers has been called nondiscriminatory" (Higginbotham 1978:108).

5.2.2 Establishment of the "Negro Frontier"

By 1643, troubles between the Dutch in New Netherlands and the indigenous population of the area escalated into open warfare. Governor Willem Kieft started attacking nearby villages and encampments, over the protests of most of the settlers, led by Dominie Everardus Bogardus, the pastor of the Dutch Reformed Church in New Amsterdam (Van der Zee and Van der Zee 1978:117–118). The Indians struck back, attacking many outlying farms and villages and sending the survivors fleeing to the safety of New Amsterdam. On July 13, 1643, to resettle the "wasted land," Governor Kieft allowed free blacks to settle on some of these farms (Moore 1995:10). This motivated eleven enslaved Africans the West India Company to submit a request to the town council of New Amsterdam ("comprising the settlement's leading merchants, businessmen and military personnel" [Moore 1995:11]) for their freedom (Higginbotham 1978:106–107): Paulo d'Angola, Garcia d'Angola, Simon Congo, Little ("Kleyne") Manuel, Big ("Groot") Manuel, Manuel de Gerrit de Reus, Anthony Portuguese, Pieter Santomee, Jan Francisco, Little Anthony ("Antonio Cleyn"), Jan of Fort Orange (Jan van't Fort-Orangien). A number of these men, including Paulo d'Angola, Pieter Santomee (Hoff 1988:101–103), Big Manuel, and Anthony Portuguese, had been among the original enslaved men brought into the colony almost twenty years before by the Dutch West India Company. On February 25, 1644, the council granted "conditional" (Page 1984:128) or "half" (McManus 1966:12–13) freedom to the eleven men and their wives, placing them "on the same footing as other Free people here in New Netherland"; but their children "at present born and yet to be born" remained enslaved to the company (O'Callaghan 1848:113–114; Stokes 1915–1928[4]:101; McManus 1966:14).

The eleven also received title to individual grants of land "where they shall be able to earn their livelihood by Agriculture" (Stokes 1915–1928[4]:101–102) located up to a mile from the town of New Amsterdam, but beyond the palisade of the fort that surrounded the town (Maerschalck 1755). This tract, which was called "the negroes land" or "the negro frontier" (Valentine 1865:575), consisted of about 300 acres stretching north from the area around the Collect Pond (near what is now Canal Street) to near the present corner of Fifth Avenue and Thirty-ninth Street. It partially encompassed the area "where Chinatown, Little Italy, SoHo and Greenwich Village stand today" (Moore 1995:11). This "frontier" eventually comprised about thirty farms of varying size (McManus 1966:12–14).

David T. Valentine suspected that "there was apparently a more selfish motive than mere liberality in establishing the negro frontier" (Valentine 1865:567), as the Africans would serve as a buffer between the settlers in New Amsterdam and any potential armed attacks from Native Americans (Moore 1995:11). It has also been speculated that "the example of the free black families who farmed their own land on the outskirts of town naturally served as a beacon to New Amsterdam's slaves" (Goodfriend 1984:97).

The Africans were compelled, however, to provide the Dutch West India Company with a yearly quota of twenty-two bushels of "corn, wheat, peas, or beans" as well as "one fat hog" or else revert back to slavery (O'Callaghan 1848:114). Despite that stipulation, those landholders still had the potential to grow more crops for market and save the money from those sales toward the eventual purchase of their children from the Dutch West India Company (Goodfriend 1984:99–101; Page 1984:128) as their counterparts in ancient Rome utilized the *peculium* (Watson 1989:21–25).

The development and growth of the negro frontier produced a small community of free Africans living independently of the residents of New Amsterdam, quietly farming, raising families, and generally tending to their own affairs (Goodfriend 1984:99–102). More and more enslaved Africans were being imported into the colony during this time, most from the Caribbean island of Curacao (McManus 1966:6), although there is little information as to their number (Bielinski 1984:170–171; Kruger 1985[2]:65). Some of those who were enslaved, either privately or by the Dutch West India Company, were able successfully to petition the colonial council for their freedom (Page 1984:128). Although subsequently some purchased land on the "frontier,"[1] it would appear that the vast majority of the Africans in New Amsterdam remained in bondage for the duration of their lives.

5.2.3 Establishment of the African Burial Ground

It is possible that those enslaved by the Dutch West India Company in New Amsterdam may have been buried along with Europeans at two specific locations. One site could have been the "bouwerie" (Dutch for "bower-place" or garden [Harlow 1931:4–10; Sante 1991:11]) of Governor Peter Stuyvesant, located on the edge of the town (Harlow 1931:8) near the present Fourteenth Street (Appendix B-2, Barto 1992a:1). It is of record that Stuyvesant enslaved up to forty Africans ("farm laborers and household servants") by 1660 (Goodfriend 1984:97), and both he and his wife Judith (Bayard) Stuyvesant encouraged those enslaved to live in family units and attend church regularly at his chapel, so when they died they could have been buried at Stuyvesant's "bouwerie" (Rogers 1938; Ottley and Weatherby 1967:13; Van der Zee and Van der Zee 1978:271, 334, 337; Appendix B-2, Barto 1992a:16).

Another place where African burials could have occurred was at the "Old Burying Ground," first located "on the west side of Broadway, a short distance north of Morris Street" (Jackson 1950:14–15) and, after 1676, on Broadway opposite Wall Street "near Bowling Green" (Appendix B-2, Barto 1992a:1). This was first set up as a public place of burial, free for all people "subject only to a charge for opening the ground" (Jackson 1950:15).

It will be noted that these burial grounds were located within the environs of the town of New Amsterdam. Those enslaved by residents of the town may have found burial in the public burial ground, as their masters would have been able to pay the sexton's fee for digging the grave. Others would have been buried on the slave owner's "homestead" (Appendix B-2, Barto 1992a:3). However, what of those free African residents of the negro frontier outside New Amsterdam? Once a loved one died, would it have been feasible or convenient to bring the body over a mile or more into the town for burial? What of the fee to open the grave?

Richard Boulton Dickenson, an African-American genealogist and historian from Staten Island, speculates that the African Burial Ground was probably first established by those residents of the negro frontier after the eleven formerly enslaved to the West India Company received and settled upon their grants of land after 1644 (Dickenson 1987:104). As noted above, the frontier was located outside the palisade that surrounded New Amsterdam, running north from the Collect Pond. The Maerschalck map also shows the "Negros Burial Ground" (hereinafter referred to as the "African Burial Ground") located beyond the palisade very near the Collect, where it would have been adjacent to the small farms of the free Africans who lived on the frontier (Maerschalck 1755).

[1] From 1643 to 1667, the council issued no fewer than 26 grants of land to Africans (Stokes 1915–1928[4]:99).

This ground was still considered common ground, that is, open space owned by the colonial government but not put to any particular use other than "cattle grazing land," as it was thought it was probably not much good for farming (Appendix B-2, Barto 1992a:68) and being described as "a desolate, unappropriated spot, descending with a gentle declivity toward a ravine which led to the Kalkhook [or "Collect"] Pond (Valentine 1865:567). There is no existing record of any of the residents of the little community expressly requesting permission from the colonial council of New Netherland to use this tract as a burial ground, as "not even a dedication of their burial-place was made by the church authorities, or any others who might reasonably be supposed to have an interest in such a matter" (Valentine 1865:567).

The establishment of the African Burial Ground may also have arisen from the attempt of the Africans to worship their gods and bury their dead in the manner they were accustomed to, either the rituals of their home areas in Africa, or even (for those who had been under Spanish or Portuguese control) the liturgy of the Roman Catholic Church. Melville J. Herskovits noted that "the principle that life must have a proper ending as well as a well-protected beginning is the fundamental reason for the great importance of the funerals in all Negro societies" (Herskovits 1941:197). It is probable that in the performance of these burials, the residents of the negro frontier were passing on the customs of their homeland as well as expressing, albeit in a small way, their further independence from the colonial council of New Amsterdam (Roediger 1981:169).

The Dutch, although tolerant of other religious practices among its European settlers (Van der Zee and Van der Zee 1978:91–92), did not extend that tolerance to Africans (Page 1984:128). Instead, they strove to convert the Africans to Christianity, with middling success. A number of enslaved Africans persisted in the belief that conversion to Christianity would bring freedom and embraced the Dutch Reformed Church solely for that purpose (McManus 1966:20). This became so apparent that one minister at first refused to baptize African children "partly on the account of the worldly and perverse aims on the part of the said negroes [as] they wanted nothing else than to deliver their children from bodily slavery without striving for piety and Christian values" (Dominie Henricus Selyns, in Van der Zee and Van der Zee 1978:366). Despite that hesitation, a number of Africans, enslaved and free, became members of the Dutch Reformed Church and were successful in having their children baptized in the faith (Brassard, personal communication 1997).

Another minister noted that the Mohican Indians "do not speak so jeeringly and so scoffingly of the godlike and glorious majesty of their Creator as the Africans dare to do" (Dominie Jonas Michaelius, in Stokes 1915–1928[4]:74). So it is at least a possibility that the men and women who first settled the negro frontier also saw this opportunity as a chance to honor their dead in their own way, in a manner more relevant to their ancestral and cultural backgrounds (Herskovits 1941:198–206; Roediger 1981:174; Kolchin 1993:41–43).

Therefore, it just may have happened that after 1644, one of the free Africans of the negro frontier died, and the grieving family and neighbors decided that it would be more convenient to place their loved one in a spot near their homes. The reason may have included lack of money to open the grave at the public burial ground or an intent to use traditional burial practices rather than the interment rituals of the Dutch Reformed Church. And so, at some unrecorded date, the first burial in the African Burial Ground was probably made, as David T. Valentine said, "at night, with various mummeries and outcries" pursuant to the rituals and customs of their native homes (Valentine 1865:567; Roediger 1981:169–172).

5.2.4 Private Ownership—the Van Borsum Patent

Among the first European settlers of New Netherland was a woman named Anneke Jans. She was a native of the village of Flekkeroy in Norway, who arrived in the New World from Amsterdam with her husband Roelof Janszen van Maesterlandt and their two eldest children, Sara and Tryntje "Roelofs"[2] (eventually they would have five) in 1630 (Zabriskie 1973). After her husband's death, Anneke married Everardus Bogardus, the "dominie" (minister) of the Dutch Reformed Church of New Amsterdam in 1638, by whom she would have four more children (Brassard, personal communication 1997).

[2] "All of Roelof's daughters took the name of *Roeloffse*, meaning 'daughter of (se) Roelof.' Their brother Jan took the surname *Roeloffszen* meaning 'son of (szen) Roeloff'" (Carter 1997). Today, commonly spelled Roeloff.

Anneke was once cited for indecent exposure by the burghers of New Amsterdam: as she attempted to cross a muddy street, she lifted her gown and allegedly "displayed her ankle" (Van der Zee and Van der Zee 1978:353–354). But her major claim to historical fame is that she was ostensibly the original owner of a portion of Lower Manhattan (62 acres) that became the subject of a lawsuit instituted by her descendants who claimed that Trinity Church had illegally gained title to the property and that they, Anneke's descendants, were the rightful owners (Totten 1925; Zabriskie 1973).[3]

At the time Anneke was alive, the property was "sixty-two acres of mediocre farm and grazing land, swamp and chalky hill" that was "of little value" until the burgeoning city expanded northward. By 1800, the swamp had been drained and "commercial buildings and private dwellings had been built upon it" and it soon became very valuable real estate. However, despite a long series of lawsuits, Trinity Church was confirmed in its legal title to the disputed property time and time again (Zabriskie 1973).

Anneke's eldest daughter, Sarah Roeloff (1627–1693), was an accomplished linguist, fluent in Dutch, English, and several of the Native-American languages. Sarah often was called upon to use her talents when the representatives of the colonial government dealt with the local Native Americans. In 1664, for example, as an interpreter, Sarah aided Governor Peter Stuyvesant in negotiating a peace treaty with the Native Americans who lived along the Hudson River. When the British took control of the colony (renaming it "New York"), Sarah's proficiency in English was called upon to aid in the peaceful transition of power (Brassard, personal communication 1997).

In 1642, Sarah married Dr. Hans Kierstede, originally from Magdenburg, Germany, who was a medical doctor in the employ of the Dutch West India Company. They would have ten children, of whom seven would live to maturity. After Dr. Kierstede's death about 1666, Sarah married a farmer named Cornelis Van Borsum, by whom she would have a daughter (Zabriskie 1973; Brassard, personal communication 1997; Keirstead, personal communication 1998).

On October 17, 1673, Royal Governor Anthony Fletcher conveyed to Cornelis Van Borsum a grant of land "north of the windmill on the west side of the road to Klatchhook" (Foote 1993:9). This grant included the African Burial Ground (Weathers 1993:10), which probably was actively used at this time (Dickenson 1987:108). Although the grant was made in Van Borsum's name, it had been made in recognition of the services of Sarah Van Borsum to the colonial government (Stokes 1914–1928[6]:82–83, 123), and upon her third and final marriage in 1683 (to Elbert Stoothoff), Sarah made sure that her eight surviving children by Dr. Hans Kierstede would eventually become the owners of the property by negotiating a prenuptial agreement where she would continue to be considered as the owner of the tract although becoming once again a married woman. Though this was an accepted procedure under Dutch-Roman legal practice, it ran contrary to English common law, where once a widow remarried, all of the property she might own or possess at the time of this marriage would be owned by the new husband (Friedman 1985:63–64; Narrett 1992:77–79; Foote 1993:10).

At her death in 1693, it appears that Sarah Roeloff Kierstede Van Borsum Stoothoff bequeathed the tract including the African Burial Ground to her surviving children by Dr. Kierstede. Although it would be asserted that this ground was to be held in trust for her children by her son Lucas Kierstede and her sons-in-law Johannis Kip and William Teller as executors of the estate (Stokes 1915–1928[4]:394), no particular mention of the tract appears in the abstract of her will (translated from the Dutch) (Last Will and Testament of Sarah Roeloffse, dated July 29, 1692, probated October 12, 1693 [Tami 1998:1]). Her descendants would subsequently contest the ownership of the patent, each stating that the property belonged to it (Stokes 1915–1928[4]:393–394).

As noted above, it appears that this land was originally part of the common land held first by the West India Company and later the British colonial government. It also appears that both before and after the

[3] With the problems involved in tracing ownership of property on Manhattan Island during the latter portion of the nineteenth century and early years of the twentieth, many people would receive letters claiming that they might be a descendant of some person who owned property in Manhattan during the seventeenth or eighteenth century. If they contacted the writer of the letter, information would be sent to them that might make them all millionaires. Some people, like the descendants of Anneke Jans, were sincere in their beliefs, although ultimately proven in error (Brassard, personal communication 1997); others were at the mercy of con artists (Cronkite 1996:12; Edwards, personal communication 1998).

grant to Sarah Van Borsum, this ground remained undeveloped, as did much of the land located beyond the palisade surrounding New Amsterdam or, as the British now called it, New York.

Although there is no direct evidence that the African Burial Ground had been established by the time Mrs. Van Borsum received the grant, it would stand to reason, based on Richard Dickenson's supposition, that it could have been in operation by 1673 (Dickenson 1987:108). Following that surmise, it would be likely that Sarah Van Borsum knew that people were being buried on her land, but there is no reference in the surviving record to her having complained about it.

Another fact is that Sarah Van Borsum herself enslaved Africans. The last will and testament of her husband Cornelis (transcribed as "Cornelius Van Borsam") says that "my negro girl Elizabeth is not to be sold, but to remain in the service of my daughter Anna" (Last Will and Testament of Cornelius Van Borsam, dated June 16, 1680, filed for probate September 25, 1682 [Tami 1998:444]). When Sarah herself died ten years later, her will devised five enslaved Africans and one enslaved Indian to her children by Dr. Kierstede (Last Will and Testament of Sarah Roeloffse). It can be conjectured that they mingled with other Africans, both free and enslaved, and may have had close family members who died and would be buried in the nascent African Burial Ground. Depending on how the Van Borsum household was run, the existence of the African Burial Ground may not have been much of a secret to Sarah Van Borsum.

As development of the property would not commence for fifty or more years after Sarah's death, more and more people continued to consider the property as common ground, not being used by the municipal government or by Sarah or her children. If Africans had already started burying their dead in the burial ground, they would have been able to continue to do so to such a degree that the area itself soon became sufficiently well known to be a landmark (Maerschalck 1755).

5.2.5 English Rule Over New York

With the English wresting control of the colony from the Dutch in 1664, many things changed for the residents, both white and black (O'Callaghan 1848:383–385; Higginbotham 1978:114–116; Page 1984:129–130; Wood 1997:111–113). For the latter, "the legal status of the slave, as it took shape in statute books, reflected and ratified social discrimination and the sense of race" (Friedman 1985:85–86). These changes were embodied in the "Duke of York's Laws," named for James, Duke of York (later King James II of England and VII of Scotland), the "Royal Commander" of the colony of New York (Moore 1995:31). The "Duke's Laws" were imposed on the colony, and among its stipulations and orders were several rules greatly restricting the lives of Africans, both enslaved and free (New York [State] 1806; Olson 1944:149; Higginbotham 1978:114–115; Nordstrom 1980:1–3).

The Duke of York was also actively involved in the transatlantic slave trade, being a major shareholder of the Royal Africa Company, a mercantile concern dedicated to exploiting the continent's resources, primarily its residents (Moore 1995:13). The enslaved population of the colony—estimated at about 600 out of a total of 5,000 in 1660 (Wood 1997:111)—suddenly swelled (Piersen 1996:62). Between 1701 and 1726, New York's wharves and docks saw the delivery of 1,570 enslaved persons from the West Indies and 802 directly from Africa (McManus 1966:24).

In contrast to the Dutch-Roman slave code, the English concept of manumission was only a slight possibility (Wood 1997:11–12). The general consensus under most English colonies about this time was "that all negroes or other slaves within this province shall serve *durante vita* [i.e., for the rest of their lives]; and all children born of any negro or any other slave shall be slaves as their fathers were for the term of their lives" (Stroud 1827:8–10). So, from the beginning of English rule in New York, Africans found themselves with rapidly diminishing rights and privileges. In 1674, the colonial assembly passed a law stipulating "that no Negro slave who becomes a Christian after being bought shall be sett *[sic]* at liberty" (Higginbotham 1978:127). Those enslaved were considered property (Davis 1966:57, 62), not human beings (Olson 1944:147–148), and therefore without any rights as such (Goodell 1853:105). As more were brought into the colonies, their activities and movements were minutely regulated. They could not sell oysters or vegetables, either for themselves or their owners; they could not serve as porters or drive wagons; they could not congregate in large gatherings (Olson 1944:149–154; Higginbotham 1978:118–122; Friedman

1985:85–89). Very soon, Africans could justifiably complain that "from the first bringing of our colour into this country, they have been constantly kept to the greatest toil or labour, to drudge incessantly yet without the smallest hopes of reward" (Johnstone 1796:12).

Little by little, free blacks were also constrained in the exercise of their rights. Former Governor Peter Stuyvesant's 1665 deposition stated that the residents of the negro frontier owned their farms in "free and true ownership with such privileges as all tracts of land are owned by the inhabitants of this province" (Moore 1995:13). Within fifty years, the colonial government of New York passed a law restricting the ownership of real property by free blacks. Those who were freed after the enactment of this law could not own any realty, while those who attempted to do so would have the realty they purchased forfeited to the colonial government (Cumming 1894[1]:127). In 1716, four years after that law was passed, the last vestige of the negro frontier vanished with the sale of a fifteen-acre farm located at the site of the Empire State Building (Moore 1995:13).

The small population of free Africans found its numbers dwindling. Many soon left for homes in New Jersey (Hodges 1998:31) or further north and east in the Hudson River Valley, while others hunkered down in small enclaves within and without the still-standing palisade around the colony town of New York (White 1991:110). The African presence in New York changed dramatically. In the Dutch period, black people had identities, names, histories, and definable lineages and genealogies, some of which are traceable up to present-day individuals (Hoff 1988:101–134, 1990:65–71, 157–161; Dorman 1997:58–60). Under English control, they became an anonymous and indistinguishable group of black bodies doomed forever to servitude because of their skin color (Wood 1997:22–23) and a group always subject to the colonial government's "lingering fear that the slave might endanger the social order" (Catterall 1936[4]:351) through uprisings and revolts (Friedman 1985:86–87).

Meanwhile, these restrictions extended even to the final resting places of the Africans. As noted above, the public burial ground that appears to have met the needs of all residents of New York was moved in 1676 to "Broadway near Wall Street" (Jackson 1950:15). A portion of the tract was used in conjunction with Trinity Church as a "churchyard," i.e., a place of burial in ground consecrated by a religious institution or church and set aside for the interment of the members of the church (Ruggles 1856:503–508; Jackson 1950:13, 15). In May of 1697, King William III of England granted to Trinity Church title to its churchyard as a burial ground (Jackson 1950:15). Five months later, in October, Trinity Church banned African burials in its churchyard (Ottley and Weatherby 1967:12–13, 17; Appendix B-2, Barto 1992a:2; Appendix B-3, Barto 1992b:3); but whether that ban affected potential burials of Africans in the public burial ground operated by the Common Council of the town of New York is not known.

There were other burial grounds within the bounds of New York City by this time, such as the "Jewish, Spanish, and Portuguese cemetery located in 1683 in Oliver Street [still existing in 1998]; the Old Reformed, called the Middle Dutch Church, at Nassau, Cedar and Liberty Streets; the Presbyterian Brick Church at Beekman Street and the South Dutch Church which opened in 1691 on Exchange Place between Broadway and William Street" (Jackson 1950:16). Indeed, at one time, there were no fewer than forty cemeteries located south of Fourteenth Street (Jackson 1950:16). However, almost no burials of anyone of African descent have been found in the surviving records of these burial grounds (Appendix B-2, Barto 1992a:2, 17–18).

Assuming again the possibility that the African Burial Ground was in operation by this time, it would have been about then that Africans, enslaved or free, would have been compelled to start burying their dead there, whether they wished to or not, as it would appear that the other burial grounds in the area may well have been closed to them (Roediger 1981:170; Appendix B-2, Barto 1992a:2). However, its distance from the center of town would have had much appeal for the Africans. They would have a chance to express "their own culturally specific conception of the land and the uses to which it should be put" (Foote 1993:5–6) with little or no interference from the other residents of New York City, despite the passage of ordinances prohibiting night burials in 1702, 1713, and 1722 (Higginbotham 1978:116–122), and the attempt of a 1731 law to limit "the size of black gatherings" at funerals and "divest black funerals of any symbolic cultural or social content" (Appendix B-3, Barto 1992b:2). After the 1741 slave revolt was crushed, even more

restrictive laws restraining both the movement and the assembling of enslaved persons were enacted (Davis 1985).

5.2.6 Sacred to Secular

The site of the African Burial Ground was never officially dedicated (or set aside) as a burial ground. Nor did any of those who had loved ones buried there band together and petition the colonial council to transfer title from Sarah Roeloff Kierstede Van Borsum Stoothoff and her family to themselves. The sanctity of the site, although real and important to those Africans who made use of the ground, paled before the legal right of ownership of the ground by the Van Borsum heirs who wanted to make other use of the land than as a cemetery. The legal possession and ownership of the property remained in Sarah Roeloff and her heirs, although "*no clear documentary claim of title existed through the end of the 18th century for the patent property*" (emphasis in original) (Appendix B-4, Barto 1992c:1). However, as Stephen Barto notes, "the City and the [Van Borsum] heirs used the land indiscriminately, without attempting to gain clear title and without apparent formal successful challenge to each other" (Appendix B-2, Barto 1992a:8).

As New York City expanded to accommodate a burgeoning population, many existing landmarks were encountered as the city grew; some were bypassed, some were moved, and others were destroyed. Although the records do not show that Sarah or any of her children ever attempted to develop the portion of the patent that included the African Burial Ground, beginning in 1723, a number of her grandchildren began attempts to have the property surveyed and/or built upon, so that some portion of it (excluding the African Burial Ground?) could be set aside for secular use (Appendix B-2, Barto 1992a:4–5).

In 1723, Alderman Jacobus Kip, son of Johannis and Catherine (Kierstede) Kip, went before the Common Council of New York to request that they "appoint a committee to assist him in surveying the land" (Appendix B-2, Barto 1992a:4), but was rebuffed (Common Council of New York City 1905[3]:353). Stephen Barto speculates that the Van Borsum patent was being considered as common ground by both the city of New York and its residents, white and black, who used it as a public burial place. "The Kips may have been trying to pre-empt use of the patent as the Burying Ground, or [as] part of the Burying Ground, in making this survey" (Appendix B-2, Barto 1992a:4).

Later, one of Kip's cousins, a merchant named Abraham Van Vleck, established a pottery on the eastern portion of the tract at "Pot-Baker's Hill," most likely in partnership with William Crolius, who operated the pottery and was living on the site by 1742 (Appendix B-2, Barto 1992a:6). About ten years later, with war against the French and their Native American allies brewing, the municipal authorities of New York City, along with local units of the British Army, erected a barricade around the city, a portion of which lies to the south of the Van Borsum patent. In 1757, the first of a number of barracks for the housing of soldiers was erected to the south of the barricade; "probably it, and the later barracks, eliminated any burials to the south of them" as the first building may have created "a permanent southern border to the Ground" (Appendix B-2, Barto 1992a:7–8).

During this period, one or another of Sarah Roeloff's descendants continually challenged ownership of the Van Borsum patent. In 1753, William Teller, Jr., and Maria Van Vleck, Abraham's widow (who had received a portion of the ownership rights of the Van Borsum heirs), attempted to exchange the Van Borsum patent (excepting the Crolius pottery, but including the African Burial Ground) for other city-owned property, but the Common Council appears to have turned them down (Common Council of the City of New York 1905[5]:416). This may have been an attempt on the part of Teller and Mrs. Van Vleck to keep the African Burial Ground intact and under the control of the Common Council of New York in return for property with the potential to produce income.

Seven years later, Isaac Teller, one of William's sons, moved himself and his family onto the southwest corner of the tract, where he erected three houses ("corner of present City Hall Park at Broadway [and] Chambers Street" [Appendix B-2, Barto 1992a:9–10]), two of wood and one of brick (*Smith ex dem. Teller v. Burtis & Woodward* in Johnson 1812:174–175). Teller also claimed ownership of the entire Van Borsum tract, including the African Burial Ground (Stokes 1915–1928[4]:394). According to subsequent sworn testimony, Isaac Teller moved into one of the houses, "fenced and gated the Burying Ground and attempted to sell

burial plots there" (Appendix B-2, Barto 1992a:10). This attempt at free enterprise ended with Teller's death in 1775; when the British Army occupied New York City at the beginning of the Revolutionary War, the houses and fences were torn down (*Smith ex dem. Teller v. Burtis & Woodward* in Johnson 1812:175).

With the end of the Revolutionary War and victory to the United States, the fight for ownership of the Van Borsum patent continued, albeit with different players, as the Kierstede descendants, who had backed the British, went to Nova Scotia (Brassard, personal communication 1997; Kierstead, personal communication 1998), while the Kips and Tellers continued to battle over ownership of the property (Stokes 1915–1928[4]:394). Meanwhile, the burial ground continued to be used during this period: Africans found their final rest there along with some whites; American prisoners of war were buried there by the British during the war (Valentine 1849:372–373); and the city's almshouse burial ground, or "Potter's Field," was located either in or adjacent to the African Burial Ground (Appendix B-2, Barto 1992a:14).

After the end of the war, however, New York City began to expand northward to the upper reaches of Manhattan Island. Tracts of ground that were once thought of as being of little use began to take on greater value, such as the tract once owned by Sarah Roeloff's mother, Anneke Jans, and also Sarah's own property. The descendants of the original owners or grantees of these properties very quickly saw that barren pieces of ground could be made profitable. They went about petitioning the municipality to aid in its development by laying out streets and dividing up the ground into building lots for sale or lease, as "most of the commercial activity in New York City took place on leased ground" (Blackmar 1989:228–229).

Henry H. Kip, another of Sarah's descendants, headed a group of petitioners who requested the Common Council in 1784 to plat streets in the area of the Van Borsum patent (Valentine 1858:433), and soon Duane (formerly Anthony, later Barley to 1809) and Reade Streets were laid out east of Broadway (Common Council of the City of New York 1905[6]:245), with Chambers Street (sic) passing through "the Burying Ground of the Africans" sometime around 1792 (Appendix B-2, Barto 1992a:31).

Despite the fact that there was no clear title of ownership found in Henry H. Kip or any of the other participants, they were awarded title to the parcel. By 1795, the Kips and remaining Kierstede relations had resolved their differences and had the tract surveyed and subdivided into building lots (Borough of Manhattan Land Evidence, Liber of Deeds 295:405–420, dated January 6, 1795, filed April 14, 1833). Henry R. Teller, Isaac's son, successfully challenged both the legality of the partition *(Smith ex. dem. Teller v. Lorillard & Janeway; Smith ex. dem. Teller v. Burtis & Woodward* in Johnson 1812*)* and the subsequent sale of some of the lots (New York City Land Evidence, Liber of Deeds 124:283, filed December 18, 1813).

Faced with the loss of the African Burial Ground, on October 27, 1794, the African-American community, led by members of the Free African Society, a benevolent association made up of residents of the area around the burial ground (Freeman 1994:297), formally requested the Common Council to establish another burial ground for their use (Common Council of the City of New York 1905[2]:112). The new African Burial Ground was authorized by the Common Council the following April (Common Council of the City of New York 1905[2]:137). Located on Chrystie Street (Common Council of the City of New York 1905[2]:264*)*, this burial ground remained active until 1853 (Freeman 1994:297–298).

5.3 Burials in New York City

The final resting places of many of the earliest residents of New York City were, like the African Burial Ground, in the way of the city's expansion. Depending on when the reach of the city extended to that particular piece of realty, the cemetery would be bypassed, removed, relocated, or shoveled over.

The first public burial ground in New York was located on the west side of Broadway north of Morris Street. In 1656, Governor Peter Stuyvesant of New Netherland appeared before the colonial council with a request from one of the residents of New Amsterdam that "it is highly necessary to divide the Old Graveyard, which is wholly in ruins, *into lots to be built upon* [emphasis supplied] and to make another graveyard south of the Fort, and to remove the houses standing there" (Jackson 1950:15).

There is no further record of those burials at the "Old Graveyard" when it was replaced in 1676 by "the new burial ground without the gate" at Broadway near Bowling Green (Jackson 1950:16). No mention was

made of what were to become to the surviving burials at the superseded burial ground. It is unlikely that the bodies were disinterred for reburial in another graveyard. "Once an interment has been made, courts throughout the land look with disfavor upon the disinterment and removal of the body. This is based upon the natural sentiments of mankind toward the sacredness of the sepulture" (Brennan 1935:57–58). These sentiments dated back to the days of the early Christian church (Ruggles 1856:525), where "undisturbed repose was a religious privilege and its withdrawal a posthumous punishment" (Jackson 1950:102). These sentiments then eventually became part of the common law and were subsequently codified by statute (Grinnell 1905:345; Griffith 1981:1–12).

This custom, however, was challenged and thwarted by those who wished to use corpses to further their own ends (Humphrey 1973:819–827). During this period, medical students and surgeon's assistants routinely desecrated graves and removed bodies for dissection, for "experimental material to maintain their skills." Although churchyards were invaded, the main victims were the corpses found in the African Burial Ground ("blacks were the most common source of cadavers in eighteenth-century New York") and the Potter's Field (Wilf 1989:508–511).

Blacks fought back. At this time, the grip of slavery on the lives of New York's African-American residents was beginning to loosen. In ten years, the "Gradual Manumission Act" would be passed, opening the door to eventual freedom for all New York African Americans. Others successfully bargained with their owners to free themselves and their families (Kruger 1985[1]:425) and sought to help others less fortunate, thus providing those unlucky enough to remain enslaved, in certain instances, with some protection. When Amos Broad and his wife brutally beat Betty, an enslaved servant, as well as her three-year-old daughter Sarah, African Americans went to the New York Manumission Society to plead their cause. The Manumission Society had the Broads arrested on charges of assault; the ensuing court case found both Broads guilty and sentenced them to a term in the Tombs and a stiff fine ([Sampson] 1809). Shane White notes that a number of "the recently freed slaves, in particular, were exceptional men and women. The story of their emancipation illustrates their ingenuity and strength" (White 1988:446).

In a letter to the editor of the newspaper the *Daily Advertiser,* an African American who signed himself "Humanio" brought to the public attention the theft of the body of a child from its resting place (White 1991:117). In 1788, members of the Free African Society requested the Common Council of New York City to stop the desecration of the graves. The surgeons and their minions "dig up the bodies of the deceased, friends and relatives of the petitioners, carry them away without respect to age or sex, mangle their flesh out of wanton curiosity and expose their flesh to beasts and birds." As an alternative, they suggested that the bodies of executed felons be given over to the surgeons for dissection (Stokes 1915–1928[6]:46, as quoted in Wilf 1989:511).

This request and the subsequent "Doctor's Mob" (erupting when medical students invaded Trinity Churchyard for specimens) led to the passage in January 1789 of "An Act to Prevent the Odious Practice of Digging Up and Removing for the Purpose of Dissection, Dead Bodies Interred in Cemeteries or Burial Places" by the New York State legislature, which followed the Free African Society's suggestion as to the bodies of executed felons (Wilf 1989:513–516). With the enactment of this bill, the bodies in both the Potter's Field and the African Burial Ground could theoretically be left to rest undisturbed.

The city of New York, after possibly contemplating the purchase of the African Burial Ground for use as a Potter's Field (Appendix B-2, Barto 1992a:14), established a public burial ground for the interment of unclaimed bodies at what is now Madison Square at "Bloomingdale and the Boston Post Roads" in 1794 (Jackson 1950:15). Three years later, it was relocated to Washington Square Park (Stokes 1915–1928[6]:337–338); then to Bryant Square (Fifth Avenue at Forty-second Street); and from there to Third Avenue and Fiftieth Street. In 1857, the burying place was shifted to Ward's Island; in 1870, to Hart's Island, both in the East River (Jackson 1950:17).

The continuing relocation of the Potter's Field came about in part as the city extended northward, for with the city ever expanding, many existing graveyards were soon found to be in the way of progress. This movement was aided by an 1823 ordinance that stipulated that "no person shall dig or open any grave, etc., in any burying ground, cemetery, or churchyard, or in any other part or place in this City, which lies to the

Southward of a line commencing at the center of Canal Street on the North [i.e., Hudson] River, and running through the center of Canal Street, etc. to the East River" (Jackson 1950:17). No record exists as to whether the remains of the paupers, the anonymous, or the unfortunate were ever disinterred when the sites of the burial grounds passed into private hands and structures were subsequently erected.

In New York City, as with many of the cities along the Atlantic Seaboard during this period, "urban burial grounds succumbed to development pressure" (Parrington 1987:56–57), and others were preserved only with difficulty. For example, in 1847, a proposal was brought before the Common Council to extend Albany Street through the burial ground of Trinity Church. This was disallowed by the Board of Aldermen, who declared that Trinity Churchyard "was the most ancient cemetery in this city and probably in this country…as a burial ground, it is nearly a century older than the other sections of the yard…. The bodies buried there were those of between 30 thousand and 40 thousand persons of several generations, and of all ages, sects and conditions,…and almost every old family that is or ever was in this city, has friends, relatives or connections lying there" (Jackson 1950:15–16). In 1856, when an attempt was made to widen Beekman Street and affect the graveyard of the Brick Presbyterian Church, the trustees of the church challenged the city and won (Ruggles 1856:503–528).

When the Chrystie Street Burial Ground was established, the city of New York kept title to the ground, as the request was not made by an incorporated entity. The Free African Society had not received a corporation charter from the state of New York and, as such, did not have a legal existence, but contributed one hundred pounds to the development of the property as a burial ground. The money used came through charitable donations and from the African-American residents of the area (Freeman 1994:297–298).

In 1825, the trustees of St. Philip's Protestant Episcopal Church, who had taken control over the operation of the burial ground, officially requested the Common Council to grant title to the property to St. Philip's, as the church had recently received its charter as a corporation (Common Council of the City of New York 1905[14]:714–715). After some question as to whether the trustees of St. Philip's were the same group of people who had originally requested the establishment of the burial ground thirty years before or, if not, whether the city or the state had the right to convey the land, 18 months after the original request, the city acquiesced and sold the ground to St. Philip's (Common Council of the City of New York 1905[16]:266–267).

With the "cemetery beautiful" movement of the mid-nineteenth century, a number of churchyards were re-established in park-like settings further away from the centers of the large cities (Parrington 1984:6), especially with new burials being banned in existing cemeteries. A number of churches, like Trinity, were able to keep their original cemetery and still buy realty to be used for a larger cemetery in the upper reaches of Manhattan Island.

Other churches moved bodies to new resting places and sold the old grounds to developers (Parrington 1987:57), as St. Philip's did with the Chrystie Street Burial Ground. In 1853, in light of city ordinances forbidding further burials in Lower Manhattan, the church purchased a section of ground in Cypress Hills Cemetery in Brooklyn and moved all the bodies in the Chrystie Street Burial Ground to the new location ([New York] *Tribune,* March 31, 1853, cited in Freeman 1994:314).

Another church with a predominately African-American congregation that had been established at about the same time of St. Philip's was Zion Baptist Church. Established on Leonard Street, it buried its dead adjacent to its place of worship for a time. In 1807, the church requested a place to bury its dead from the city government; it allowed Zion space in the Potter's Field, then located in Washington Square Park (Freeman 1994:332). When the 1823 ordinance banning burials was enacted, the trustees of Zion petitioned the city for another burial ground above Fourteenth Street. When the city was slow in handling their request, the church bought eight burial lots in Yorkville (Seneca Village), around Eighty-fourth Street and Sixth Avenue, in what is now Central Park (Common Council of the City of New York 1905[19]:264).

The reason that St. Philip's moved the bodies from Chrystie Street to Cypress Hills instead of leaving them there can be found in the enactment of state legislation affecting dead bodies and cemeteries. In 1847, the New York State legislature passed the "Rural Cemetery Act" (State of New York 1847:Chapter 133, cited in

Clarke v. Keating, State of New York, Courts of Errors and Appeals 1888:213; State of New York, Courts of Errors and Appeals 1892:333–334; Jackson 1950:17–18). This legislation was enacted as an attempt to put to an end to burials within the limits of urban areas and also to settle a number of questions regarding the status of cemeteries. One of the requirements outlined in the statute stated that "no street, road, avenue, or thoroughfare shall be laid through such cemetery…without the consent of the trustees of said [cemetery] association, except by special permission of the state" (State of New York 1847:Section 10, Rural Cemeteries Act, Chapter 133).

Another section of the law called for the removal of bodies from abandoned cemeteries to be reburied elsewhere. This section was strengthened in 1868, when an addition to the law provided that "no public road shall be laid out or constructed upon or through any graveyard in this state, unless the remains therein contained are first carefully removed and properly reinterred in some other burying ground at the expense of the persons desiring such road" (State of New York 1868:Chapter 843, cited in State of New York, Court of Errors and Appeals 1892:333–334). This was extended to public-works projects sponsored by any governmental entity (municipal, state, or federal) and later the construction of privately owned thoroughfares (Shapiro 1930:380–381).

Another stipulation in the law called for the removal (and subsequent reburial) of bodies from an abandoned burial ground or cemetery once the ground was disturbed, should the municipality where the burial ground was located choose to do so. The legislation left it to the municipalities as to how they wished to proceed as they could move the bodies and sell the ground or keep the cemetery intact and take over the costs for its upkeep (Griffith 1991:53). The remains must be removed to "some other cemetery" and be reinterred in a "suitable manner" (State of New York, Court of Errors and Appeals 1892:335).

Today, there are about six thousand cemeteries and burial grounds in New York State. About a third of these come under the purview of the New York State Division of Cemeteries, a part of the Department of State, as they are not-for-profit cemetery corporations. The remainder of the cemeteries are municipal, religious, family, and privately owned; they are "generally not subject to regulation by the…Department of State" (State of New York, Department of State Counsel's Office 1997).

5.4 Summary and Conclusion

As noted above, the real estate containing the African Burial Ground, although long treated as a separate, defined and sacred place by all, was owned by the family of Sarah Roeloff, and as its property, under the law, it was authorized to do what it wished with the land. However, it appears that the owners of the patent intended to keep the African Burial Ground open and accessible to those who used it.

It is of note that when Jacobus Kip, William Teller, Jr., and the Widow Van Vleck attempted to dispose of the property, records suggest that they were attempting to trade the African Burial Ground (keeping it separate from other sections of the Van Borsum grant) to the city of New York in return for other municipally owned realty. If these actions were successful, the tract where the African Burial Ground was located would have been placed under the ownership of the municipal government of New York City and the former owners would have received another plot of land that they could develop without disturbing any of the graves. It is also apparent that Isaac Teller, in his attempt to sell burial plots in a fenced-off and gated burial ground, was also intending to keep the ground as an intact place of interment.

At the time of the inception of the African Burial Ground, the surviving records do not show that the Africans who utilized the ground officially requested permission from the colonial council of New Netherland to set aside the tract as a burial ground. Nor do the records suggest that any requests were made at any time before the land was granted to Sarah Van Borsum in 1673. In 1794, when the burial ground was awarded to Kip and divided into lots, those African-American residents of the area instantly applied to the Common Council of New York City for land upon which to re-establish a burying place. As soon as they were able, they formed an organization "authorized to hold and maintain property within the town for cemetery purposes" (quote from State of New York 1999:"Town Law," Section 292, "Transfer of burial grounds to cemetery organization").

Under today's applicable statutory law, even if the African Burial Ground had been set aside as a privately owned cemetery, like that of Trinity Churchyard, that still would not necessarily have prevented any disturbance of the bodies resting there, as "property devoted to the purpose of a private cemetery has been held subject to condemnation under a general eminent domain statute" (Hayes 1991:88). Had it been a publicly owned cemetery, the municipality would be precluded from taking the property "unless expressly authorized by statute" (Hayes 1991:88).

Even in 1656, when the Old Burying Ground, the first burial ground in what is now New York City, was thought to be ready to be replaced by another place of interment, Governor Stuyvesant made the suggestion that the graveyard be divided up into building lots. There is no evidence that any of the bodies buried there were moved after the Old Burying Ground was ultimately abandoned almost twenty years later.

It has also been stated that there were at one time more than forty burial places south of Fourteenth Street (Jackson 1950:16); there are very few remnants of these places remaining today. Although human remains may have been found and reinterred in another cemetery, it is the likely that there are a number of sites in Lower Manhattan where structures stand over abandoned or forgotten burial grounds. These burial grounds, as noted above, appear to have held (or presently contain) the remains of residents and others of primarily European descent, as very few records of African burials in these places survive. This raises some question as to the deliberate "cover-up" of the African Burial Ground based on the fact that a majority of those buried there were of African descent.

Therefore, to quote Chief Justice Robert Earl of the New York State Supreme Court in 1892:

> The fact that lands have previously been devoted to cemetery purposes does not place them beyond the reach of the power of eminent domain. That is an absolute transcendent power belonging to the sovereign which can be exercised for the public welfare whenever the sovereign authority shall determine a necessity for its exercise exists. By its existence, the homes and the dwellings of the living and the resting-places of the dead may be alike condemned (State of New York, Court of Errors and Appeals 1892:333).

6.0 THE NEW YORK CERAMIC INDUSTRY AND ITS USE OF THE BURIAL GROUND

by Meta F. Janowitz and Charles D. Cheek

This chapter discusses the evidence of both the salt-glazed stoneware and redware ceramic industry from the African Burial Ground. As discussed above, the African Burial Ground was used as a dump for the debris generated by firing pottery. The stoneware debris piles were concentrated particularly in the SE Area with large amounts in the NE Area as well. Although stoneware debris was also found in the MID Area and in Lot 12, the following analysis concentrates on the NE and SE Areas. The stoneware analysis was part of the original research design and so is considered in some detail. An analysis of the chemical characteristics of the stoneware clay body is also included.

The redware kiln debris was concentrated in the NE Area and in Lot 12, especially in one feature, F51. Although the redware was not originally called out separately in the research design, the abundance of material on this poorly known industry in New York called for some additional analyses. We focused on the kiln technology since that provided information that was comparable to other redware potteries in other Eastern Seaboard colonies and could also be compared to the kiln furniture from stoneware industry.

6.1 The Stoneware Industry

6.1.1 Introduction

The land that was used for the African Burial Ground was also used for the disposal of manufacturing refuse by the potters who worked on Pot Baker's Hill. These potters, members of the interrelated Crolius and Remmey families, worked in the area from the 1730s to the 1810s (Sections 3.3, 4.2, and 4.4). Potters always generate kiln debris (misfired pots and kiln furniture that cannot be reused), and its disposition can be a problem where space is limited. The Crolius and Remmey potters took advantage of the nearby low-lying area that was the African Burial Ground. This chapter describes the stoneware kiln furniture and kiln wasters recovered from non-burial contexts in the NE and SE Areas at the African Burial Ground.

These contexts are treated as one analytical unit in this report for several reasons. First, the emphasis during excavation was on the recovery of the human remains; surfaces were mechanically removed until just above the levels that were thought to contain the tops of grave shafts. As a result, it is highly probable that quantities of kiln debris were removed during the stripping and were not collected. The assemblage that remains thus is a random sample of the original deposits. Second, it is generally difficult to separate individual dumping episodes on kiln-waster sites (Louis Berger & Associates 1990, 1997; Hunter et al. 1996; Liebeknecht, Hunter, and Dews 1998). The reuse of disposal sites by potters, as well as the mixing that occurs during the loading and subsequent dumping of broken vessels and kiln furniture into carts, wheel barrows, barrels, etc., results in mixed deposits. Third, it is also probable that the waster deposits were moved, either deliberately or inadvertently, when the grave shafts were dug and filled in. For the same reasons, and in light of the limited analytical time, no attempt was made to calculate minimum numbers of vessels (MNVs).

The primary question delineated for the stoneware artifacts in the research design was descriptive: what were the vessels that were made by the potters on Pot Baker's Hill, especially in the pre-1800 period? It was stated that the wares from the site should be described in terms of their forms, decorations, and methods of manufacture as a necessary basis for all further investigations. Until these excavations, little had been known about the pre-1800 wares of New York City stoneware potters because only a few special pieces were marked (Barber 1907; Stillwell 1926; Webster 1971; Mitchell 1973; Greer 1981; Branin 1988; Ketchum 1991b). In the research design, it was conjectured that the bulk of their production in the eighteenth century consisted of utilitarian wares made with a potter's wheel in forms and decorations derived from the European training of the first potters.

Many questions remain unanswered at this stage of the research. It has not been possible to determine if the wasters were derived from the Crolius and Remmey potters as a group or if they were from one kiln only. Similarly, it has not been possible to separate out the remains of one kiln firing from another, although there were indications that some forms were more prevalent in particular excavation units or areas. However, since a variety of forms were commonly fired together, this apparent clustering of forms might not be indicative of separate firings.

The waster sherds and kiln furniture were most probably manufactured before the Revolution, possibly before 1770, based on interpretations of the stratigraphy and the other artifacts found within these deposits (see Sections 4.5, 4.6, and 4.7.2). This date is partially supported by the stonewares themselves: there are no sherds whose decorations or marks resemble the known post-1800 wares of the Crolius and Remmey potters. Thus, the stoneware dates to Phase 1, the pre-Revolution phase.

6.1.2 Background

The stoneware potters of Manhattan Island came to New York from the Rhineland area of Germany as trained craftsmen. The founder of the Crolius potting dynasty was Johan Willem Crolius, who came to New York City from Nieuw Wit near Coblenz on the Rhine sometime before 1718 (Ketchum 1987:40–41). He was made a Freeman of the City in 1728 as a potter and again in 1737. In New York, he married Veronica Corselius, the daughter of a potter who was also from Nieuw Wit. Her father was probably working as a potter in New York at the time of the marriage in 1724. The first Remmey in New York, John (originally Johannes Remmi), another Rhenish immigrant, married a sister of Veronica's. The Remmeys were Huguenots who had immigrated to the Rhineland from Alsace-Lorraine. John Remmey was in New York by at least 1735.

Crolius and Remmey and their father-in-law all emigrated as adults from the Rhineland, an area that had been the major European center of stoneware manufacturing since the late middle ages. It is almost certain that they were trained as potters in Germany and that they came to New York with the intention of practicing their craft. The name Corselius, spelled also as Cortselius, Corcilius, and Kortzilius, was still common in the potting towns of Germany during the nineteenth century (Naumann 1980:passim). It is probable that Crolius too came from a potting family, since his brother Peter was also listed as a potter when he became a Freeman of the City in 1737 (Ketchum 1987:40). Crolius may in fact be another variation of Corselius (Rosemary Monagan, personal communication 1995).

Johan Willem became known in New York as William Crolius. He and Veronica produced a number of children, two of whom became potters. The business relationship between the two second-generation brothers, William II and John, is unknown and it is unclear if they worked together or separately. However, there is some evidence that they were operating separate kilns because William II in 1779 willed his kilns and equipment to his nephew (John's son, John II) and John turned over his property to a younger son, Clarkson, in 1800 (Ketchum 1987:46–47). According to information in the New York City Directories, John II operated his shop between 1790 and 1812, after which he was replaced at that location by William I. Crolius (William II's son) who remained there for two years (*ibid.*). John and Clarkson worked on Pot Baker's Hill until 1814, when Clarkson moved his shop uptown to 67 Bayard Street (Ketchum 1987:50).

The Remmey potters had their own kiln, although exactly when it was established is not known. When John Remmey I died in 1762, no potting equipment or kiln was mentioned in his will, but he had previously given three hundred pounds and an enslaved person (of unknown gender but possibly a pottery worker) to his oldest son, John II (Ketchum 1987:51). Two of John II's sons became potters. By 1793, when they leased land on Pot Baker's Hill, they had their own kiln. However, it is likely that a separate Remmey kiln had been established earlier, probably under John II, since one son (Henry) in 1800 gave to the other (John III) "his moiety of the shop, kiln, tools, implements, clay, powder blue, salt, wood and whatever else did then appertain to the said premises" (quoted in Ketchum 1987:51). Henry subsequently moved to Baltimore while John III continued in New York on Pot Baker's Hill until sometime between 1813 and 1820 (Ketchum 1987:52–53).

There was another, unrelated, person who has been associated with the area during the second quarter of the eighteenth century. Valentine's manual for 1842 included an illustration of the lower part of a kiln that still existed at that time under the foundations of a house "on the 5th lot from the corner of Center and Reade Streets" (Clement 1946:10). Clarkson Crolius, who was quoted in the caption to the illustration, thought that the kiln was constructed about 1730 and attributed it to his grandfather and great grandfather. The ceramic historian Clement, however, was of the opinion that this structure was built by one Abraham Van Vleck. Clement found a reference in the 1760 Minutes of the Common Council concerning the lease to Sarah and Eve Van Vleck "of three Lots of ground contiguous and adjoining to the Negroes burying place on part of which said Lots their father built a Potting House, pot oven and sunk a well, supposing at that time that said Lands were his property" (Clement 1946:22).

Clement went on to speculate that this was the property later occupied by John and Clarkson Crolius. However, the kiln could have been built or financed by Van Vleck but have been leased from its inception to Corselius/Crolius/Remmey. As far as is presently known, there is no mention in the records of Van Vleck as a potter.

The Corselius/Crolius/Remmey interconnected families were typical of many immigrants to New York City in the early eighteenth century. They were craftsmen who left their European homes for personal and/or political reasons. Since there was a shortage of skilled craftsmen in the colonies, they found ready employment. It is not known if they were aware of the existence of stoneware clays in the New York metropolitan region or, if they knew of the excellent stoneware beds nearby, how they obtained this information. The specific reasons for their emigration are also unknown, although the general conditions in their Rhenish homeland probably contributed to their decisions. The seventeenth century was a time of religious and political strife in Germany, particularly in the Palatine-Rhineland region. Populations were decimated by the effects of major wars (the Thirty Years War between 1618 and 1648 and the War of the Grand Alliance/War of the League of Augsburg between 1688 and 1697) and by the depredations of sporadic marauders. Many Protestants were forced to emigrate for religious reasons. In the early eighteenth century, during a particularly hard winter, large numbers of Protestants from the Palatine-Rhineland went to England where they had been offered citizenship in return for pledges of fealty to the government. The British, seeking to strengthen their colonial position, sent most of these Germans to their settlements in America and Northern Ireland. Pennsylvania attracted the greatest numbers of Germans, but New York was also a favored destination (Fischer 1989).

The Rhineland was and is an area famous for its vineyards; it is also an area with abundant stoneware clays, accessible either from surface excavations or by sinking vertical shafts with horizontal extensions (Gaimster 1997:32). In addition, it is near to fuel (wood) sources and to water transport (the Rhine) for movement of finished goods and salt.

The production of vessels made from stoneware clays had been perfected in the Rhineland during the last half of the thirteenth century. Numerous stoneware production centers had developed during the late middle ages, with their locations based on proximity to clay sources. Some of the towns that became potting centers had stoneware kilns for several centuries; however, potters, like other people, were affected by the wars that passed over their land and were sometimes forced to relocate after their kilns and houses were destroyed during hostilities.

The manufacture of salt-glazed stoneware in the Rhineland from the fourteenth through the nineteenth centuries was a highly developed craft. The potters were full-time craftsmen working within an apprentice/workman/master system. Formal guilds were incorporated in various towns throughout the Rhineland during the first half of the seventeenth century. Before this time they had existed on a less institutionalized but still legally recognized basis. Production was "organized on a family-unit basis, with the main production centers comprising a number of competing families, each made up of several master-potters with their own kilns" (Gaimster 1997:48). Craft guilds were responsible for establishing standards and for fixing prices: they dictated criteria for manufacturing quality and for vessel capacities; controlled levels of productivity; and managed trading rights. The governing bodies of the guilds were elected from among the ranks of master potters of each town. Craft secrets were guarded by limiting the numbers and sorts of people who could be instructed in the art. For example, in Seigburg, where extensive guild records

survive, it was the rule that only legitimate or adopted sons of master potters were eligible to become apprentices (*ibid.*). European guilds in general were jealous of their craft secrets and sought to control both production and the transmission of learning by their duly authorized artisans. Control of levels of production guaranteed that supply did not exceed demand or depress prices; quality control ensured that products would maintain a high standard.

Even though the guild-controlled craft operated within a household-based system of production, young children and women probably did not participate in the manufacture of stonewares after the start of the sixteenth century, although earlier (fifteenth century) pictorial sources portray the occasional female potter (Gaimster 1997:Figure 2.1). Women who were widows of potters could operate their husband's shop with the assistance of his workmen. If they remarried, ownership of the shop passed to their new spouse. Such practices were customary for European guilds of the time.

Early stoneware vessels were undecorated, but after about 1500, the potters began to use decoration. The potters of each town developed distinctive decorative styles, transmitted from masters to apprentices, so that today pots from different centers can be identified by their motifs and decorative techniques more easily than by their manufacturing techniques. Incised and/or sprigged[4] designs, often colored with blue (cobalt) and purple (magnesium), became common during the sixteenth century. The clays of some regions were not as free of impurities (especially iron) as others; hence vessels made in the Cologne-Frechen area, in particular, were often covered with brown slip to conceal the spotting of the bodies that would appear after firing (Klinge 1996:12).

The forms made by the medieval and post-medieval potters were varied. Stoneware, due to its high state of vitrification, is naturally impervious to liquids and is extremely odor- and stain-resistant. A variety of forms "suited to the transportation, storage, drinking, and decanting of liquids and to preservation, pharmaceutical and sanitary purposes" was developed (Gaimster 1997:117). The forms included jugs, tankards, beakers, pitchers, mugs, drinking bowls, bottles, porringers, ointment pots, and chamber pots.

The highly decorated stonewares of the sixteenth century were second only to imported Chinese porcelains as the most expensive and favored ceramics in western Europe, even though the great majority of vessels remained restricted to drinking and liquid-storage functions (including chamber pots). They were decorative, but their sturdy bodies and strong forms made them suitable for everyday use. However, development of mass production of highly decorated tin-glazed ceramics during the seventeenth century changed the way pottery was used in European countries. Tin-glazed ceramics (also known as delftware, faience, and maiolica) were earthenwares, which were made of common clays and fired at lower temperatures than stonewares. Earthenwares in general were cheaper to make than stonewares because they required less fuel and because the clays were usually easier to obtain. In addition, the tin glaze provided a suitable white background for decorations that could be quickly painted on. The first decorations on tin-glazed vessels were polychrome imitations of Italian and Iberian designs, but, in the second quarter of the seventeenth century, the potters of the Netherlands began to imitate Chinese motifs in cobalt blue on the white backgrounds. Chinese blue-on-white porcelain was both popular and expensive at the time, and the new, relatively cheap, tin-glazed vessels quickly became widespread.

Tin-glazed vessels, in contrast to salt-glazed stonewares, were most commonly made in tablewares (plates, bowls, and dishes), so there was still a niche for stoneware mugs, jugs, and bottles, although the use of glass for drinking vessels was becoming common during the seventeenth century. The introduction of tea and coffee in turn encouraged the use of earthenware cups rather than stoneware mugs since these beverages were commonly consumed from vessels made in shapes copied from oriental porcelain prototypes. Eighteenth-century stoneware potters did produce plates and teawares in limited quantities, but by the end of that century the stoneware had become a utilitarian commodity confined to the kitchen, the bedroom, and tavern.

[4] Sprigging is a technique used to create raised designs. Small molds are made in a variety of motifs (often floral, figural, or coats of arms), then clay is pressed into the molds and removed after a period of drying. The decorative clay pad is then applied to the surface of a shaped and partly dried vessel. Alternatively, a plain pad of clay could be applied to the vessel's surface and a design from a metal or wooden die could be pressed into the pad. This latter method can leave small remnants of clay around the finished motif.

The figures on Table 63 are from domestic deposits in the town of Duisburg, near Cologne in the Rhineland (Gaimster 1997:121). They are based on vessel, not sherd, counts. Gaimster does not give precise definitions of forms, but from illustrations it is possible to see that he uses the term "jug" for round-bodied drinking vessels with relatively narrow necks and mouths; "tankard" for more or less straight-bodied drinking vessels with wide mouths; "beaker" for round-bodied drinking vessels with funnel-shaped necks; and "pitcher" for large, round-bodied and narrow-necked vessels used for storing and decanting liquids. The differences between drinking jugs/mugs and jugs are not clear. Although this is a small sample from one site, it does give some indication of how forms were changing between 1400 and 1800.

Table 63. Stoneware Vessel Forms, Duisburg, Germany (Gaimster 1997)

Forms	1400–1500	1500–1600	1600–1700	1700–1800
Jug	48%	57%	36%	26%
Drinking jug/mug	31%	14%		
Tankard		5%	17%	5%
Beaker	10%	5%	8%	
Drinking bowl	1%			
Costrel	5%	12%		
Pitcher	1%	5%	2%	
Bottle			6%	14%
Chamber pot		2%	13%	5%
Storage jar			6%	24%
Ointment pot			6%	
Porringer/baby feeder etc.*			6%	2%
Tea bowl				7%
Plate				7%
Other	3%			10%

* combined for 1600–1700, porringers only 1700–1800

It should be noted that storage jars were not made until the seventeenth century and did not become common until the eighteenth. The appearance of plates and teawares in the latter century and the disappearance of medieval forms like beakers and costrels are indicative of changes in foodways.

This is the background against which the Crolius and Remmey potters began work in New York City. They had been trained to make stoneware vessels in centuries-old traditions. Their craft was a household-based method of production where masters took and taught apprentices, who were often members of their own families. The pots that they made were intended for common domestic use in homes and taverns for food (primarily liquid) storage and service, hygiene, and other utilitarian functions. New York, with its nearby sources of clay, access to wood, water transport for salt and finished goods, and a growing market for their wares, was a most suitable place for them to establish their workshops and their families.

6.1.3 Technical Information

Stoneware vessels are a ceramic ware type made from clays that are capable of firing to 1200 to 1400 degrees Centigrade without losing their shape (Greer 1981:14–16; Ketchum 1991b:1–2; Klinge 1996:5; Gaimster 1997:32–35). True stoneware vessels are vitrified, hard, and watertight (nonporous and nonabsorbent) without glaze. Stoneware was first made in China during the second millennium before the Common Era; in Europe, stoneware was first developed in the Rhineland during the thirteenth century A.D. Based on chemical analyses of glazes, the first European stonewares were glazed with potash created by the wood fuel used in the kilns. The art of glazing with salt was developed in Germany during the fifteenth century. The transition from mainly potash to mainly salt glazes was apparently a gradual one related to changes in kiln design that occurred between the thirteenth and eighteenth centuries. These changes consisted of decreasing contact between the pots and the flames during firing and of improvements in introducing salt into the kilns (Gaimster 1997:356–357).

The process of making stoneware pots begins with obtaining suitable clay. Stoneware clays are less abundant than common earthenware clays, but the New York/New Jersey metropolitan area had some of the best stoneware (and other types of clay) beds in the country. By the late eighteenth century, the existence and value of vast deposits of stoneware and earthenware clays, which extended in a band across New Jersey from Raritan Bay to the Delaware River, had been discovered and had begun to be exploited. The New Jersey Morgan family owned the land that contained the largest and best-quality deposits of stoneware clay on the East Coast. In the nineteenth century, they supplied clay to potters throughout the Northeast and Midwest. The Morgan clay banks are part of a geological formation that crops out in New Jersey, Staten Island, and Long Island, but the deposits on Morgan land were of high quality and easily accessible. The stoneware clay used by Crolius and Remmey is almost certainly from this geological formation, but we do not know if they bought from Morgan or if they dug their own clay at another location.

The Morgan family first bought land in New Jersey in 1710, but the earliest documented mining and selling of clay was after 1764, although it is certainly possible that records of earlier transactions were not preserved (Racine 1997:5–6). There are very few surviving business records for Crolius and Remmey, and none, as far as is known, mention the acquisition of clay. In the sparse Morgan records, there is no mention of the New York City potters. Thus it is not known, at this time, if Crolius and Remmey bought clay from New Jersey or perhaps obtained it from another source, possibly the easily accessible beds near Huntington, Long Island. Clay was dug on the Commons in New York City, but this was most probably redware clay used for both vessels and bricks (Valentine 1859:238, 240). Nevertheless, sources for stoneware clay are also likely to have existed on Manhattan before it was developed since the pertinent geological formation runs in a band through the island. Section 6.2.2.2 below includes a discussion of preliminary chemical analyses that have been conducted on the African Burial Ground sherd bodies.

The Morgan clay banks were mined from the surface. Generally, top layers of dirt and sand were removed and then clay was taken out by laborers using picks and shovels (Racine 1997:17). It was then loaded into carts and boats for transport to potters. According to Gaimster (1997:33), clay in Germany was commonly dug in the winter and allowed to weather in piles outside the potter's workshop. Weathering makes the clay more workable (Greer 1981:33–37; Gaimster 1997:33). Piles of clay would be exposed to the air and elements after digging and before cleaning. Cleaning was necessary for some clays that contained impurities (such as organic matter, pebbles, and grit), and air pockets were eliminated by adding water to the clay and pouring it through a series of mesh screens or by kneading the mixture in a trough and removing particles by hand. Sand was often added to the clay during this process as a temper. Sand is a non-plastic material that aids in drying and helps to prevent excessive shrinking during firing. The clay was next exposed to the air until sufficient water had evaporated. If the clay was pure enough not to need extensive cleaning, it was mixed with water after weathering. This mixing could be accomplished by manual or pedal force (working with the hands or the feet) or by the use of a pug mill, generally powered by a horse or a mule. In the Rhineland, clays were usually mixed in a trough with hands or feet; in nineteenth-century North America, pug mills were commonly used. Since no pottery-related feature[5] has been definitively identified at the African Burial Ground site, the methods used by the New York City potters cannot be determined at this time.

Proper aging, cleaning, tempering and wedging of clay is essential for successful potting. Wedging removes air pockets from the clay. According to Rhodes, it should be done twice: first after the clay is mixed with temper and water and again just before it is thrown (Rhodes 1959:51–52). For traditional stoneware potters, after the clay had been cleaned, mixed, and wedged it was formed into balls of standard weights for the throwers (Greer 1981:48). The weight of the balls was dependent on the type and size of the vessels to be made. The art of throwing on the wheel with various degrees of skill can be learned, according to Greer, in three or four years (Greer 1981:41). During the period of apprenticeship, the young potter would do the menial labor necessary to prepare the clay and would begin his pot-making by forming handles for attachment to finished vessels. As he progressed through his apprenticeship and his years as a journeyman, he would learn how to throw uniform vessels as quickly as possible. Craft potters would

[5] Possible pottery-related features include a clay-processing feature and remnants of what may be a kiln feature; both are in the NE Area.

usually make a series of the same types of vessels during a work session or over a period of days, which would help to ensure uniformity of form and capacity.

Handles were applied after the vessels had dried to the state where light pressure would not distort their shapes. Handles could be formed by hand or could be manufactured using an extruder, which forced a roll of clay through a template. Extruded handles are more uniform than hand-made ones, although hand-made examples that were shaped with the help of a pre-cut rib can also appear to be quite uniform.

Simple line designs were done while the vessel was still on the wheel or soon thereafter (Greer 1981:137). More-complicated incised designs, stamping, and the application of sprigged motifs would be done when a vessel was partially dried. If the vessel was too wet, it might be distorted as it was decorated; if too dry, the decoration would be shallow or torn or would not adhere to the body. Decoration with colored slips occurred when the pot was somewhat drier. Colored decorations were made with clay slips containing metallic oxides: cobalt for blue, manganese for purple, iron for brown, and, rarely, copper for green (Greer 1981:148). Colors could be applied by brushing or by slip trailing (in which slip is placed in a cup with one or more small openings through which it was allowed to flow onto surfaces), or the vessel could be dipped into a covering slip. The dipping method, as far as was known, was used only with iron-containing slips, probably because the other oxides were much more costly. On German-tradition stonewares, blue and purple slips were frequently used to fill in incised designs.

All aspects of stoneware manufacture required technical skill to be successful. Kiln loading and firing were also arts that needed to be learned during a potter's apprenticeship. The loading of a kiln needed to maximize the number of vessels that could be fired but needed to balance this with the necessity for keeping vessels separated from each other. "As for the right method of filling the kiln, it requires a special geometry" (Palissy, quoted in Rhodes 1968:156). Stacking was a skilled job, and individual characteristics can often be detected in the shapes of the kiln furniture made by the stacker(s) (Azizi 1997). Each kiln setting would be slightly different, depending on the types and sizes of vessels in each firing. From conversations with men who had worked in early-twentieth-century industrial potteries, Schaltenbrand (1996:136) found that the largest forms were usually placed at the outer edge of the setting and near the bottom of the firing chamber. Smaller pieces were placed at the top of the stack, which could be as tall as 8 or 9 feet in the largest kilns. Vessels were separated by kiln props/spacers that kept the vessels from sticking together and that allowed for the circulation of salt vapors. The larger firms employed kiln-loading specialists, who would be assisted by "yard men" and apprentices (Schaltenbrand 1996:137). In smaller firms, the potter was his own stacker.

Proper control of temperature during firing was a crucial aspect of pot making. Faulty loading and firing could result in the loss of an entire kiln-load of pots, representing weeks or even months of work. The New York potters used wood for firing while they were on Pot Baker's Hill. Raising the kiln to the necessary temperatures, knowing at what point to put salt into the kiln, and a slow lowering of the temperature were all important skills learned from experience. Firing took place over several days since the kiln's temperature had to be raised slowly, maximum heat had to be maintained for a sufficient time, and cooling had to be slow. After the fires were allowed to go out, it would take two or three days for the vessels in a large kiln to cool to the point where they could be unloaded. The kiln man controlled all of these processes. The weather would also be a factor during firing since winds, temperature, and relative humidity would affect the kiln.

Late-nineteenth-century kiln men would often use draw trials, which were pulled out of the kiln at various times during the firing in order to judge the progress of the salt glazing (Greer 1981:224; Schaltenbrand 1996:138). No kiln furniture that could be identified as a draw trial has been found at the African Burial Ground or at the Sayreville (Louis Berger & Associates:1990) or Morgan-Van Winkle (Louis Berger & Associates:1995) waster sites. However, at the Morgan pottery site, one partial vessel was identified as a test vessel. Test vessels, according to the authors of this report, were vessels that were damaged before firing but were included in the kiln to track the progress of the firing (Liebeknecht et al. 1998:3-2). The Morgan vessel was a jar that had lost its handle prior to firing and had been cut down using a knife and wire. It is likely that similar vessels were part of the African Burial Ground assemblage but were not identified during analysis. It is also possible that eighteenth-century stoneware potters used additional means for deciding when to start lowering kiln temperatures. According to Schaltenbrand (1996:138), one experienced

kiln man "swore that he could determine, from the color of the vapors that escaped through the chimney, exactly when a kiln was finished." The color of the inside of the kiln, as seen through a spy hole, would be an indication of the temperature of the kiln (Rhodes 1968:173). Thus, as with other aspects of pot making, experience and empirical learning were probably important factors for knowing how to successfully fire a kiln.

Recently, an old salt-glaze kiln was fired in the Rhineland using traditional methods. The potters—students and teachers at the Institute for Artistic Ceramics in Hohr-Grenzhausen—used seasoned beech wood as fuel and the kiln "proved itself a sensitive instrument, responding to every log of wood. There was no smoke and during the salting a tall thermal took the gases up 150m high" (Bunsmann [1998]). The students and teachers were advised by an elderly kiln master who had worked in one of the last surviving wood-fired potteries in the Rhineland.

The frequency of firings depended on the size of the kiln and the number of potters working in a shop. Bunsmann suggested that the largest kilns in the Rhineland were fired twice a year. During the late sixteenth century, potters in Seigburg fired their kilns on an average of three or four times a year (Gaimster 1997:49). American traditional potters, with their smaller kilns, fired from one to three times a month, according to Greer (1981:226). Schaltenbrand (1996:135) noted that "weeks and sometimes months" of work went into each kiln firing in the large industrial kilns in southwestern Pennsylvania. The size and type of kiln(s) used by the Crolius and Remmey potters is not known, thus we cannot speculate about the frequency of their firings.

6.2 Description of the Collection

6.2.1 Kiln Furniture

Kiln furniture is "the various clay forms used in loading kilns to assure the proper position of the pots" (Greer 1981:217). Made from the same clay as that used for vessels with additional sand and/or grog added, they are used to balance, separate, and sometimes protect vessels. There are two types of kiln furniture: standardized forms pre-made by the potter before the kiln is loaded and expedient forms made during the loading of the kiln to suit individual stacking needs. The shapes of some expedient forms mimic those of pre-made forms. Pre-made forms can be reused until they break or became excessively covered with glaze, but expedient forms are discarded along with unusable pots as the kiln is unloaded. Scars where kiln furniture rested against vessels appear as unglazed or lightly glazed areas on vessel rims, bases, and occasionally on the widest parts of bodies.

For traditional stoneware potters, the pre-made pieces were either formed on the wheel or were cut from flat pieces of clay. They were frequently dipped in sand after forming to give them a surface that would be less likely to stick to vessels during firing. The wheel-made forms used by stoneware potters were *saggers* and *jug saggers/stackers*. Saggers are enclosed vessels whose purpose is to aid in stacking and to protect vessels from direct contact with flames and hot gases from the fire (Rhodes 1968:157). Since the glaze in a salt-glaze firing comes from the hot gases, saggers used in stoneware kilns needed to have openings cut out in their bodies in order to allow the vapors to reach the vessels' surfaces. However, nineteenth-century American stoneware potters did not commonly use saggers, nor were they used in German kilns (Greer 1981:218). Saggers were used by British potters who made brown-slipped stonewares (Oswald et al. 1982:17) and by North American stoneware potters working in the British tradition (Barka 1973; Giannini 1981). Recent excavations at the site of a c. 1774–1787 salt-glazed stoneware kiln in Trenton, New Jersey, uncovered a kiln base with at least three saggers stuck to the floor of the kiln. They were apparently used to fire mugs, as remnants of these vessels were found attached to their interiors (Hunter 2000). The identity of the potter who worked at this kiln is not known, but the owner was William Richards, a Philadelphia merchant. The lack of saggers at New York and other New Jersey sites might be due to the greater influence of the German tradition in these areas.

Jug stackers (this name is preferable to jug saggers since they do not enclose the entire vessel) were wheel-made furniture used to aid in stacking. The jug stacker would be placed atop a jug to provide a small

platform on which another jug could be placed. They were "a short, truncated cylinder in which one large section has been cut out of one side and usually one or two smaller holes or notches cut in the remaining sides" (Greer 1981:218). The holes were to accommodate the jug handle and to allow for the circulation of salt vapor to the exterior of the jug top (Greer 1981:221).

The other types of pre-made kiln furniture were made from rolled-out or patted-out flat pieces of clay (Figures 31 and 32). Their function was to provide balance in stacking and to keep the vessels from sticking to the kiln or to each other. The shapes of these pieces varied from potter to potter, as can be seen by examining the illustrations in Greer and Schaltenbrand and in reports of kiln excavations (Louis Berger & Associates 1990 and 1997; Hunter et al. 1996; Liebeknecht et al. 1998).

Expedient forms are much more varied than pre-made ones (Figures 33 and 34). The expedient forms that have the same basic shape as the pre-made ones (rectangles and crescents) were probably made at the time of loading the kiln because the potters had not prepared sufficient quantities of the standardized forms. The other expedient forms can be grouped into broad categories (wedges, spools, thumb pads, rolls, and eccentric shapes), but since they were made to suit unique situations, they are not very standardized. Nevertheless, individual potter's styles can also be discerned in the expedient forms when illustrations or the artifacts themselves are compared.

In the African Burial Ground collection, various forms of kiln furniture and debris were found (Table 64). The *miscellaneous kiln furniture* consisted of small sherds whose forms could not be determined. The *miscellaneous kiln debris* category included all sorts of unidentifiable materials, usually small pieces of glaze clumps, vessels, and kiln furniture, frequently fused together and broken into fragments. The pieces of *miscellaneous fired clay* might have been remnants of the clay used to seal the kiln's portals or might have been small fragments of badly fired vessels that were too small for identification. *Glaze clumps* were residues of salt glaze that had settled on the surfaces of the kiln or on vessels at the bottom of stacks. The other categories are the actual kiln furniture.

Table 64. Kiln Furniture and Kiln Debris

Code	Kiln Furniture/ Kiln Debris	Number of Sherds	Percent
I01	Kiln pad - rectangular, preformed	482	1.9
I02	Kiln pad - rectangular, preformed w/ waist	622	2.4
I03	Kiln pad - tri-lobed, flat, preformed	1,148	4.4
I04	Kiln pad - rectangular, expedient	11	<.1
I05	Kiln pad - crescent, preformed	1,358	5.2
I06	Kiln pad - crescent, expedient	1,633	6.3
I67	Jug stacker	275	1.1
I20	Spool	300	1.2
I21	Roll	1,511	5.8
I22	Wedge	305	1.2
I24	Eccentric shape	617	2.4
I25	Thumb pad	7	<.1
I50	Miscellaneous flat pad, shape indeterminate	1,474	5.7
I51	Miscellaneous kiln furniture	3,701	14.3
I52	Miscellaneous kiln debris	12,135	46.9
I53	Miscellaneous fired clay	227	0.9
I54	Glaze clumps	84	0.3
	Total	25,890	

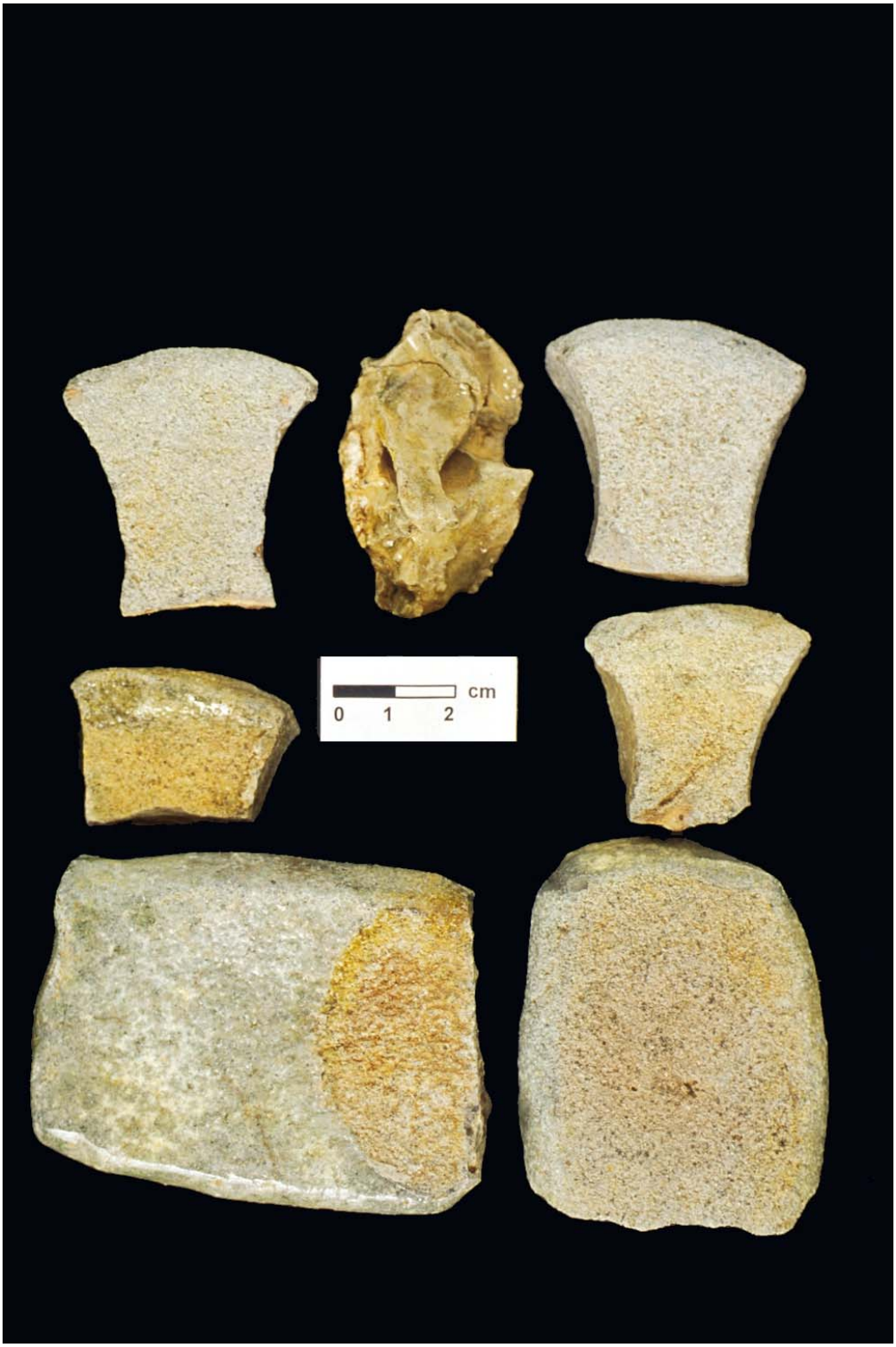

Figure 31. Top left and right, and center row: tri-lobed pads; top, center: miscellaneous kiln debris; bottom: rectangular kiln pads (note scar of vessel).

Figure 32. Pre-made kiln furniture: crescents, rectangular with waist; center of tri-lobed form, lower left corner.

Figure 33. Left: expedient kiln prop with finger marks; center: kiln pads and spool; right: kiln brick.

Figure 34. Expedient kiln furniture: spool.

6.2.1.1 Preformed Forms

At this site, three shapes of kiln furniture—*rectangles, crescents*, and a *tri-lobed* form—were the common preforms used between vessels in stacks (see Figure 31). They would be placed over the mouth of one vessel to provide a platform on which to place the base of the next vessel. The number of rectangles and crescents that would be used between individual vessels would depend on the vessel diameters. Variations of rectangles and crescents have been found at many other kiln sites (Greer 1981; Schaltenbrand 1996). The tri-lobed form is not common on other kiln sites reported in the literature, but many such pieces, both preformed and expedient, were found at the Morgan kiln sites in New Jersey; they were called "trivets" in the reports of these excavations (Hunter et al. 1996; Liebeknecht et al. 1998). No complete sample was found at the African Burial Ground, but it was possible to reconstruct the shape from sherds: these pieces were shaped with three wide arms radiating from a central area. The bodies were relatively thin and, judging from the number of fragments found, were rather easily broken. The advantage that they had over the rectangles and crescents was that one piece could be used instead of several, which would have increased stability. They were probably made by rolling out a flat disc and cutting out sections, probably with the aid of a template. The edges of the arms are very smooth and appear to have been cut while the clay was partially dry. Solid discs would not have been suitable for stoneware firings since they would limit the access of salt glaze to the interiors of the vessels. In Table 32, the preformed shapes are Codes I01–I06 and I67 (see Figures 31 and 32).

6.2.1.2 Expedient Forms

Since shelves were not generally used in traditional stoneware kilns, other types of supporting furniture were needed to balance the vessels on their rectangular, crescent-shaped, or tri-lobed platforms and to keep the vessel stacks separated from each other. These expedient forms were made to suit individual conditions and were thus made at the time of the loading of the kiln. These "coils, spools, separators and patties" were made of scrap clay mixed with sand and were generally dipped in sand to reduce adherence (Greer 1981:218). They were formed by hand; thus, impressions of kiln loaders' fingers and palms are common. As already noted, they were not reused since they were made to accommodate unique, immediate needs.

In this assemblage, some shapes of kiln furniture—in particular *rectangles* and *crescents*—are found in both preformed and expedient varieties. The analysts separated the varieties on the basis of uniformity of thickness within each piece and by the presence/absence of finger marks. In addition, the preformed rectangles and crescents were generally thicker than the expedient varieties. Expedient tri-lobed forms were found at the New Jersey Morgan sites (Hunter et al. 1996; Liebeknecht et al. 1998), but none was identified in this assemblage.

Spools or *spacers* were made to fit between the upright stacks to balance them (Greer 1981:221). They were longer or shorter rolls of clay flattened at both ends (see Figure 33). *Rolls* were simply thin rolls of clay placed around or between vessels. *Wedges* were thick, short rolls that were bent in the middle where they were forced in between vessels. *Thumb pads* were small pieces of clay squeezed between the fingers, usually to fit between vessels and other kiln furniture. The thumb pads, wedges, and long rolls were the most likely to show fingerprints. *Eccentric shapes* did not fit into any of the standard categories.

6.2.1.3 Other Kiln Furniture

The category of *miscellaneous flat pad, shape indeterminate* was used for small fragments of kiln pads—either crescent, rectangular, or tri-armed—that were too small to determine precise shape or to tell if the piece was preformed or expedient. As noted above, *miscellaneous kiln furniture* was used for small fragments of all of the above shapes.

Some pieces of kiln furniture were relatively complete, in particular the smaller, chunkier, expedient types, and some rectangular pads and a few crescents (Table 65). (Most of the "percentage unknown" group on Table 65 was composed of the miscellaneous kiln fragments and debris.)

Table 65. Relative Completeness of Kiln Furniture

Percentage Complete	Number of Sherds	Percent
Less than 10%	993	3.8
10% - 25%	1,977	7.6
26% - 50%	3,249	12.5
51% - 75%	431	1.7
76% - 99%	488	1.9
100% (mended)	48	0.2
Whole (intact)	1,804	7.0
Percentage unknown	16,900	65.3
Total	25,890	

6.2.2 Vessels

6.2.2.1 Forms

As noted above, the stonewares that were made by German post-medieval potters were varied in form, although most were designed for the storage, transport, and consumption of liquids (see Table 63). The forms that were identified at the African Burial Ground included many of the same types as were found in Germany. Tables 66 and 67 illustrate the forms identified in this collection. Appendix D is a vessel list that includes those sherds that were either complete enough or interesting enough to warrant a narrative description.

Definition of forms follows Greer (1981:55–136). Greer based her terminology on extensive research, both in documents and in conversations with traditional potters; in addition, her terms are compatible with two early-nineteenth-century price lists published by Clarkson Crolius. (One, from 1804, is in the possession of the Museum of the City of New York. The other, from 1809, is in the collections of the American Antiquarian Society, and was reproduced in Meyers 1984:55.) Most of the terms used here are straightforward, but the term "jar" can be problematic. Greer uses "jar" for all hollowware vessels with open mouths that were used to store various commodities. She distinguishes among "wide-mouthed jars," whose mouth openings are as large or larger than their bases; "small-mouthed jars," with mouth openings smaller than the mid-point of the vessel and generally smaller than the base; and "small-mouthed preserve jars," that have collars and even more constricted mouths (Greer 1981:83, 87, 91). Nineteenth-century stoneware potters sometimes called all of these forms "pots" (see, for example, the Bennington price list on page 59 in Greer) while modern collectors often refer to them as crocks, a term very seldom seen in early potters' price lists. Clarkson Crolius seems to have made a distinction between "pots" and "jars." Both his 1804 and 1809 lists have prices for "jugs, jars, and pots" of various sizes, but the 1809 list includes illustrations of these forms: "pots," as illustrated, are identical to Greer's "wide-mouthed jars;" "jars" include the "small-mouthed" and "preserve" jar forms of Greer's terminology.

Table 66. Forms – All Sherds

Code	Form	Number of Sherds	Percent
G01	General rim	20	0.14
G02	General lid	20	0.14
G03	General body	1,689	12.18
G04	General finial	1	0.01
G05	General base	2	0.01
G20	Flatware rim	11	0.08
G22	Flatware body	7	0.05
G23	Flatware body/base	3	0.02
G24	Flatware base	8	0.06
G30	General hollowware rim	114	0.82
G31	General hollowware rim & body	7	0.05
G32	General hollowware body	7,732	55.77
G33	General hollowware body & handle	3	0.02
G34	General hollowware handle	35	0.25
G35	General hollowware body & base	52	0.38
G36	General hollowware base	205	1.48
G38	General hollowware	2	0.01
G39	General hollowware lid	1	0.01
G40C	Hollowware rim, large	31	0.22
G42C	Hollowware body, large	186	1.34
G43C	Hollowware body/handle, large	6	0.04
G44C	Hollowware handle, large	46	0.33
G45	Hollowware base, body & shoulder, large	2	0.01
G45C	Hollowware body/base, large	31	0.22
G46C	Hollowware base, large	35	0.25
G50C	Hollowware rim, medium	66	0.48
G51C	Hollowware rim/body, medium	16	0.12
G52C	Hollowware body, medium	530	3.82
G53C	Hollowware body/handle, medium	6	0.04
G54C	Hollowware handle, medium	222	1.60
G55C	Hollowware body/base, medium	100	0.72
G56C	Hollowware base, medium	43	0.31
G60C	Hollowware rim, small	116	0.84
G61C	Hollowware rim/body, small	17	0.12
G62	Hollowware body, small	6	0.04
G62C	Hollowware body, small	436	3.14
G63C	Hollowware body/handle, small	8	0.06
G64C	Hollowware handle, small	49	0.35
G65C	Hollowware body/base, small	83	0.60
G66C	Hollowware base, small	102	0.74
G99	Unidentified	34	0.25
H01	Chamber pot, general (9"–10" diameter)	83	0.60
H03	Chamber pot, small (< 9" diameter)	13	0.09
H04	Chamber pot (unknown measurements)	5	0.04
O01	General jar	12	0.09
O05C	Wide-mouth jar w/ straight sides	1	0.01

Code	Form	Number of Sherds	Percent
O06	Wide-mouth jar w/ curved sides	39	0.28
O10	Small-mouth jar w/ straight sides	9	0.06
O11	Small-mouth jar w/ curved sides	264	1.90
O12	Jar w/ unknown mouth/sides	11	0.08
O30C	Jug/jar	123	0.89
O35	Jug	510	3.68
O50	Jug/bottle	30	0.22
O99	Miscellaneous food storage, other	2	0.01
P65	Pipkin	10	0.07
P80	Deep dish/pan	3	0.02
S26	Dish, round (8"– < 10")	8	0.06
S27	Dish, round (6”– < 8")	3	0.02
S28	Dish, round (< 6")	8	0.06
S29	Dish, round (unknown measurements)	13	0.09
S41C	Deep dish (> 1.5" deep, 10"–12" diameter)	9	0.06
S43	Deep dish (> 1.5" deep, 6"– < 8" diameter)	9	0.06
S46	Dish, deep (unknown measurements)	5	0.04
S55	Deep bowl (> 2" deep, 6"– < 8" diameter)	1	0.01
S62	Bowl (6"– < 8" diameter)	2	0.01
S63	Bowl (< 6" diameter)	10	0.07
S65	Bowl (unknown diameter and depth)	14	0.10
S87	Pitcher	11	0.08
E01	Teacup	1	0.01
E53	Saucer	1	0.01
E60	Teapot spout	2	0.01
T10	Plate w/ unknown measurements	19	0.14
T30	General porringer	47	0.34
T32C	Porringer, slant-sided (general)	3	0.02
T33C	Porringer, slant-sided (one handle)	42	0.30
T35C	Porringer, curved-sided (general)	72	0.52
T36C	Porringer, curved-sided (one handle)	106	0.76
T39	Mug, round-bodied w/cylindrical neck	5	0.04
T40	Tankard, straight-sided	195	1.41
T43	Tankard/mug	78	0.56
T98	Miscellaneous tableware, object unknown (flatware)	3	0.02
	Total	13,865	

During the analysis (as well as in Table 66 and in the general site artifact catalog [Volume III]) “small hollowwares” was used for sherds that came from vessels in the size range of mugs, small tankards, porringers, or small jars and jugs; “medium hollowwares” were from jugs and jars of moderate size, large mugs or tankards, or chamber pots; “large hollowwares” were most probably from large jars and jugs.

It is not surprising that the great majority of the sherds (12,083, 87 percent) could not be assigned a vessel form beyond the level of general body shape, part, and size. Kiln-waster sites, as noted in the introduction to this section, generally contain broken vessels that have been transported, dumped, and disturbed. The rest of this discussion will be confined to the identifiable forms (Table 67), after noting that only 32 of the unidentifiable forms (“flatware” and “miscellaneous tableware”) were recognizable as flatwares. This emphasis on the production of hollowwares is consistent with what is known of the forms produced by stoneware potters.

Table 67. Forms – Identifiable Only

Form	Number of Sherds	Percent
General jar	23	
Wide-mouth jar w/ straight sides	1	
Wide-mouth jar w/ curved sides	39	
Small-mouth jar w/ straight sides	9	
Small-mouth jar w/ curved sides	264	
Total jars	336	18.7
Total jug	510	28.3
Total jug/jar	123	6.8
Total jug/bottle	30	1.7
Total deep dish/pan	3	0.2
Dish, round (8"–10")	8	
Dish, round (6"–8")	3	
Dish, round (< 6")	8	
Dish, round (unknown measurements)	13	
Deep dish (> 1.5" deep, 10"–12" diameter)	9	
Deep dish (> 1.5" deep, 6"– < 8" diameter)	9	
Dish, deep (unknown measurements)	5	
Total dishes	64	3.6
Deep bowl (> 2" deep, 6"–8" diameter)	1	
Bowl (6"–8" diameter)	2	
Bowl (< 6" diameter)	10	
Bowl (unknown diameter and depth)	14	
Total bowls	27	1.5
Total pipkin	10	0.6
Total pitcher	11	0.6
Total teawares	4	0.2
Total plates and other tablewares	33	1.8
General porringer	47	
Porringer, slant-sided (general)	3	
Porringer, slant-sided (one handle)	42	
Porringer, curved-sided (general)	72	
Porringer, curved-sided (one handled)	106	
Total porringers	270	15.0
Mug, round-bodied w/ cylindrical neck	5	
Tankard, straight-sided	195	
Tankard/mug	78	
Total drinking vessels	278	15.4
Total chamber pot	101	5.6
All identifiable forms	1,800	

The main function of all shapes of jars was food storage. Jars could be used for the storage of dry goods, but were most commonly used for moist foods, such as butter, apple butter and other preserved fruits, or for salting and pickling vegetables and meat. Before refrigeration, salting and/or smoking were the most common way to preserve meat and fish. Stoneware jars were well suited to this function because they were durable, watertight, and resistant to salt solutions.

Small jars were often made without handles, but medium- and large-sized vessels generally had two handles on opposite sides of their bodies. The most common handles were loops or lugs attached horizontally. From museum collections (Figure 35), it can be seen that eighteenth- and early-nineteenth-century vessels had lug handles that were attached to the bodies only at their ends; later ones were more likely to be attached along the length of the handle. All of the loop handles identified at this site were attached only at their ends.

Some small preserve jars were sealed with corks, but most jars were designed to have lids or, especially before the mid-nineteenth century, were sealed with cloth, leather, or parchment tied down over the mouth and anchored under the rim. Stoneware lids are rare on kiln waster sites and it is likely that tie-down coverings were the norm, although jars could have been covered with wooden or metal lids or with dishes made of pottery or pewter. (Weighted ceramic plates were apparently in common use with wide-mouthed jars containing pickling solutions to keep their contents under the level of the brine). The increase in the manufacture of stoneware lids after the middle of the nineteenth century coincided with the standardization of vessel mouth diameters that was the result of regular use of jiggers in industrial potteries. Only 21 sherds from lids were identified at the African Burial Ground (see Table 66).

Jugs were the most numerous identified forms at the site (Figure 36). Jugs are designed for the storage of liquids and have necks with small, constricted mouths that can be sealed with a cork or plug of wood or even cloth. They commonly have a single strap handle attached vertically. Jugs and jars are generally similar in their lower body forms, but sherds from jugs can be identified by their shape if part of the upper body, especially since the New York potters made their jugs with a sharp interior angle where the body turns inward at the shoulder. In addition, jug sherds frequently have very light or no salt glaze on their interiors since their necks were not only restricted but also were usually encased in jug stackers during firing. However, this was not used as a diagnostic trait during analysis since other sherds had light salt glaze from improper firing. The category "jug/jar" was used mainly for base sherds that were obviously from one of these forms; the lack of upper sections precluded further identification.

In extant museum and private collections, jars are generally better represented than jugs, but Greer (1981:75) notes that jugs were probably the most frequently made stoneware form. Perhaps there is differential preservation of jars versus jugs or perhaps jugs became more common in the later nineteenth- and twentieth-century collections with which Greer was familiar, although jug sherds, as already noted, were more common in this assemblage.

Bottles are similar to jugs, but they are generally smaller (holding a quart or less) and have no handles (Greer 1981:79). Nineteenth-century stoneware bottles for beverages often mimicked the long-necked shape of glass bottles, but earlier ones had shorter necks on bulbous bodies. No sherds were unequivocally identified as bottles in this collection, but 30 appeared to come from vessels that could have been either small jugs or bottles.

The tablewares in this collection included dishes, plates, bowls, porringers, pitchers, mugs, and tankards. Dishes are vessels for serving and possibly for cooking and preparing food (Figure 37). In this collection, they were defined as straight-sided, deep vessels with a flat rim (Figures 38 and 39). These vessels might have been defined as small pans, but their flat rims necessitated the use of a different term. They are similar in form and decoration to the plates in this collection but they are deeper and usually wider. Bowls, as defined here, are curved-sided vessels with straight rims. The identified bowls were relatively shallow (Figure 40). Porringers are also curved-sided but are deeper than the bowls and had one or two handles (Figures 41 and 42). Pitchers have bulbous bodies, wide mouths, and pouring lips. A distinction was made between mugs (round-bodied) and tankards (straight-sided) because these two forms have different names in German stoneware catalogues: *kruik* or *kan* for mugs and *bierpul* or *beker* for tankards, although the terms are not used consistently by all writers, even within individual publications (Hurst et al. 1986, Klinge 1996, Naumann 1980, Reineking-Von Bock 1981).

Figure 35. Jar made by Clarkson Crolius (courtesy of the Museum of the City of New York).

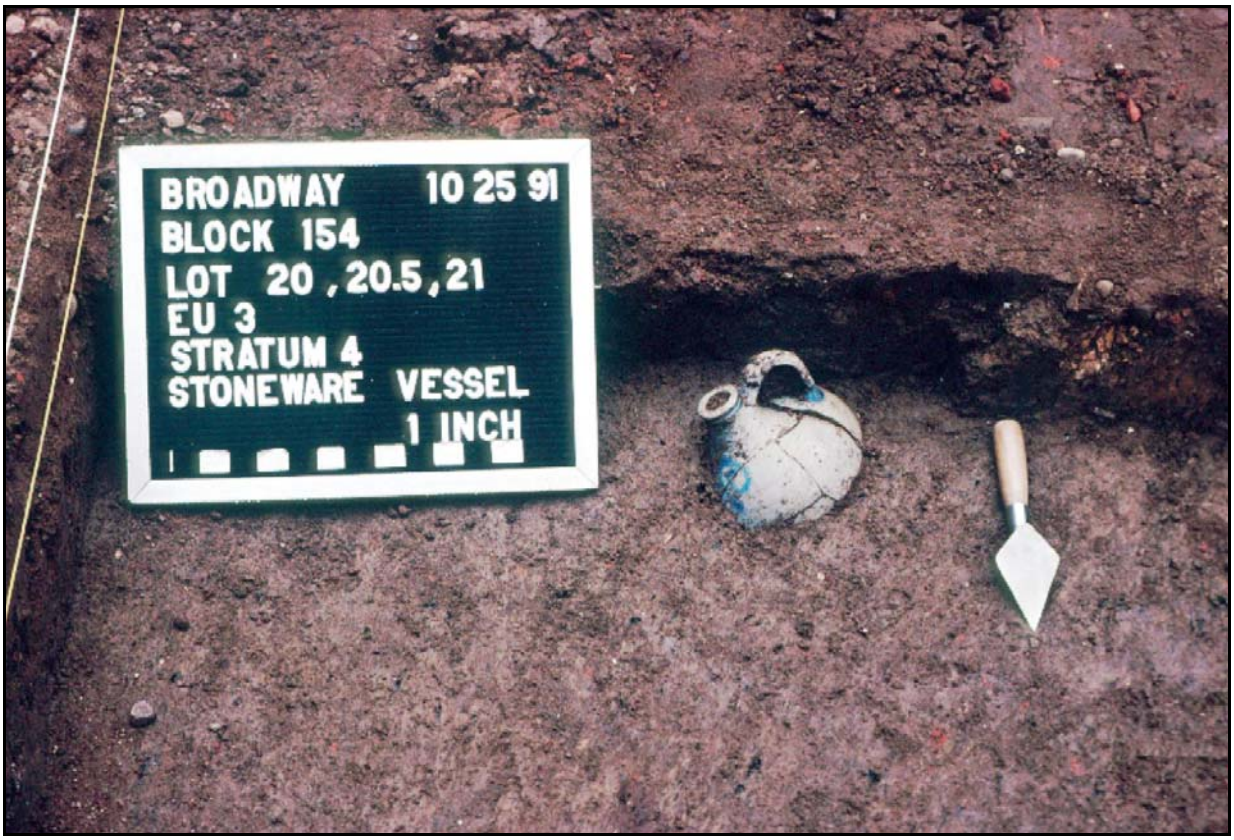

Figure 36. Jug in situ *during excavation. Northeast Area, EU3, view to south.*

Figure 37. Modern stoneware dish by Le Creuset (called a pie dish in sales literature). The sides of the modern vessel are slightly more rounded than the archaeological vessels.

Figure 38. Decorated and plain dishes, Lot 12, AU51, cat. no. 296.

Figure 39. Dish with blue decorated rim, SE Area, AU138, cat. no. 1582.

Figure 40. Small shallow bowl, NE Area, AU520, cat. no. 551.

Figure 41. Round-sided porringer, SE Area, AU144, cat. no. 1690.

Figure 42. Straight-sided porringer, SE Area, AU168, cat. no. 1687.

Stoneware pitchers, mugs, and tankards are known from museum and private collections and from excavated assemblages. However, the other tableware forms—plates, dishes, bowls, and porringers—are not common in excavated or curated collections. During the analysis, the archaeologists speculated that Crolius and Remmey were making forms (plates, dishes, bowls, and teawares) that copied those made by English potters in white salt-glazed stoneware in an effort to take advantage of the market for these forms. That is, they were making non-traditional gray stoneware forms as an innovative marketing tool.

There is some support for this interpretation in data from Germany. Klinge (1996:50) says:

> Whereas crockery for everyday use, in the form of bowls and dishes [*nappen en schalen*], was already being produced at Raeren in the 16th century, no plates seem to have been made in the Westerwald before the 18th century. Those that have been preserved are largely highly decorated and one may probably assume that they were intended not for use, but for decoration.

Gaimster (1997:55), however, notes that, during the first half of the eighteenth century, Westerwald potters introduced "a new range of products for table use," including teawares (teapots and cups), salts, plates, and terrines, along with "miscellaneous household utensils such as writing sets" because of competition from tin-glazed earthenwares and later from white salt-glazed stonewares. However, from the mid-eighteenth century on, competition from "industrial fineware ceramics" (i.e., creamware and its successors) forced the Westerwald potters to specialize in utilitarian forms for the "tavern, kitchen and cellar (beer tankards, storage jars, and large jugs…)" (Gaimster 1997:252).

It appears that the New York potters were following a course similar to that of their fellow craftsmen in their homeland: a greater variety of products made in the mid-eighteenth century followed by specialization in utilitarian vessels in the late eighteenth and into the nineteenth century. What is unknown at the present time is if the New York potters were making a wide variety of forms during their first years of production as part of their standard Germanic-tradition repertoire of forms, or if they began to diversify only when English white salt-glazed table- and teawares came into the American market after 1740. Eighteenth-century archeological collections are scarce in New York City, so this question awaits further data through both archeological and documentary research. For example, in the Delaplain papers at the New York Historical Society, there is an account of dealings with William Crolius. Between May 1756 and November 1757, Joshua Delaplain purchased a half-dozen quart mugs, a pot of one gallon, a jug of one gallon, a half-dozen chamber pots, another half-dozen quart mugs, three quart pots, three plates, a half-dozen of an illegible item, and another chamber pot, along with two separate "parcells of stoneware" (Delaplain 1756; brought to the notice of the authors by Diane Dallal of the South Street Seaport Museum).

Plates, dishes, and teawares were probably made in imitation of fine white salt-glazed vessels. Porringers, however, were not commonly made in white stoneware (Mountford 1971). Archeologists expect to find porringers made of red earthenwares with lead glazes (often black, sometimes with brown glaze with darker splotches and/or swirled slip decorations) on eighteenth-century sites, but stoneware porringers are practically unknown. This is probably due in part to archeologists' expectations: sherds from stoneware porringers might be misidentified as other forms (probably small jars) because such vessels are not expected. Nevertheless, it would be hard to misidentify a partially or wholly reconstructable vessel (see Figures 41 and 42). Now that stoneware porringers are known to have been made in New York, they will probably be identified. For instance, recent excavations in landfill contexts at Whitehall Street uncovered a porringer sherd from an eighteenth-century context (Louis Berger & Associates 2000).

Porringers were made in the Rhineland (see Table 63), but, again, it cannot be determined at the present time whether the stoneware porringers were made as a traditional form or were made in imitation of locally produced earthenware vessels. Porringers comprise a relatively large amount (15 percent) of the African Burial Ground collection, and several are almost whole. Most of the porringers are undecorated, although a few sherds have simple brushed-on blue designs.

Only five sherds were identified as coming from mugs, although some of the 78 sherds grouped under "mug/tankard" might have been the straight rims of round-bodied mugs. The tankards (Figure 43) were

Figure 43. Tankard with cordons filled in with blue, SE Area, left to right: AU139, cat. no. 1579; AU144, cat. no. 1820; AU139, cat. no. 1553.

virtually identical in form to German-made ones found on North American sites. As a group, the drinking vessels comprised 15.4 percent of the collection. Drinking vessels, in particular tankards, have always been considered as one of the primary products of eighteenth-century stoneware potters.

The scarce teawares (a teapot spout, a cup sherd, and a saucer sherd) are significant not for their numbers but for their mere presence. They are evidence that the potters were attempting to make these popular vessels. As far as can be determined from the shapes of the vessel sherds, they were made in direct imitation of white salt-glazed forms, which in turn copied Chinese forms. The spout in particular, which was made in a two-piece mold, is very similar to that of English forms.

The inkwell is a form known to have been made by the New York potters, but was not identified in this collection. Plain inkwells (simple short cylinders with one or more small openings for the insertion of pens or quills around a central hole for filling) with the post-1800 mark of Clarkson Crolius are known. Elaborate inkstands made up of separate containers for sand and ink and set into decorated stands were also made by the Crolius family (for example, the heart-shaped 1773 stand by William Crolius that is illustrated in Greer 1981:19).

The relative abundance of porringers and the absence of inkwells might be the result of sampling error during excavation. It might also be because the collected assemblage represents the debris from a small number of kiln firings in which particular forms were either an unusually large or only a small part of the wares.

6.2.2.2 Shapes

Rim shapes were defined using the illustrated rims in Greer (1981:63, 65). The terms used in Table 68 are identical with Greer's with two additions: code no. 63 "bulbous" and no. 76 "bulbous indented."

Table 68. Rim Shapes

Rim Shape	Number of Sherds	Percent
Plain, rounded *	219	30.76
Rolled rim, full	10	1.40
Canted	10	1.40
Flat	67	9.41
Plain edge, everted **	208	29.21
Thin tapered roll, flat	13	1.83
Flattened roll	18	2.53
Indented banded	22	3.09
Cavetto band	2	0.28
Ogee curve	4	0.56
Bulbous	22	3.09
Bulbous indented	16	2.25
Roll everted rim on Bowls	12	1.69
Jug, plain rim	4	0.56
Jug, bellarmine type	47	6.60
Jug or mug, reeded Neck	12	1.69
Jug, simple roll	21	2.95
Jug, wide collar	2	0.28
Jug, flattened collar	3	0.42
Total	712	

* This category includes sherds of mugs, some jugs, and some jars with tall collars
** This category includes sherds of some jars with tall collars

From observations during analysis, at least some of these rims were formed using a template rather than simply by hand, but these observations were not quantified. Table 69 shows that a variety of rim shapes

were used for the same vessel form. This variety could be the result of several factors, among which are the following: (1) the African Burial Ground collection is composed of the products of several different potters, each of whom preferred to form rims in his own way (these potters could have been working at the same time or the collection could represent an accumulation over time when different workers were active; given the known numbers of potters in the Crolius/Remmey families, the former is more probable); or (2) the rim forms were actually less varied then the current analysis indicates because the fragmentary nature of the assemblage precluded identification of subtle differences in vessel form.

Table 69. Vessel Forms and Rim Shapes (rim sherds only)

Form	Sherds	Code	Rim Shape
Miscellaneous hollowware rim, large	4	51C	Rimless or plain rounded
Miscellaneous hollowware rim, large	8	54C	Flat rim
Miscellaneous hollowware rim, large	2	56C	Plain edge everted
Miscellaneous hollowware rim, large	1	59C	Flattened roll
Miscellaneous hollowware rim, large	2	63C	Bulbous
Miscellaneous hollowware rim, large	4	76C	Jar, bulbous indented
Miscellaneous hollowware rim/handle, large	1	51C	Rimless or plain rounded
Miscellaneous hollowware rim, medium	10	51C	Rimless or plain rounded
Miscellaneous hollowware rim, medium	5	54C	Flat rim
Miscellaneous hollowware rim, medium	12	56C	Plain edge everted
Miscellaneous hollowware rim, medium	2	57C	Thin tapered roll, flat rim
Miscellaneous hollowware rim, medium	2	59C	Flattened roll
Miscellaneous hollowware rim, medium	1	60C	Indented banded rim
Miscellaneous hollowware rim, medium	3	63C	Bulbous
Miscellaneous hollowware rim, medium	1	53C	Canted rim
Miscellaneous hollowware rim, medium	8	76C	Jar, bulbous indented
Miscellaneous hollowware rim, medium	2	021	Flat everted rim
Miscellaneous hollowware rim/handle, medium	1	51C	Rimless or plain rounded
Miscellaneous hollowware rim/handle, medium	1	76C	Bulbous indented
Miscellaneous hollowware rim, small	1	021	Flat everted rim
Miscellaneous hollowware rim, small	37	51C	Rimless or plain rounded
Miscellaneous hollowware rim, small	6	52C	Rolled rim, full
Miscellaneous hollowware rim, small	1	54C	Flat rim
Miscellaneous hollowware rim, small	20	56C	Plain edge everted
Miscellaneous hollowware rim, small	1	57C	Thin tapered roll, flat rim
Miscellaneous hollowware rim, small	3	59C	Flattened roll
Miscellaneous hollowware rim, small	1	63C	Bulbous
Miscellaneous hollowware rim, small	7	65C	Rolled everted on bowl
Miscellaneous hollowware rim, small	1	66C	Jug, rimless
Miscellaneous hollowware rim, small	1	73C	Jug, wide band/collar
Miscellaneous hollowware rim, small	1	76C	Jar, bulbous indented
Small hollowware, body/handle, small	1	56C	Plain edge everted
Chamber pot	23	54C	Flat rim
Chamber pot	9	57C	Thin tapered roll, flat rim
Chamber pot	9	53C	Canted rim
General jar	1	56C	Plain edge everted
General jar	7	76C	Bulbous indented
Wide-mouthed jar	6	51C	Rimless or plain rounded
Wide-mouthed jar	3	56C	Plain edge everted

Form	Sherds	Code	Rim Shape
Wide-mouthed jar	6	59C	Flattened roll
Wide-mouthed jar	3	60C	Indented banded rim
Wide-mouthed jar	6	63C	Bulbous
Wide-mouthed jar	1	76C	Bulbous indented
Small-mouthed jar	20	56C	Plain edge everted
Small-mouthed jar	52	51C	Rimless or plain rounded
Small-mouthed jar	9	54C	Flat rim
Small-mouthed jar	1	57C	Thin tapered roll, flat rim
Small-mouthed jar	4	59C	Flattened roll
Small-mouthed jar	9	63C	Bulbous
Small-mouthed jar	18	60C	Indented banded rim
Small-mouthed jar	2	61C	Cavetto band
Small-mouthed jar	8	76C	Bulbous indented
Jug	5	67C	Bellarmine type
Jug	6	68C	Reeded neck
Jug	12	72C	Simple roll
Jug	1	74C	Flattened collar
Jug / bottle	3	66C	Rimless
Jug / bottle	1	67C	Bellarmine type
Jug / bottle	4	68C	Reeded neck
Jug / bottle	10	72C	Simple roll
Jug / bottle	1	73C	Wide band/collar
Jug / bottle	1	74C	Flattened collar
Deep dish/pan	19	021	Flat everted rim
Deep dish/pan	16	51C	Rimless or plain rounded
Deep dish/pan	1	52C	Rolled rim, full
Bowl	9	65C	Rolled everted on bowl
Bowl	4	56C	Plain edge everted
Pitcher	2	51C	Rimless or plain rounded
Plate	1	54C	Flat rim
Plate	3	56C	Plain edge everted
Porringer	28	51C	Rimless or plain rounded
Porringer	83	56C	Plain edge everted
Tankard/mug	7	51C	Rimless or plain rounded
Total	565		

Table 70 quantifies the overall shapes of vessels where vessel completion was sufficient for this observation (definitions again follow Greer 1981). The most common form was an ovoid shape, seen in both jars and jugs. The ovoid form was the most common for all stoneware and coarse earthenware vessels until jiggers became common in the last half of the nineteenth century. Using a jigger produced a more cylindrical shape. The spherical body form was seen in this collection on porringers.

Table 70. Overall Shapes

Code	Overall Shape	Number of Sherds	Percent
200	Ovoid	350	45.22
201	Tall ovoid	11	1.42
202	Squat ovoid	2	0.26
203	Semi-ovoid	1	0.13
204	Barrel	4	0.52
205	Cylindrical	12	1.55
206	Cylindrical w/ tooled shoulder	1	0.13
208	Cylindrical w/ sloped shoulder	2	0.26
209	Spherical	45	5.81
212	Bowl, rounded sides	30	3.88
213	Bowl, straight sides	50	6.46
220	Ovoid w/ unattached loop handle	4	0.52
225	Ovoid w/ ear handle	14	1.81
250	Unattached loop handle	21	2.71
251	Strap handle	26	3.36
252	Extruded or tooled strap handle	201	25.97
	Total	774	

The diversity of body and surface colors seen in this collection (Table 71) could be due to either firing conditions (oxidation versus reduction; temperature variations) or differences in the clays, tempers, and decorative slips used in their manufacture. This matter requires further research using as many analytical and experimental techniques as are available. However, some speculations can be advanced. In the absence of brown slips, the range of body and surface colors from gray through brown is most probably due to firing conditions: the temperatures reached in the various sections of the kiln and the amounts of oxygen that were available during the heating and cooling of the kiln. (It should be noted that none of these sherds had Albany slip, which was developed in the early nineteenth century. See the color discussion below for descriptions of the slips used.)

Table 71. Ware Types

Ware Type	Number of Sherds	Percent
Brown body, brown surface	14	0.10
Brown body, painted decoration	1	0.01
Brown body, brown slip	20	0.15
Brown body, brown slip, painted	1	0.01
Gray body, gray surface	5,936	44.04
Gray body, painted decoration	1,509	11.20
Gray body, stamped decoration	3	0.02
Gray body, incised decoration	212	1.57
Gray body, coggle/roulette decoration	393	2.92
Gray body, other decoration	3	0.02
Gray body, brown slip	1,424	10.57
Gray body, brown slip, painted decoration	430	3.19
Gray body, brown slip, incised decoration	51	0.38
Gray body, brown slip, coggle/roulette decoration	55	0.41
Buff body, buff surface	41	0.30
Buff body, gray surface	2,266	16.81
Buff body, gray surface, painted decoration	715	5.30
Buff body, gray surface, stamped decoration	11	0.08
Buff body, gray surface, incised decoration	22	0.16
Buff body, gray surface, coggle/roulette decoration	101	0.75
Buff body, brown slip	215	1.60
Buff body, brown slip, painted decoration	29	0.22
Buff body, brown slip, coggle/roulette decoration	15	0.11
Buff body, other decoration	11	0.08
Total	13,478	

Dr. Allan Gilbert of Fordham University conducted preliminary compositional analysis on 20 samples from this collection. Dr. Gilbert has developed a technique for identifying similarities between clays. His clay archives encompass samples from throughout the metropolitan area and from several archeological sites (Gilbert and Janowitz 1990; Gilbert et al. 1993). The following paragraphs are Dr. Gilbert's summary of his research.

Based upon diverse characteristics,[6] an initial sampling of twenty stoneware sherds was made, and powders taken from them were sent for compositional analysis. Several sherds could be drilled along their broken edge after abrading the sampling surface to remove adsorbed impurities. A tungsten carbide bit was used to avoid possible iron contamination of the powder outflow that might result from the use of high-speed steel. Most of the sherds, however, were too hard for drilling. They were sampled by abrading off all glazed surfaces as well as trimming broken edges, then smashing the resultant paste nugget with a hammer between sheets of thick plastic. The small pieces could then be ground finely in an agate mortar.

Compositional analysis was conducted using ICP, or inductively coupled plasma-emission spectroscopy, in the Geology Department of Royal Holloway New College in Surrey, England. Quantitative data were obtained for 30 elements, which were added to the New Netherlands/New York data file that has been accumulated at Fordham University. Comparative samples used for this study came from three sites. Five pieces of stoneware from the collections of the Staten Island Historical Society (SI) had been sampled in the 1980s, as well as an additional two from the 60 Wall Street excavations (specimens beginning with SX) excavated by Historic Conservation and Interpretation, Inc., and a single sample from the Bowne House of Queens (specimen BH02) dug by Dr. Lynn Ceci. These served as comparisons for the African Burial Ground material (codes starting with AB). In total, the chemical archive contained sample results for 28 stoneware specimens. Specimen AB07 was sampled twice—the duplicate labeled AB00 in order to gauge the degree of variability in a single sherd.

After chemical assay, the statistical study consisted of two stages. The first stage sought a simple breakdown into compositionally similar groups on the basis of cluster analysis. The second stage took only the five resultant groups and performed a discriminant analysis in order to test the reliability of the initial clustering, and to determine on what chemical basis the five groups differed.

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[6] The first set of samples was taken from sherds from cat. no. 1553 (EU 32/33, Feature 139, Stratum I, Level 1). Within this set, the first batch consists of jug or jar bases; the second batch is from jar rims. The logic used in selecting the samples was to sample only one provenience in order to get what was likely to be a consistent temporal group. In addition, the vessel forms chosen were restricted in order to minimize possible variations caused by differences in vessel manufacturing techniques.

AB 1 medium to large hollowware base; underfired; thick; buff-colored body; probably a jug or jar
AB 2 small to medium hollowware base and body; underfired; sloppy band of poorly-fired cobalt around the barely cordoned base; interior has possibly a brown slip
AB 3 small to medium hollowware base and body; well fired; clearly delineated pink/taupe interior slip; toasted exterior; trace of blue on base; glazed and toasted base
AB 4 medium-sized small-mouthed jar; ovoid body; # 76 rim; glazed on broken edge; blue filled-in cordoned band where body meets the neck; possibly also an unidentifiable blue design; kiln pad scars on rim
AB 5 small to medium-sized small-mouthed jar; ovoid body; reeding on body below the rim; light gray color; well vitrified
AB 6 small-sized small-mouthed jar; no decoration; very well vitrified; greenish spots of thick salt glaze on the exterior
AB 7 small hollowware; thin, well vitrified gray body with some mottled brown slip on the exterior; possibly a bottle or small jug but glazed on the interior
(not drilled but instead a small piece chipped off for pulverization)
AB 8 porringer; fine gray body; exterior has light brown mottling
AB 9 very soft and white body sherd; the exterior is salt glazed and has cobalt decoration; body is soft enough to leave residue on hands rubbed across the surface
AB 10 a sherd fired to 1000° C in an electric kiln (very white clay)
AB 11 from F139, tall vessel with rose/taupe interior 5YR 7/2 pinkish gray; brown mottled slip on exterior and is coggled
ABs 12–14 are again cat. no. 1553
AB 12 2.5 YR 6/4 weak red
AB 13 5YR 7/6 reddish yellow (the color goes into the body)
AB 14 also 5YR 7/6 but color on the interior is streaky with gray showing through in patches

The following are from cat. no. 1820 (F144, Stratum I, Level 1) and were removed for pulverization:
AB 15 body sherd; well vitrified and rather heavy salt glaze
AB 16 body sherd; well vitrified
AB 17 body sherd; buff body; interior seems to have light orange/brown slip; light salt glaze; glazed on edge
AB 18 body sherd; very reddish body, brown interior, gray exterior; both surfaces glazed; underfired
AB 19 handle sherd; small strap handle probably extruded; gray body; well-vitrified
AB 20 small hollowware base sherd; probably a jug, jar, or bottle

Cluster analysis established five clear groupings. Four of them were subdivisions of the Burial Ground wares, and the fifth was composed of all the Staten Island pieces. The group membership was as follows:

Group A: AB02, AB09, AB10, AB12, AB17, BH02
Group B: AB03, AB05, AB08, AB11, AB18
Group C: AB15, AB16, AB19, AB20
Group D: AB01, AB13, AB14
Group S: SI01, SI02, SI08, SI10, SI11

Four additional samples behaved as outliers: AB04, AB06, SX06, and SX07. These samples are insufficiently related to any other stoneware assays to be joined to them. AB07 linked fairly closely to its duplicate, AB00, however, its connection to Group B was judged too weak to include it, so it, too, has been considered a solitary outlier. Further sampling in the future may turn up stonewares that link to these unique specimens, but, until that happens, they remain difficult to interpret.

In a cluster dendrogram, amalgamation distances revealed that the tightest clustering occurs in Group C, with all samples amalgamating at less than 2.801 units. These four sherds are quite similar chemically. The other groups link at progressively greater distances. Group B amalgamates fully at about 3.734 units, Group S from Staten Island at 3.642, Group D at 3.752, and Group A—the loosest aggregate—comes together at an amalgamation distance of 4.486. Amalgamation distances are numbers representing the closeness of the sample points when they are linked into a cluster. As the program adds samples to each cluster, one by one, it does so by finding the next smallest distance between a sample and the center point (centroid) of a cluster. Then it adds that sample to the cluster in question, recalculates the new centroid, and searches for the next closest sample point. In this way the clusters grow in membership, while the amalgamation distances get larger and larger.

The discriminant analysis checked the five groups for reliability of membership. To put it simply without complicated explanation, the discriminant program modified the coordinate space in which all variables were originally plotted in order to compensate for correlations among the quantified elements. This operation reassesses group membership after eliminating any overlapping of clusters. Ultimately, the integrity of each group was verified. The program then determined which suite of elements varied most among all five groups, and it constructed an algorithm using the values of those elements that, when plotted as a two dimensional scattergram, created the best group separation. The two dimensions are formed by two composite variables (called canonical variables 1 and 2). The Staten Island stonewares cluster discretely. The Burial Ground groups, however, are distinguishable only along canonical variable 1 (the x-axis). On canonical variable 2 (the y-axis), the Burial Ground groups are indistinguishable. All measure between 0 and 5 units, forming a line that reaches horizontally across the graph. This finding suggests that the Burial Ground stonewares might be sufficiently similar, despite some chemical differences, for their chemical signature to be identifiable as products of the circa 1730/40–1760 Crolius and/or Remmey workshops should their compositional profile turn up elsewhere.

The minor chemical differences among the Burial Ground groups do not form an understandable pattern, at least so far. Group A is the most variable, as the cluster program already indicated. Group B is characterized by high values for nickel and low values for lanthanum, while Group D has universally higher lanthanum. Group C is lower in both nickel and lithium. There is no intuitively obvious reason for these variations, subtle as they are, as none of these elements can be unequivocally connected with the stoneware potter's craft. They may be simply impurities. Lanthanum is a yellow tinting substance used rarely in ceramic glazing, but this would not be expected in stoneware

manufacture. Nickel normally combines with lead silicate glazes to produce brown, but it has occasionally been combined in small amounts with cobalt to yield blue, the colorant commonly used in stonewares. Nickel is highly unstable, however, and not certainly implicated as an intentional additive used by the New York potters. Even if it were known that the workshop produced its cobalt blue with nickel (testable using SEM microprobe analysis), it would be difficult with the present results to argue that the differences in nickel from one group to another were meaningful.

In summary, 20 stoneware sherds tested by compositional analysis yielded quantitative data suggesting that, despite minor variations that may not be significant, the sample is chemically homogeneous. Compared to stonewares manufactured most likely on Staten Island (or New Jersey), the Burial Ground wares are easily distinguishable. If, as historical records suggest, the clay source for all stoneware potteries was the middle Cretaceous deposits of Middlesex County in New Jersey, then the chemical differences between wares produced in different shops might have more to do with the tempering materials than the original clay. Extrapolating, one would expect to see variability in stoneware production keyed more toward the paste-preparation techniques at each manufacturing center. Checking mineral tempers by thin section would be a logical next step, but not a necessarily conclusive one as fineness of the inclusions might limit accurate identification. The cruder technique of powder x-ray diffraction would pick up signals for the more common mineral inclusions regardless of their small size, but it would probably not report clearly the presence of rarer secondary minerals. Explanation of the compositional results using such mineralogical examinations might be possible over a lengthy period of controlled testing, and the present sample provides a useful starting point for further explorations.

6.2.2.3 Decorations, Techniques, and Motifs

The majority of the stoneware sherds from the African Burial Ground were plain, but those that were decorated exhibited a diversity of motifs (Table 72). A variety of techniques was used for creating these motifs. The most common methods were brushing and slip-trailing of blue designs. These two methods were not separated during analysis because it was often difficult when working with small sherds. However, from subjective observations, brushing was more common than slip trailing, except for the spiral design, which was more often a slipped motif.

Table 72. Decorative Motifs

Code	Motif	Sherds	Percent
CM523	Spiral	149	4.1
CM508	Spiral/butterfly	48	1.3
CM512	Spiral w/ floral	7	0.2
CM513	Spiral w/ blue at base of handles	16	0.4
CM514	Spiral w/ spiral at base of handles	28	0.8
CM521	Blue at base of handles	150	4.1
CM531	Incised and painted	156	4.3
CM565	Incised	10	0.3
CM532	Incised, painted, and coggled	4	0.1
CM528	Coggle decoration	363	9.9
CM533	Coggle filled in w/ blue	4	0.1
CM549	Coggled, overall "step" pattern	102	2.8
CM519	Sprigged	1	<0.1
CM534	Cordoned	199	5.4
CM535	Cordoned & filled in w/ blue	306	8.3
CM536	Cordoned & filled in w/ blue & blue at base of handles	18	0.5
CM537	Cordoned & filled in w/ blue & blue at base of handles & unidentifiable blue design	98	2.7
CM538	Cordoned, uncolored, unidentified blue design	13	0.4
CM539	Cordoned, uncolored, w/ spiral	19	0.5
CM540	Cordoned filled in w/ blue w/ spiral	5	0.1
CM541	Cordoned filled in w/ blue & coggled design	9	0.2
CM200	Geometric general	8	0.2
CM201	Geometric large scale	2	0.1
CM470	Floral	2	0.1
CM496	Linear w/floral band (Remmey style)	1	<0.1
CM499	Reeded	37	1.0
CM503	Swag general	3	0.1
CM987	Stoneware motif, other	225	6.1
CM989	Molded pattern, other	3	0.1
CM997	Unidentifiable stoneware motif	1,683	45.9
	Total	3,669	

Unexpectedly, the most common identifiable motif was this spiral motif, seen in several variations (Figures 44–46 and Table 72). This was unexpected because this motif has long been associated with the pottery workshop financed by the Morgan family in South Amboy, New Jersey. The association is quite strong because it is derived from sherds excavated at the pottery site by Robert Sim, the pioneering scholar of New Jersey stonewares, who called it a "watch-spring" motif. The Morgan pottery was in operation by the time of the Revolution, probably as early as 1768 (Racine 1997). Abraham Mead who worked in Greenwich, Connecticut, from c. 1764 to 1791 also used a variation of the spiral motif. Marked pots with his initials and the spiral motif make the Mead association equally strong, although Mead's spirals usually have small perpendicular lines coming off the main lines, a feature not seen on New York or New Jersey vessels.

There is a tenuous connection among all three potteries through the potter Adam Staats. William Ketchum, a ceramic historian, says that Staats was in New York City in 1743 (Ketchum 1991b:54–55). Staats next went to South Amboy and Pennsylvania before establishing a pottery in Greenwich, Connecticut, by 1751. Mead was his apprentice. It is tempting to speculate that the spiral motif was favored by Staats and was copied by other potters with whom he came in contact. However, his connection with the Crolius/Remmey potters needs to be clarified, if at all possible.

Figure 44. Jar with spiral motif, SE Area, AU168, cat. no. 1687.

Figure 45. Jar with spiral motif, NE Area, EU3, AU515, cat. no. 434; EU2, AU1B, cat. nos. 442 and 530.

Figure 46. Jar and jug sherds with spiral motifs and (center row at right) a Remmy-style linear leaf motif.

The use of the spiral motif in both the Morgan and Manhattan potteries points to some of the questions that remain about the connections between the New York and New Jersey potters: did workmen move between the two areas; were the New Jersey potters trained in Manhattan; did craftsmen simply copy each other's designs? These questions need to be addressed in subsequent research, both in archeological collections and historical records.

Other unexpected motifs in this collection were a number of incised designs, most of which are on tankards and mugs, that closely resemble German products (Figure 47). The quality of the decorations is high and shows the skill and training of the potters. Obviously, they were making wares that were in direct competition with German imports, and it is likely that some vessels in archeological collections that have been routinely identified as imports were made in New York.

The coggled motifs seen on a number of large mugs or jugs are also reminiscent of German designs (Figures 48–50). These mugs/jugs have broad bands of coggled decorations, sometimes separated by blue lines, that resemble late-sixteenth-century jugs made in the Rhineland (see for example Gaimster 1997:240–245). The earlier German jugs had a band of floral or geometric figures around the shoulder, a broad middle band with figures, coats of arms, etc., and a band around the base that echoed the top band. The decorations on the German jugs were much more elaborate than the coggled bands on the African Burial Ground vessels, but the placement of the zones of decoration is similar.

The most unusual specimen in this collection is a small, extremely underfired, sherd that has an elaborate sprigged motif (Figure 51). If it were not for the extreme underfiring, this sherd would have, without doubt, been identified as German, because it was not known that New World potters made this elaborate type of decoration. Sprigged designs were common on seventeenth- and eighteenth-century German mugs and tankards, so the first Crolius and Remmey could have learned the technique during their European training. Sprigging necessitated not only skill but also special molds, the finest made of metal. The sprigged motif on the African Burial Ground sherd has a level of detail that probably indicates that a metal mold was used. This mold could have been made in Germany and brought to Manhattan by the potters when they left the Rhineland or imported by them, or it might have been made in New York by a skilled metal worker. Again, some sprigged vessels in archeological assemblages that have been automatically identified as German might be the products of New York potters.

No sherds were identified with motifs that are common on later (post-1800) marked Crolius and Remmey vessels. These later vessels often have distinctive, incised, floral designs filled in with blue (see for example marked vessels illustrated in Webster 1971 and Greer 1981). These designs might have appeared only after the African Burial Ground was no longer used for dumping wasters. Only three sherds have a brushed-blue swag motif, which was also common on post-1800 jars. One sherd has a brushed-blue linear floral/leaf band that is similar to later Remmey motifs.

The colors seen on the sherds are the usual ones used on stonewares (Table 73). Blue, from cobalt, and purple, from magnesium, were the only colors that could survive the high kiln temperatures. The brown slips were probably ferrous. The mottled and solid brown slips that are present on the exteriors of vessels were straightforward, but the interior slips were sometimes problematical. In many cases, the interior colored layers—seen in cross section—are quite thin and might even be the result of firing conditions rather than of the application of a separate layer of slip.

Figure 47. Sherds decorated with incised and filled-in motifs, SE Area, AU152, cat. no. 2022.

Figure 48. Jug with coggled decoration, SE Area, AU140a, cat. no. 1700.

Figure 49. Sherd with coggled decoration, SE Area, AU144, cat. no. 1636.

Figure 50. Sherd with coggled motifs, SE Area, AU510, cat. no. 1687.

Figure 51. Underfired and unglazed sherd with sprigged motif, SE Area, AU139, cat. no. 1580.

Table 73. Colors

Color	Number of Sherds
Purple decoration	15
Blue decoration	2,691
Blue and purple decoration	6
Medium brown slip	495
Light brown slip	646
Dark brown slip	150
Rose/brown slip	554
Red/brown slip	171
Mottled brown slip	529
Top dark brown, bottom mottled brown slip	26
Top dark brown, bottom no slip	38

Only one vessel had any indication of what might be a maker's mark. This small vessel (possibly an ointment pot or a handleless cup) had "IS" or "SI" roughly incised on its base (Figure 52). The vessel is well-turned but poorly glazed and was completely mendable. It might have been an apprentice's piece, marked by him to show his level of skill or to trace his pot through the firing, or the initials might signify something entirely different but at present unknown.

6.2.3 Kiln Damage

> As the door is taken down, a revealing peek or so may indicate some of the things that happened during the firing. This first look at least will indicate whether the firing was within the proper temperature range and will satisfy the potter or disappoint him. All of the beauties as well as the defects are now indelibly fixed in both the body and the glaze of the pot (Greer 1981:226).

Faulty firing is the main reason for unusable pots. The fire must be maintained at the proper temperature for the proper time to produce wares that reach the correct degree of vitrification without loosing their shapes or breaking. The kilns were wood-fired, and firing conditions were affected by whatever wind, humidity, and ambient temperatures existed at the time. Firing most definitely called for skill and experience on the part of the potters, but even the most experienced kiln men had wares that did not survive their firing. For the late-nineteenth-century industrialized potteries in Pennsylvania, five to seven percent of each kiln firing was unsaleable (Schaltenbrand 1996:138). Earlier percentages, since the potters fired with wood rather than coal or gas, were probably higher.

Many things can happen to a pot in the kiln: underfiring, overfiring, bloating, cracking, exploding, and slumping are the most common. A pot can accumulate too much or too little salt glaze, or the glaze can be damaged by flying ashes or direct exposure to flames (Greer 1981:224–239). Table 74 lists the types of kiln damage and kiln marks that were identified in the African Burial Ground collection. Reasons for defects include: movement of vessels within the kiln due to improper stacking; overheating or underheating; too rapid cooling; poor throwing; insufficient drying; and clay abnormalities or insufficiently cleaned clay.

Figure 52. Small vessel with incised "SI" or "IS," Lot 12, AU51, cat. nos. 630, 671, 684.

Table 74. Kiln Marks on Vessels

Kiln Marks on Vessels	Sherds	Percent
Overfired	13	0.24
Overfired and light salt glaze	1	0.02
Underfired	1,029	19.27
Underfired and light salt glaze	370	6.93
Unglazed interior	925	17.33
Unglazed interior & underfired	1,042	19.52
Unglazed & underfired	185	3.47
Unglazed & extremely underfired	394	7.38
Extremely underfired and interior unglazed	70	1.31
Heavy salt glaze	36	0.67
Light salt glaze	60	1.12
Unusually heavy salt glaze	7	0.13
Unusually light salt glaze	6	0.11
Unglazed	6	0.11
Slumped/warped	13	0.24
Reduced	1	0.02
Glazed on broken edges	461	8.63
Glazed in cracks	9	0.17
Glazed on broken edges & underfired	77	1.44
Glazed on broken edges and kiln adhesions	93	1.74
Glazed on broken edges and unglazed interior	5	0.09
Bloated	32	0.60
Bloated and glazed on edges	1	0.02
Bloated and unglazed interior	18	0.34
"Clumped" glaze	9	0.17
Interior toasted	5	0.09
Exterior toasted	4	0.07
Both surfaces toasted	3	0.06
Shadows of kiln furniture	36	0.67
Shadows of vessel(s)	5	0.09
Shadows of kiln furniture and vessel(s)	1	0.02
Adhesion of kiln furniture	68	1.27
Adhesion of vessel(s)	11	0.21
Adhesion of kiln furniture and vessel(s)	4	0.07
Adhesion of unidentifiable material	91	1.70
Unglazed patches	9	0.17
Unglazed scar	47	0.88
Multiple, see written comments	192	3.60
Total	5,339	

Underfiring is the most common problem identified in this collection. Almost 60 percent of the sherds that show kiln marks are underfired. Underfired pots are not well vitrified and the surfaces appear dull, due to the failure of the clay to mature properly and of the salt to volatilize sufficiently. Firing with wood could lead to uneven heating of the kiln and underfiring was thus most common in the parts of the kiln that were not sufficiently heated during firing. Based on examples from archeological and museum collections, slightly underfired pots would be sold if they were sufficiently watertight and if their surfaces had at least a thin glaze.

Overfiring was much less common in this collection. Overfiring does not usually make a pot unusable, unless it is to the point where a pot melts into shapelessness or it is accompanied by bloating or slumping. Slumping occurs when pots become so plastic in firing that they warp out of shape. It is most common in the weight-bearing pots at the bottom of stacks. Minor slumping is not uncommon on jug shoulders under the area of the jug stacker or on jar rims under kiln pads. Slumped vessels were sold if the deformity did not preclude use of the pot and they are frequently found in museum and archeological collections. Slumping can lead to collapse of stacks and adhesion of pots to each other as stacks come in contact. Extreme overfiring can also result in the melting together of kiln furniture and pots. Bloating is the result of too-rapid vitrification of the surface of the pot: gas bubbles form but are trapped inside the body and cause bulges on the interior or exterior. The result is a vessel with a lumpy surface, which could also be sold if the pot did not explode from internal pressures.

Cracking is caused by too-rapid initial firing or by too-rapid cooling. The kiln needs to be heated relatively slowly at the beginning of firing so that the remaining water in the pots can evaporate gradually. If heating is too fast, steam bursts out of the pot, leaving cracks that might go through the body or that might extend only a short way down from the surface. If the crack does not penetrate the body, the vessel is still usable. Cracking can also be the result of too-rapid cooling of the kiln after maximum temperature is reached. If cracking occurs before salt is introduced into the kiln, the edges of the crack will be glazed. Only nine sherds in this collection had glaze in cracks, but 637 others had glazed broken edges, which were possibly the result of extreme cracking during firing. Glaze on broken edges is one of the clearest signs of kiln damage (unless, as noted above, the vessel was used as a draw trial); glaze in cracked edges is also evidence of kiln damage, although some vessels with cracks that did not extend through the body were sold and used, since such vessels have also been found on a number of sites. Explosions are cracking carried to an extreme; they result in the adhesions of fragments of exploded vessels on other vessels blobs. Heavy deposits of glaze can also occur when surplus glaze from pots higher in the kiln settle on lower vessels.

"Clumped" glaze is extremely heavy, concentrated deposits of glaze. This can be the result of excessive heat that causes melting of kiln bricks. Excessive heat can also melt the salt that has adhered to the surfaces of the kiln during previous firings, which can then settle on vessels as blobs. Heavy deposits of glaze can also occur when surplus glaze from pots higher in the kiln settle on lower vessels.

Adhesions of vessels to other vessels are caused by shifting of stacks or individual vessels within the kiln during firing. Kiln props may have been inadequately placed or may not have been sturdy enough to support the vessels; stacks could collapse and vessels could adhere to each other during the plastic stage of firing. This is not a common problem in this collection, which could indicate the skill of the potters who stacked the kiln. Adhesions of kiln furniture would occur when furniture became fused to vessels during firing. This would not result in an unmarketable vessel if the kiln furniture could be broken off without damaging the vessel. Adhesions of kiln furniture could be minimized by making strong contacts between the furniture and the vessels (so that the salt vapor could not intrude) and by using sand in the bodies and on the surfaces of kiln furniture. The shadows of kiln furniture seen on vessels are normal results of proper stacking and are not defects. Since shadows of kiln furniture are a normal occurrence, they were not always noted during analysis; thus more sherds than are listed on Table 74 had this characteristic.

Table 75 shows the kiln marks that were observed on kiln furniture. The causes of these kiln marks on kiln furniture are the same as for those on vessels. The traces of cobalt and of impressions that were seen on some furniture occur when kiln furniture is pressed against decorated pieces. The light salt glaze on many pieces of furniture is due to the protected position of kiln props and pads between vessels.

Table 75. Kiln Marks on Kiln Furniture

Kiln Marks on Kiln Furniture	Sherds	Percent
Overfired	5	0.04
Overfired and light salt glaze	3	0.02
Underfired	62	0.50
Heavy salt glaze	1,157	9.33
Light salt glaze	8,544	68.91
Shadows of vessel(s)	1,391	11.22
Adhesion of kiln furniture	157	1.27
Adhesion of vessel(s)	30	0.24
Adhesion of kiln furniture and vessel(s)	5	0.04
Adhesion of unidentifiable material	218	1.76
Unglazed scar	4	0.03
Unglazed	129	1.04
Unglazed and underfired	9	0.07
Reduced	1	0.01
Traces of cobalt	382	3.08
Traces of impression	280	2.26
Traces of cobalt and impression	9	0.07
Glazed on broken edges	6	0.05
Glazed on broken edges and kiln adhesions	6	0.05
Unglazed and extremely underfired	1	0.01
Total	12,399	

6.2.4 Summary

Many questions remain about the stoneware potters of Manhattan. However, the excavations at the African Burial Ground have provided some information about their mid-eighteenth-century products. The sherds from this site exhibited a variety of forms and decorations that were unlike the well-documented later Crolius and Remmey wares. Some of the decorations, in particular, were much more elaborate than the later examples and much closer to their Rhenish prototypes.

With the exception of the small vessel with the incised initials "IS," none of the sherds from the African Burial Ground shows any evidence of makers' marks, although many nineteenth-century Crolius and Remmey wares are marked. This probably has to do with changes in how the stonewares were marketed in an increasingly capitalistic society. The Crolius and Remmey potters who took over their elders' kilns about 1800 recognized that times were changing and changed some of their ways of doing business. They marked at least a portion of their wares and they began to advertise.

The collection includes forms that were not expected to be found in gray stoneware—notably porringers, plates, dishes, and teawares—leading to the conclusion that there was much more variety in the forms of gray stoneware vessels made in the mid-eighteenth century than in those of the nineteenth century. The reasons for this were economic: by the end of the eighteenth century, English makers of refined earthenwares dominated the market for tea- and tablewares. American consumers did not want heavier-looking and -feeling, less-decorative gray stoneware plates on tables. Nineteenth-century stonewares were predominantly jugs, jars, and other food-storage vessels, valued for their sturdy durability and occasionally enlivened by their blue designs.

6.3 The Redware Kiln Debris

We conducted a limited analysis of the kiln debris, focusing on the saggers and kiln furniture. We emphasized the remains of F51 in Lot 12, which we have interpreted as being filled with redware kiln debris. The fineware ceramics date the feature to after the introduction of creamware and before the introduction of pearlware, between 1760 and 1780 (Phase 1 in the 290 Broadway sequence). The primary candidate for the source of the debris is the Campbell pottery on Broadway. The Campbell family was making redware pottery, both pan tiles and "Philadelphia" redware, from at least 1759 into the 1790s (Ketchum1987:42–43). They were located on Broadway between Duane and Reade from at least 1775 and probably before that date as well (Ketchum 1987:42–43).

Several ceramic products relating to pottery manufacturing were found besides kiln brick. These included saggers and kiln furniture. Kiln furniture includes shelves, shelf supports, and supports for ware (Harmer and Harmer 1991:149). Unlike the stoneware furniture, which is made of the same clay as the vessels, redware saggers and shelves are often made of clay with different melting temperatures than the vessels they protect and support so they could withstand the heat without slumping. Since saggers and shelves were often reused they also needed to be able to withstand repeated firings.

Redware saggers and furniture as well as kiln debris and wasters were found primarily in Lot 12. Hardly any were found in the SE Area, the location of the stoneware kiln debris dump, or in the features in the MID Area. The NE Area did have a considerable amount of redware kiln-related material (Table 76), although most of it was in a red sandy layer above the ground surface, suggesting it may have been redeposited. The similarities in the technological features between the Lot 12 and SE Area redware suggest they were at least part of the same tradition if not made at the same time by the same potter. As shown in Table 45, the features and AUs of the NE Area with a large number of redware sherds have very few pearlware sherds. Other finewares included creamware, white salt-glaze stoneware, and tin-glazed ceramics typical of Phase 1 deposits. This is similar to the fineware composition of the Lot 12 deposits with redware kiln waste. We studied the material from F51 most closely and checked that from the NE Area for attributes that would conflict with the patterns identified in F51.

Table 76. Distribution of Redware Kiln Furniture by Area

Kiln Debris Type	Lot 12	MID	NE	SE	Total	Percent
Sagger	2,383	3	1,093	5	3,484	83.0
Eccentric shape	2		1		3	0.1
Kiln pad, triangular rod	48		3		51	1.2
Miscellaneous fired clay	20				20	0.5
Miscellaneous kiln debris	210		249	3	462	11.0
Miscellaneous kiln furniture	16		1	1	18	0.4
Roll	1				1	<0.1
Thumb pad	22		26		48	1.1
Kiln shelf	99		11		110	2.6
Total	2,801	3	1,384	9	4,197	

6.3.1 Saggers

Saggers are essentially clay pots that protect other wares, that is vessels, from fly ash, flame, and kiln atmosphere produced by burning solid fuel that may change the glaze from a desired effect (Cardew 1969:165). There are two basic types of saggers: those that have a bottom and those that do not. The latter, ring saggers, are used to stack a number of saggers with ware in one spot, thereby saving space in a kiln. A stack of saggers is called a bung in England (Leach 1975:263). Saggers may also vary in depth and diameter depending on whether they are protecting flat or hollow vessels.

The saggers in F51 as well as the NE Area vary within a restricted range of sizes. They are from 7 to 8 inches in diameter, are .5 to .75 thick midway down the wall, and 4.75 to 5 inches high (Figure 53). Most have a slightly outcurved rim with a rounded lip. These rims could easily have supported other saggers since the rims are slightly larger than the bases. No sagger covers were identified. No ring saggers were identified among those that had partial bottoms. Saggers were not intentionally glazed, but some have glaze spots created by ash or accidents. The paste color varies and we assume that different clays were used since the frequent refiring to high temperatures would have completely oxidized the saggers. The most common paste is a dense red; there is a smaller number of buff or orange pastes and a few are light yellow like some modern fireclay. The latter saggers tend to have jagged, broken edges and more irregular voids in the paste.

A number of the saggers have circular holes cut into their side (Figure 53). The holes are mostly about halfway down the side and are 2 to 2.75 inches in diameter. At least one hole is only an inch in diameter and located within an inch of the base (Figure 53, right). These holes allow the kiln atmosphere to reach the pots but protect them from ash and other debris that comes from using solid fuel. If the atmosphere cannot reach the glaze, an efflorescence or scum will often form on the glaze. This is more of a problem with the use of galena (lead sulfide, the commonest lead ore) as a glaze material for the redware than with other forms of lead.

These blemishes on the glaze are more specifically called "sulfuration" due to the sulfur in the galena. The form of sulfur in galena will turn into sulfuric acid and then combine with soluble salts in the clay to form sulfates. The efflorescence or scum makes the glaze look matte and is yellowish green and non-transparent. If the glaze is exposed to the kiln atmosphere, provided by the holes in the saggers, this problem is reduced. Substituting litharge (lead oxide without sulfur) will also prevent the problem (Leach 1975:156, 202–203, 267).

Another alteration of the basic form is a shallow crescent, sliced from the edge of a few rim sherds (Figure 54). This may also allow the kiln atmosphere into the sagger. Since no complete saggers were found or reconstructed, it is possible that some saggers had a number of these around the rim, possibly two or three evenly spaced crescents. We did not find evidence that they co-occurred with the lower vent holes.

6.3.2 Kiln Furniture

Several types of kiln furniture for supporting individual vessels were identified. Following the existing concepts (Greer 1981:217–218) and terminology (Louis Berger & Associates 1997:V-127), the furniture was classified as preformed or expedient. The expedient pieces include little pads of varying sizes called thumb pads or other less regular forms. The less regular forms are not discussed further. The preformed pieces include pins (also termed saddles), bars, and shelves.

6.3.2.1 Thumb Pads

These expedient spacers are made of small pieces of clay pressed into shape by the thumb (Figure 55, bottom row). They often show fingerprints. The thumb pads are generally no more than 1 to 2 inches in their longest dimension. They were placed under the vessels to keep them off the shelf or sagger surface.

6.3.2.2 Pins

Triangular rods or pins (Figure 56) also function to support a vessel above a shelf or sagger floor, contacting the vessels only along the tip of the pin. They also are used to suspend a vessel inside a sagger if the sagger has holes in the side through which the pin extends, as seen in the saggers from the Bethabara potteries in South Carolina of the eighteenth century (South 1999). However, none of the saggers examined for this study had such triangular holes. Pins were found in two sizes, but generally the sides are longer than the base. The most numerous are the larger size, 3/4 inches from the base to the peak of the prism (Figure 56, far right); the smaller was 1/2 inches tall (Figure 56, left three). The bases vary from 1 to 3/4 inches wide. Their regularity suggests a number were cut from a slab at one time or perhaps even extruded. One of the larger pins was found adhered to a shelf with glaze (Figure 55, upper left). The smaller ones do not have a flat

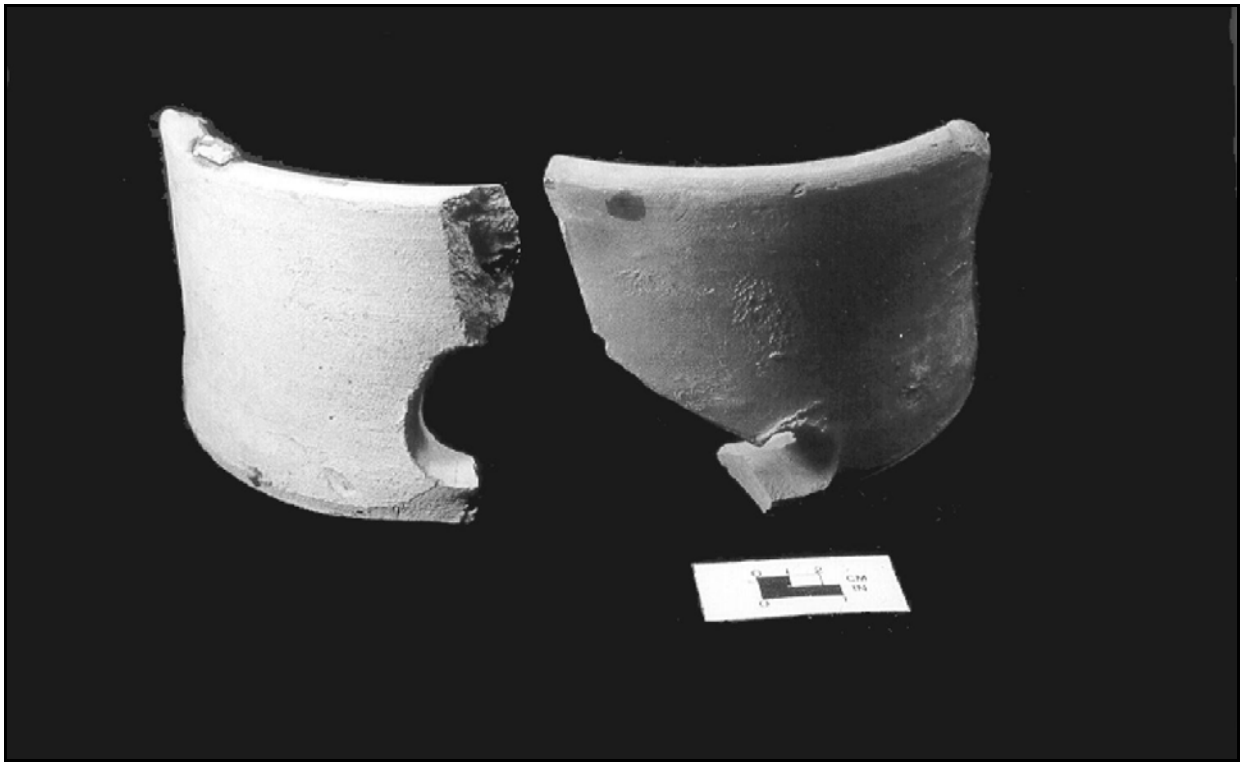

Figure 53. Saggers from Lot 12, AU51, cat. no. 421: left, buff paste with large hole near base; right, red paste with small hole near base.

Figure 54. Sagger with crescent removed from rim, Lot 12, AU51, cat. no. 421.

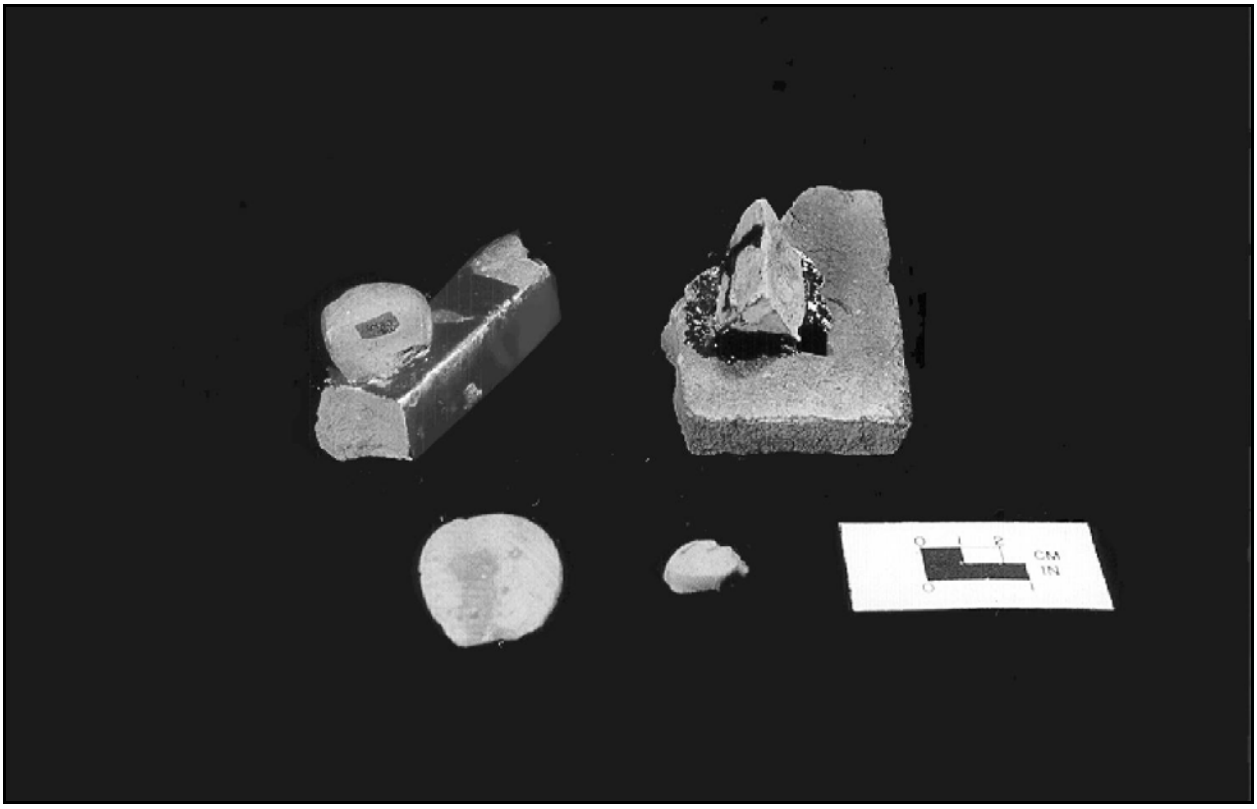

Figure 55. Kiln furniture, Lot 12, AU51, cat. no. 712: left top, bar with thumb pad; right top, shelf with prism and rectangular hole near front left corner of prism; left bottom, larger thumb pad; right bottom, small thumb pad.

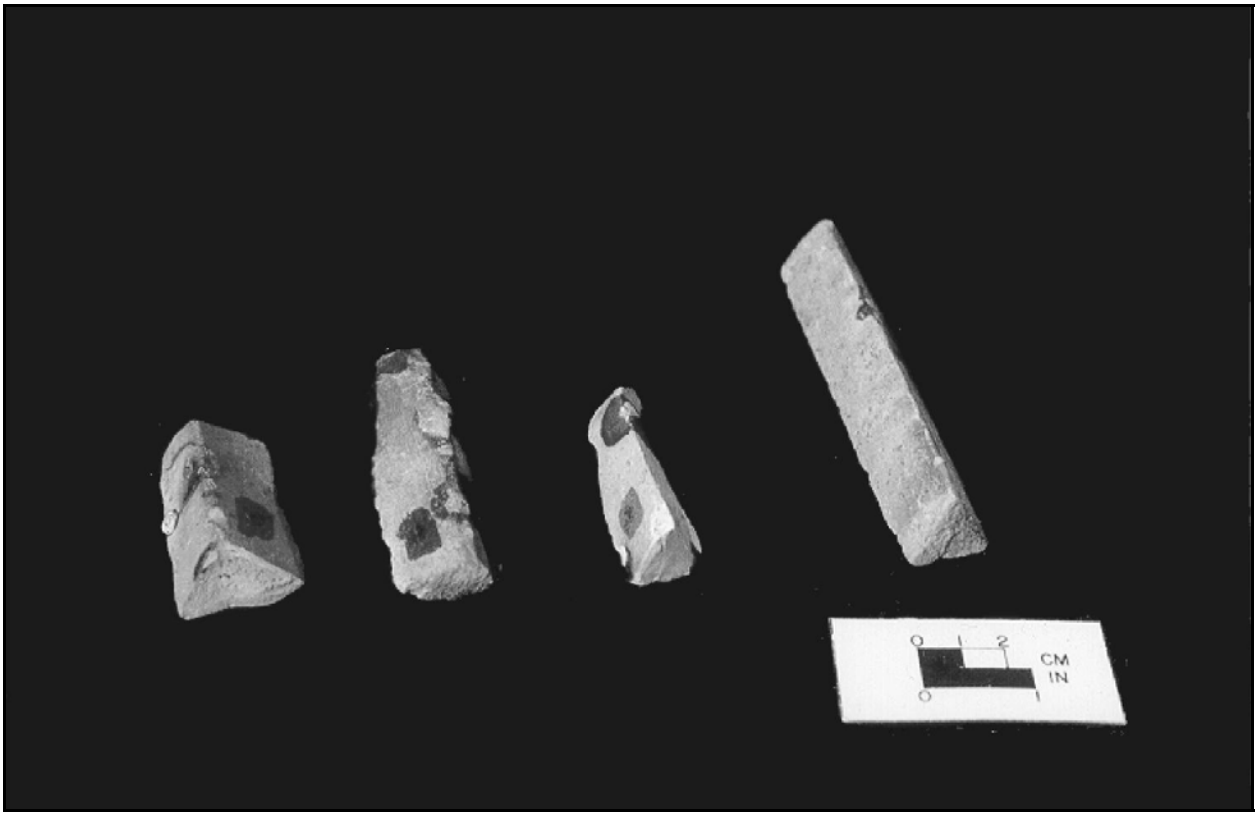

Figure 56. Prisms, Lot 12, AU51, cat. no. 712: left, three small prisms; right, regular-sized prism.

base on the end and may have had the base on the end trimmed off. South illustrates what he calls a saddle (a prism with a trimmed base on the end, like Figure 56 second from left) resting on a thumb pad (South 1999:Figure 28.23, upper-left corner). Why this would have been necessary is unclear, but potters tended to use whatever worked in a particular situation.

6.3.2.3 Bars

Bars (Figure 57) are also relatively regular, judging from the small sample examined, and a number also could have been cut from slabs of clay at one time or extruded. Most are square or almost square with dimensions of 1 inch on a side or having one side 7/8 inches and the other 1 inch. One also was only 3/8 by 13/16 inches. One of the examples glued to a kiln shelf shows the bar possibly acting as a support of a thumb pad to hold a vessel off the shelf (Figure 55, upper left). Given their larger contact area with a vessel than one of the pins, their main function could have been to raise thumb pads off the kiln shelf. Today, posts support kiln shelves. It is possible that these bars could have been used as posts to support kiln shelves as well. However, they do not have much surface area, and the same bricks used in making the kiln may have been used as posts. A number of shelves have bar marks where glaze has collected around them (Figure 58). This probably means the bars served to support vessels rather than shelves; but if they were posts, they could also have fallen onto the shelves and into pools of glaze as the shelves collapsed in a kiln accident.

6.3.2.4 Kiln Shelves

Kiln shelves fired to the same range of colors as the saggers: dense red, buff or orange, and white. They range in size from 3/4 to 7/8 inches and "the materials from which shelves are made determine their life and the weight they will support" (Harmer and Harmer 1991:146). In fact, the thickest example is made out of the buff/yellow clay that looks like fireclay and is therefore the least likely to melt. Many have thumb pads and scars of either pins or bars (the bottoms of both kinds of furniture have approximately the same dimensions) on the surface where glaze has dripped on the shelves (Figure 58).

Kiln shelves appear to be made out of slabs of clay that were formed on a mat. An indistinct crosshatched pattern, possibly made from a reed mat, appears on a number of shelves.

Two of the shelves, of different thickness, have a rectangular hole in at least one corner. No shelf is complete enough to know how many corners had such holes. The potters formed the hole by pushing a rectangular piece through the corner of the shelf. The entry hole, 3/8 inches across, is larger than the exit hole at 1/2 inch. It seems that the penetrating piece was not pushed all the way through, creating the smaller hole at the other side. It is also possible that a tapered piece was used, although this is speculative. In both examples found (Figure 59), the entry hole was on the bottom of the shelf. This location suggests the holes were for locating and holding shelf posts. However, no such items were identified in the collection and such pieces would be very thin to function effectively as supports.

Today, potters recommend using three supports for a rectangular shelf since that is more stable than one at each corner. If four corner supports are used, they recommend using a wad of fireclay on the top of each support to create a greater surface area. The holes found in this collection may have served some such function, but evidence is lacking to support this idea.

6.3.3 Comparative Data

Two redware kiln sites from the eighteenth and early nineteenth century are used for comparison. The two are the redware debris from a sequence of two redware potteries at Bethabara, a Moravian settlement in South Carolina (South 1999), and the debris from a Philadelphia redware pottery (Louis Berger & Associates 1997). The Philadelphia pottery is from potter Peter Topham, who potted from 1755 to 1783 (Louis Berger & Associates 1997: V-126). The Moravian data came from three kiln waster deposits from two different potters. These potters were producing a complete range of pottery for the surrounding

Figure 57. Bars, Lot 12, AU51, cat. nos. 421, 714, 437, left to right.

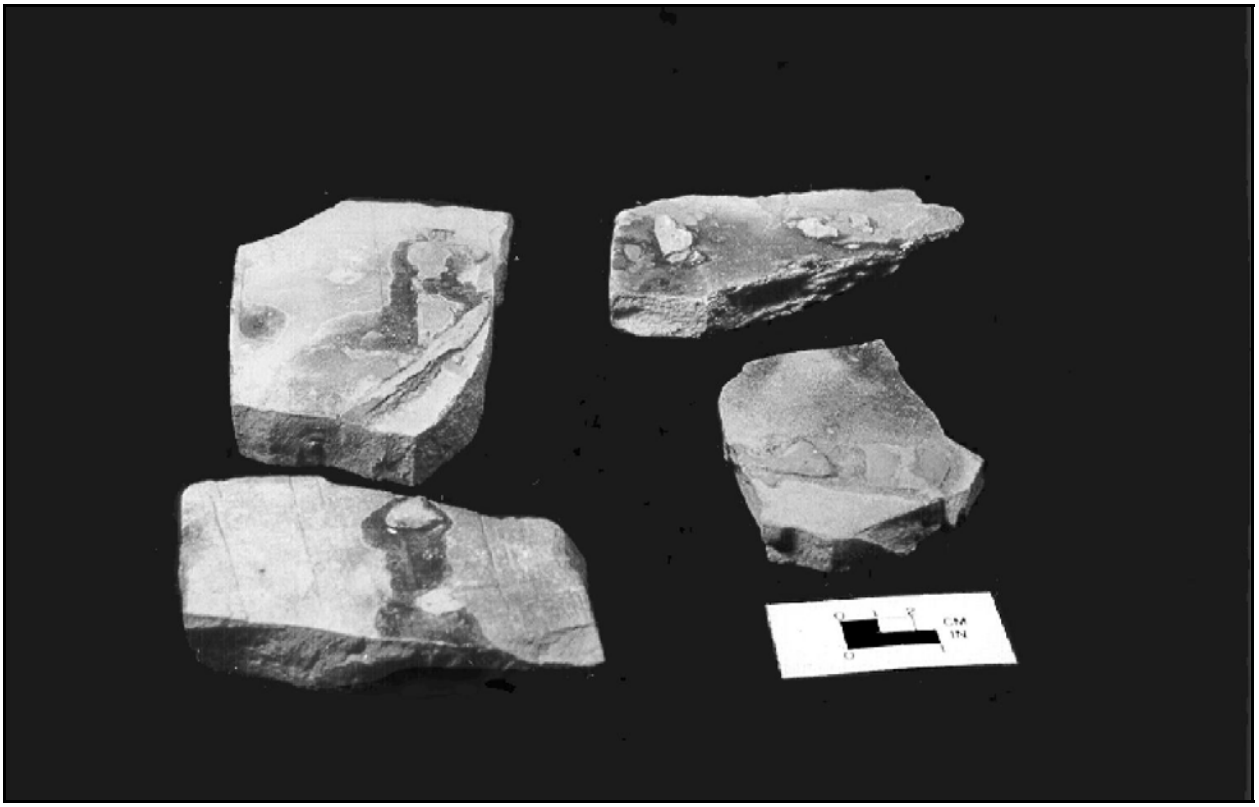

Figure 58. Kiln shelves with glaze drips and traces of attached kiln furniture, Lot 12, AU51, cat. no. 421: top left and right and bottom right, with linear scars from bars or prisms; bottom left, with scars from a thumb pad.

Figure 59. Kiln shelves with rectangular corner holes from Lot 12, AU51: left, cat. no. 400; right, cat. no. 421.

communities. These included necessary utilitarian ware as well as a variety of table- and teawares. The potters also received instruction from an English potter and produced a fine pottery "in the Leeds tradition" (South 1999:270) that approximated creamware. The first of these potters is Gottfried Aust, who potted in Bethabara from 1755 to 1788, when he moved to Salem. Two kiln-waster deposits were found: deposit no. 2 dates from 1756 to 1760 (South 1999:206), deposit no. 1 from 1756 to 1771 (South 1999:204). The second pottery is Rudolph Christ and Gottlob Krause, who potted in Bethabara from 1786 to 1796 (South 1999:282). Two dumps relating to their operation were also found. One produced no fine pottery while the other did (South 1999:282). The pottery in F51 and the NE Area could have been made any time from 1760, when creamware found in the deposits was introduced, to 1775 with the start of the Revolution. Thus, the four potteries are roughly contemporary, with only the Christ and Krause pottery dating to after the Revolution, although Christ was Aust's apprentice for many years.

The Philadelphia pottery was most similar to that in the New York deposits. Saggers, kiln shelves, bars, and thumb pads were found (Louis Berger & Associates 1997:V-127, V-129). The bars varied from 7/8 to 1-1/8 inches and the shelves from 1 to 1-1/2 inches thick. While the bars were similar in size, the shelves were thicker by 1/2 to 5/8 inches. As in the New York collection, the bars and shelves have drips of glaze on them and the shelves have shadows of vessels and adhesions.

The saggers are more varied. The circular saggers have either straight sides or in-sloping sides. The illustration shows that the thickened out-flaring lip of the New York saggers probably did not exist in the collection (Louis Berger & Associates 1997:Plate V-33). The saggers do have both vent holes in the side and notches on the rims like our samples. The base diameters varied more than in New York, going from 6 to 12 inches with a majority measuring between 8 and 9 inches versus the 7 inches in our collection. Height also varied from 2.5 to more than 5 inches, with most being 4 to 4.5 inches. Most of the New York collection was at a comparable 4.25 and 5 inches. The Philadelphia saggers were 1/2 to 5/8 inches thick, again comparable to the New York ones at 1/2 to 3/4 inches.

The Philadelphia pottery had comparable-sized saggers and bars, although the shelves were thicker. The Topham deposit did not have pins but did have thumb pads. Topham seems to have been working in basically the same tradition as the New York potters.

The Moravian potters appear to have followed a different tradition. While South does not report kiln furniture or sagger measurements, he does illustrate them with scale drawings, and the collection includes more variety than the preceding two deposits. This is certainly due to the greater variety of pottery, both redware and finewares that these potters were making.

Each of the earliest two Moravian dumps contains essentially the same kind of kiln furniture (South 1999:205, 314–315). There are three kinds of saggers. The first two types have a straight rim and are differentiated by having either a straight or in-curved sidewall, with the latter being shallower (South 1999:Figure 26.9). The illustrated examples are only 3-1/2 and 3 inches high although they are 8-1/2 and 10-1/2 inches wide. The third type is slightly taller, 4-1/4 inches, and wider, 11 inches, and is straight-sided with a slightly inset rim. All three types have circular holes for cylindrical pins. The pins stick through the walls and suspend plates above the floor of the sagger.

The kiln furniture includes a wide range of trivets (also called stilts) not seen elsewhere. Trivets are variously formed pieces with thin points on which ware rests. The most common kind is a three-armed, hand-molded trivet, but there is also a ring trivet, cut from a cylinder with three points on the top and bottom of the ring. There are also what today are called spurs (Harmer and Harmer 1991:149). These are small and roughly round and have a point on top, while each of the three legs ends in a point. One type of trivet has pin-shaped arms with no points (South 1999:246, Figure 26.26). No pins or bars were found in the two Aust deposits. Given the size of the illustrated saggers, the round holes for pins in the side, and the variety of trivets, commonly used for flat forms, it seems likely that much of the kiln furniture was associated with flatware production. Aust produced a variety of flatware including milk pans, pans, plates, and saucers (South 1999:Figure 26.44).

A major difference between the two northern potteries and the Moravian pottery is that none of the latter's saggers has vent holes and none is mentioned in the text. One possible explanation for this difference is that Aust may have used a different form of lead than galena. Litharge, lead monoxide (Harmer and Harmer 1991:192), corrects the sulfuration problem, according to Leach (1975:202–203).

The debris from the post-Revolutionary shop of Christ and Krause shows that Christ continued the fineware tradition as well as producing various utilitarian wares. He used molds and made royal-pattern creamware and tortoise-shell glazed creamware.

The saggers from the Christ and Krause pottery included only straight-sided forms, although ring saggers did occur, in contrast to any of the other three potteries. The ring saggers had triangular as well as cylindrical holes in their walls. The excavators found pins that would fit in these holes; the cylindrical pins had changed and the new form, a plate sagger pin, had a flat paddle-like piece of clay at the end of the pin (South 1999:Figure 28.23). The illustrated saggers were between 5 and 6 inches high and 8-1/2 and 12 inches wide. Excavators also found sagger stacking coils or pugging coils. These were ropes of wet clay that were placed between the stacked saggers. This is the only site of the ones examined on which this element has been identified and may be functionally associated with the ring saggers when they were stacked into bungs.

Besides the regular pins, there were pins with the bases trimmed on each end. These then rested on thumb pads or "saddle supports," as South calls them in his figure (Figure 28.23). Also found at the sites examined by South were ordinary trivets and circular trivets.

6.3.4 Summary

As expected, there are major differences among the frequencies of the stoneware and redware kiln furniture due to the different kinds of products and the different demands of the kinds of clay and glazes they used. The stoneware kiln furniture (see Table 64) has a large number and variety of pads (rectangular, crescent, tri-lobed, and miscellaneous) as well as rolls, spools, wedges, and thumb pads. The redware debris (see Table 76) has only triangular rods (not found in the stoneware debris), one roll, and thumb pads, besides the inevitable miscellaneous category. The main causes of the differences are the use of saggers with redware that often had to be supported on shelves. There were no recognizable saggers or shelves among the stoneware debris. As Janowitz relates in Section 6.2.1, saggers are found in the British stoneware tradition but not in the German; presumably Crolius and Remmey were participating in the German tradition. However, one wonders how the elaborately decorated tankards were protected from fire debris if saggers were not used, as was seen in the Trenton pottery (Liebeknecht et al. 1998). The larger number of other furniture types and their greater numbers among the stoneware kiln furniture was related to the need to support and separate the stoneware vessels that were stacked on each other rather than put in separate saggers.

The analysis of the different redware pottery dumps suggests that each dump may have received the debris from a limited number of firings and that the entire range of the ware produced by a potter is unlikely to appear in any particular dump. The consistency in the sagger size suggests that the collection from F51 represents the debris from one failed kiln or from a series of kilns producing just one kind of ware and form. It seems likely that the potter would have used more than one sagger size, especially if producing Philadelphia redware, most likely to be plates or dishes. An 8-inch sagger diameter would limit the size of the contents to less than 8 inches, including possibly bowls, small plates, or cylindrical forms.

Thus, some of the differences among the potteries, such as the lack of pins in Philadelphia and the differences in sizes and shapes of the saggers, may be due to such factors. Another factor is the kinds of markets for which each potter produced. The New York and Philadelphia potters had to compete for the tableware trade with the fineware output from England. The Moravians, being further inland, had less competition and produced a wider range of wares for which they needed a greater variety of kiln furniture.

However, the lack of vents in the Moravian saggers suggests a more significant difference in traditions or the use of another oxide of lead for the glaze. While the northern potters used galena, the Moravian potters

used a lead ore without sulfur. This could also be due to a difference in the availability of different lead oxides. The lack of bars among the Moravian potters is unexplained and could be a difference in traditions rather than to the production of finewares since they also produced much utilitarian ware.

The greater variety of kiln furniture, especially trivets, suggests the impact of the English potter who taught Aust and Christ how to make finewares as they were doing in England. In the 1770s, "specialist" kiln furniture was developed to help place plates in the kiln more efficiently (Barker 1999:229).

As Leach laments in his book on craft pottery in the mid-twentieth century, many pottery traditions have been lost in England, and probably other countries, due to the industrialization of the ceramics industry (Leach 1975). Just as significant for understanding the production process and local traditions of redware potters is the abandonment of lead glazing because of its known poisonous effects. This has limited our understanding of what potters had to do to make a successful living between the market and the fire.

7.0 CERAMICS, HOUSEHOLDS, AND SOCIAL PROCESSES

by Stephen Brighton

7.1 Introduction

At the end of the eighteenth century, the process began in which the daily lives of New Yorkers were restructured: social activities became segmented, and each activity conveyed different meaning. An example is the growing distinction between tea drinking and dining within the family and with guests.

A minimum number of 175 ceramic vessels were recovered from nine late-eighteenth- and early-nineteenth-century features located in two back lots on the block known today as 290 Broadway. The forms and decorative styles in the assemblage reflect the choices available to artisan and merchant classes at the beginning of the nineteenth century. The variety of forms and decorative styles demonstrates the emergence of the standardization of tea drinking and dining associated with new schedules of time discipline—a direct influence of industrialism and urbanization.

This chapter provides a description of the ware types in the assemblage. The discarded ceramic vessels from 290 Broadway illustrate a pattern of consumption reflecting rejection or acceptance of consumer goods and the role of material goods in the behaviors associated with the processes of urbanization and industrialization. The assemblage is compared to two contemporary assemblages from an artisan- and merchant-class community east of the project area to illuminate the social and economic transformations occurring throughout Manhattan.

7.2 Laboratory Procedures

After washing and labeling, the collections were divided into two groups for different analytical treatment. All ceramic sherds were classified by ware type, decorative style, and form, as well as other attributes, and were used to examine chronology and general style changes. Artifact collections from features in the MID Area were also subjected to a minimum-number-of-vessel analysis, which included crossmending the sherds within each feature. The purpose of this was to establish the minimum number of vessels (MNV) present in each assemblage.

The ceramic assemblages from the MID Area came from features that contained intentional domestic trash deposits. Most of the artifacts from Lot 12 and the SE and NE Areas did not come from domestic features; those that did appear to have been incidental inclusions rather than intentional trash deposits. The analyst was not certain what the effect of the more fragmented yard-surface collections would have on the ability to effectively compare the collections from yard surfaces to those from features. At the minimum, the more fragmented vessels from the yard surfaces would increase the number of vessels whose function could not be identified. For these reasons, only the ceramics from the MID Area had an MNV analysis done.

The MNV provides a representation of some of the various ceramic forms and decorative styles used and discarded by a household. A vessel was considered as such only when sherds mended to form identifiable vessel shapes. Each vessel was then given a sequential vessel identification number. Ceramic sherds that did not mend but exhibited unique characteristics (e.g., decorative style, ware type, vessel form) were considered vessels. Determining the minimum number of vessels was critical to establishing a feature's *terminus post quem*. Furthermore, vessels, rather than numerous individual sherds, clearly aid in identifying methods of storing and serving foodstuffs, thus facilitating an understanding of the household's social and economic identity (Beaudry 1982, 1986; Yentsch 1990). The analysis of the ceramic assemblage in the ensuing pages is drawn from the classification of vessels and does not include the remaining miscellaneous sherds.

Vessels were categorized by their primary use in food and other non-food domains. The terminology is drawn from Anne Yentsch's study (1990) of minimum vessel lists in the Chesapeake. Vessels are divided based on related activities, such as food procurement, preparation and storage, distribution, consumption, and discard (Yentsch 1990:25). By this classification, it is possible to detect the subtle changes in the

assemblage and provide a sound tool to compare the vessels to those from other Manhattan sites dating to the same period. Those vessels classified as miscellaneous whose function was ambiguous or unidentifiable were generally excluded from the analyses. Several vessels, mostly bowls (dipped and plain creamware), were classified as multifunctional because they are easily used for food consumption, food distribution, or even food preparation in the kitchen. In general, they were placed in the food-distribution category. Lids that came from sugar or teapots or that could not be connected with the vessel they covered were classified under beverage consumption since, like saucers, they were associated with teaware. Pitchers and teapots were placed in beverage distribution.

The vessels were examined for maker's marks and other details, such as wear patterns or residual marks. Residual marks (use marks) provide an extra source of information for investigating the use of ceramic vessels (Griffiths 1978:68). Drawing from the work of Dorothy M. Griffiths (1978:72), the most common types of residual marks identified were fire-blackening, staining, knife cuts, fork or spoon scratches, and stirring scratches.

Based on the mending process and the number of nearly complete vessels, it appears that the back-lot features were filled in one depositional episode. This is usually associated with a quick closing or abandonment of the feature. This sequence coincides with the historical research. Barley Street was raised between 1799 and 1805. The house lots in the surrounding area had to be raised ten to twelve feet to meet the new street level (Chapter 3). AU74, located on Lot 15, is the exception. It is divided into two depositional episodes: posthole/builders' trench (74b) and the interior of the feature (74a). The trench or posthole is not part of the depositional episode associated with the closing of the feature and is probably related to its construction. Also, Features 58 and 77 have overlapping features and pits; Feature 77, however, was filled in a single depositional episode. The filling sequence in Feature 58 was more complicated (see 4.7.2.4) but most of the identified vessels came from one fill episode.

The ceramic assemblage consists of vessels that were used in the daily lives of the occupants of Lots 15 and 16 for eating, preparing, and storing foodstuffs, as well as sanitary and other household activities. From the decorative styles and ware types present in the assemblage, the vessels are considered to be the typical forms associated with artisan- and merchant-headed households in early-nineteenth-century New York (Brighton 2000b). Due to the small number of vessels present in the Lot 17 features, they are not considered in the following analyses.

An additional classification of the collections from the MID Area features is presented in Appendix E. These tables present data on function and decoration, extracted from the database, in tables compatible with those used for the Five Points collections (Yamin et al. 2000).

7.3 Lot 15

7.3.1 AU56

AU56 is one of three privies located on Lot 15. The vessel mean ceramic date for the feature is 1793.9, derived from 37 vessels. The *terminus post quem* is 1805, based on the presence of a blue shell-edged plate. The edged decoration consists of an even-scalloped rim with straight lines along the marley (Hunter and Miller 1994:435) (Figure 60). This even-scalloped pattern is dated to 1800 (Miller et al. 2000:3). The date for the straight line rather than curved lines on the marley is not certain. One date based on seven marked vessels is given as 1809 (Miller 1987; Miller et al. 2000:12) and otherwise as 1805 (Miller and Hunter 1990:210). The latter date is used here with the understanding that it actually may be as early as 1800. The majority of the vessels are either food or beverage consumption. Other related vessels comprise the food distribution, preparation, and storage group (Table 77). The non-food group consists of two redware chamber pots and two creamware chamber pots. One redware chamber pot is black; the other is decorated with manganese splotches. Manganese was commonly added to the glaze on American redware vessels, producing a lustrous brown or black color. The daubing or splotching of manganese on lead-glazed vessels was common among redware potters in Pennsylvania, but potters in New Jersey and Massachusetts were also using limited amounts of this decorative treatment (Ketchum 1991a:8).

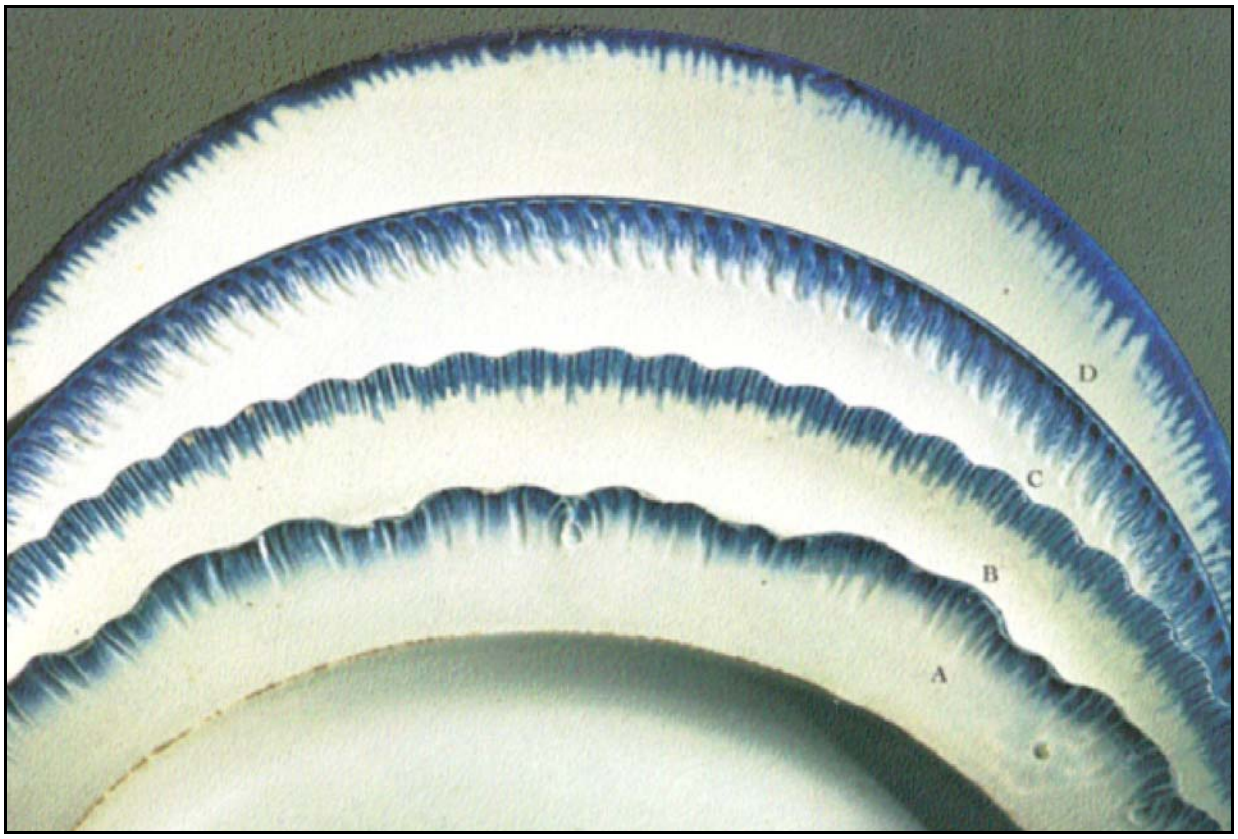

Figure 60. The evolution of shell-edged vessels. From the bottom up: (A) asymmetrical, undulating scallop with impressed curved lines (c. 1775–c. 1800), (B) even-scalloped rim with curved lines (c. 1802–c. 1830), (C) unscalloped rim (c. 1830–c. 1860), and (D) unscalloped rim with painted lines (c. 1860–c. 1890) (Hunter Jr. and Miller 1994:435). The plates from 290 Broadway are either style A or B.

Table 77. Food-Related Ceramic Vessels in AU56

Functional Categories	Number of Vessels
Food consumption	11
Food distribution	4
Beverage consumption	11
Beverage distribution	3
Food preparation/storage	4
Total	33

The food- and beverage-consumption category consists of both pearlware and creamware, with the exception of a porcelain twiffler-sized plate. Creamware, introduced in the 1760s by Josiah Wedgwood, was a dark cream-colored ceramic marketed as a high-status product (Noël Hume 1969b:123–128; Towner 1978:19; Miller 1994:13). The darkness of the cream color and the decorative types available decreased towards the last decades of the eighteenth century. By 1790, creamware was limited to undecorated forms or plates with molded rim patterns such as shell edge and the Royal pattern (Miller 1994:13). The Royal rim was a variant of Josiah Wedgwood's extremely popular Queen's Pattern (Noël Hume 1969b:126–127; Miller 1994:13). The creamware plates present in the assemblage are decorated with the Royal pattern (Figure 61). The plates exhibit some residual marks in the form of fork scratches and knife scars. The heavy wear marks suggest the plates were used in the taking of everyday meals. This seems to be a reasonable theory since the market status of the ware type was quickly dropping, so that by the early nineteenth century, creamware vessels would have been used as common dishes.

There are three vessels relating to beverage distribution, all pitchers. One is plain creamware and another is black-glazed redware. Perhaps the most interesting vessel in the assemblage is a creamware jug decorated with an underglazed black transfer-print (Figure 62). The print depicts a monkey riding an ass while human spectators observe the event. A piece of doggerel below the central theme reads:

Behold an ass a monkey strides
Who kneels while he gets up and rides
To monkeys asses always submit
Each day gives instances of it.

It is unclear to what the saying is referring except that its satire is related to a political party or a specific political event. The jug was meant to be used as a display piece.

The beverage-consumption vessels include an undecorated creamware teacup and saucer. As with the food-consumption function, residual marks on the teacup indicate the vessel's use in everyday familial drinking activities, such as breakfast and afternoon tea. Spoon or stirring marks are heavy along the bottom of the teacup, and the saucer exhibits wear along its central surround.

The pearlware vessels consist of blue and green shell-edged plates and painted teacups and saucers. The painted teaware vessels are decorated in polychrome, blue, or sepia floral patterns, with polychrome predominating. The two vessels decorated with blue Chinoiserie designs are made of an early type of pearlware known as China glaze (Miller 1987:84, 1994:4–5) (Figure 63). China glaze was the initial development of a blue-tinted ware to rival the look of Chinese porcelain (Miller 1994:4–5). The teacup has a landscape design, and the oval dish a floral design.

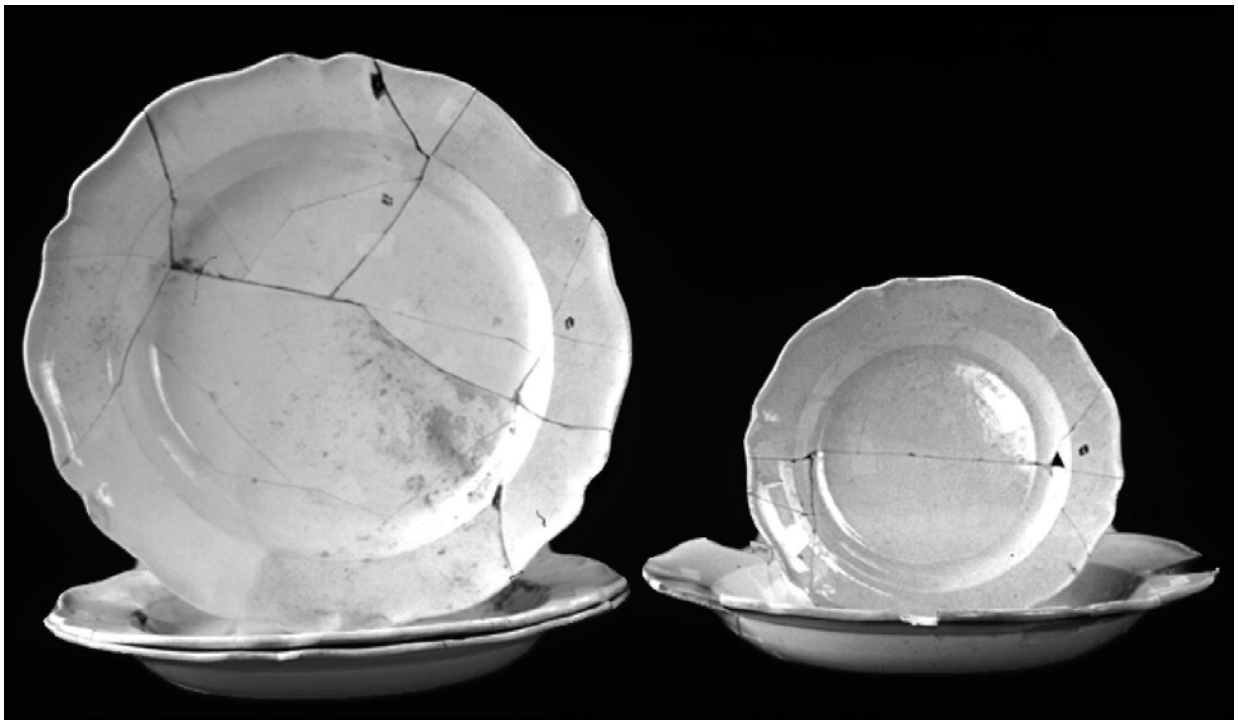

Figure 61. Creamware plates decorated in the Royal pattern.

Figure 62. Fragments of creamware motto jug recovered from AU56.

Figure 63. China-glaze saucers and teapot lid excavated from the Five Points archeological site. The house/pagoda motif pictured here is similar to those recovered from 290 Broadway.

China glaze was produced as early as c. 1775 as a direct reaction to "Champion's patent," forbidding Staffordshire potters from producing porcelain (Miller 1987:84–86, 1994:4). According to George Miller (1994:4), China glaze can be separated from pearlware to provide a more meaningful chronological indicator. The ware was short-lived and was replaced by pearlware by c. 1815. The blue-painted teacup in AU56 has the pagoda or house motif with an intricate Chinoiserie border pattern. The most common pattern directly copied from Chinese ceramics is the Chinese house or pagoda. This motif remained popular on blue-tinted bodies throughout the first decades of the nineteenth century (Miller 1994:4–5).

The polychrome floral patterns painted on the teaware do not match, but do have a common style (Figure 64). The combination of a brown band near the rim, floral vines along the body, and a floral pattern positioned in the center is present on all vessels. The polychrome patterns are English in manufacture and are examples of various potters imitating Josiah Wedgwood's original patterns (Mankowitz 1980:Plate VI) (Figure 65). Marked examples of Wedgwood's floral patterns were quite popular among the wealthy, and the unmarked examples present in the collection are of the sort that represented an economical alternative to the pricey Wedgwood vessels. The lack of substantial residual marks indicates their use in drinking tea was limited. The vessels were most probably used for special social events.

Shell-edged vessels were standard products of many Staffordshire potters from the mid-1770s to the last decades of the nineteenth century (Miller and Hunter 1990:201–204; Hunter and Miller 1994:435). The shell edging is present on plates both in green and blue in stylistic variations that span the time between the emergence of shell-edged tableware and the first years of the nineteenth century (Figure 60). The green plates are in the early rococo shape and an early-nineteenth-century variant consisting of an even-scalloped rim with curved lines along the marley (Hunter and Miller 1994:435). The blue-edged plates, like the green-edged plates, are mostly of the early-nineteenth-century type. Two blue-edged plates represent one of the earliest shell-edged rim patterns characterized by an asymmetrical scalloped rim. This pattern was made contemporaneously with the more popular rococo edged pattern. A plate and a soup plate have the slightly later style with an evenly scalloped rim with straight impressed lines. The presence of both green- and blue-edged vessels in the assemblage reflects a continual change in available decorative forms and the variety of vessels available to consumers. The presence of a range of patterns and colors within a single assemblage reflects the strategy of the consumer who would first attempt to match the color of the existing pieces. If this attempt was not successful because the pattern was out of stock, then the next choice would be to match the color of the decoration on the vessel (Dutton 1989:87). It is suggested here that the green-edged dinner plates and the blue-edged soup and dinner plates were likely to have been used together.

The food-preparation and storage category includes three redware vessels and a gray salt-glazed vessel. The two food-preparation vessels are redware slip-decorated pie plates. The large plates are drape-molded and decorated with multiple wavy lines that cover the entire vessel. Residual marks consist of heavy knife scars along the interior. The presence of knife scars and the lack of charring along the plates' exterior bases suggest they were used to cut food, not for cooking or baking.

The stoneware and redware storage vessels are small-mouthed storage jars with curved sides. The term *small-mouthed* refers to a form taller than it is wide with a mouth or opening smaller than the vessel's widest diameter (Greer 1981:87; Janowitz 1989:145). Redware and stoneware jars were used as containers for a variety of foodstuffs such as flour, sugar, and apple butter that were produced in the farming regions of New York, New Jersey, and Pennsylvania (Lansansky 1979; Ketchum 1987, 1991a, 1991b).

It has not been possible to link the storage and food preparation vessels to any of the potters working in and around the project area. John Campbell is known to have owned and operated a redware kiln on the west side of Broadway across from the project area by 1750 (Ketchum 1987:42–43, 1991a:73–74). Campbell produced a variety of wares, including pie plates and pans (Ketchum 1991a:73–74). Throughout the eighteenth century, many trained stoneware potters emigrated from Europe to established pottery kilns. Successful stoneware potter families such as Crolius and Remmey manufactured stoneware vessels as early as 1728 in the area. Little is known of the pre-1800 stoneware and redware vessels, however, because of the lack of consistent maker's marks on the vessels (Janowitz 1992:1).

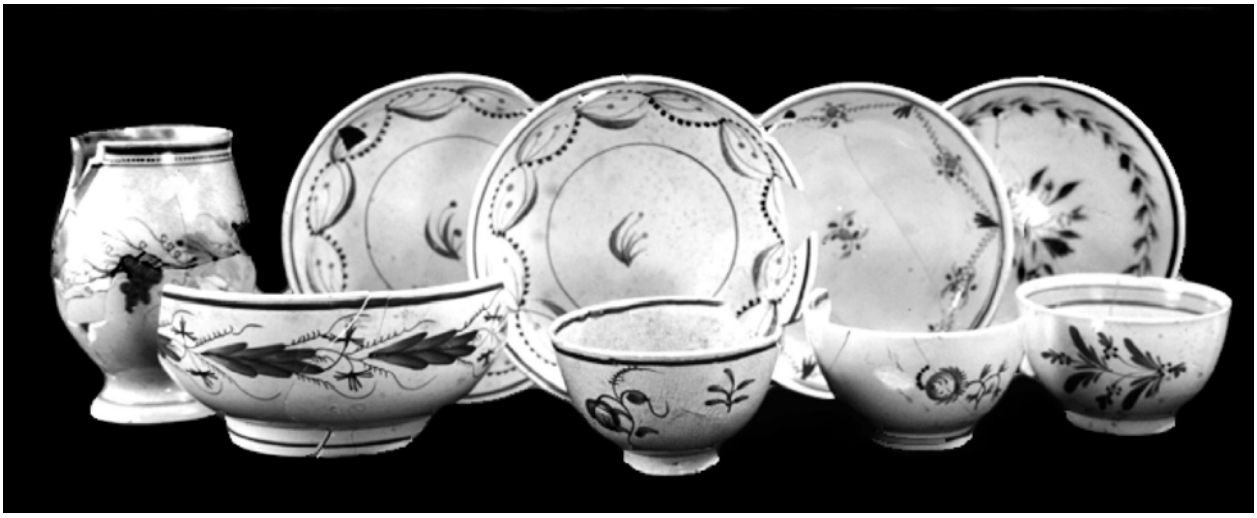

Figure 64. Polychrome-painted pearlware from the Five Points archeological site. Similar vessels are present in the 290 Broadway ceramic assemblage.

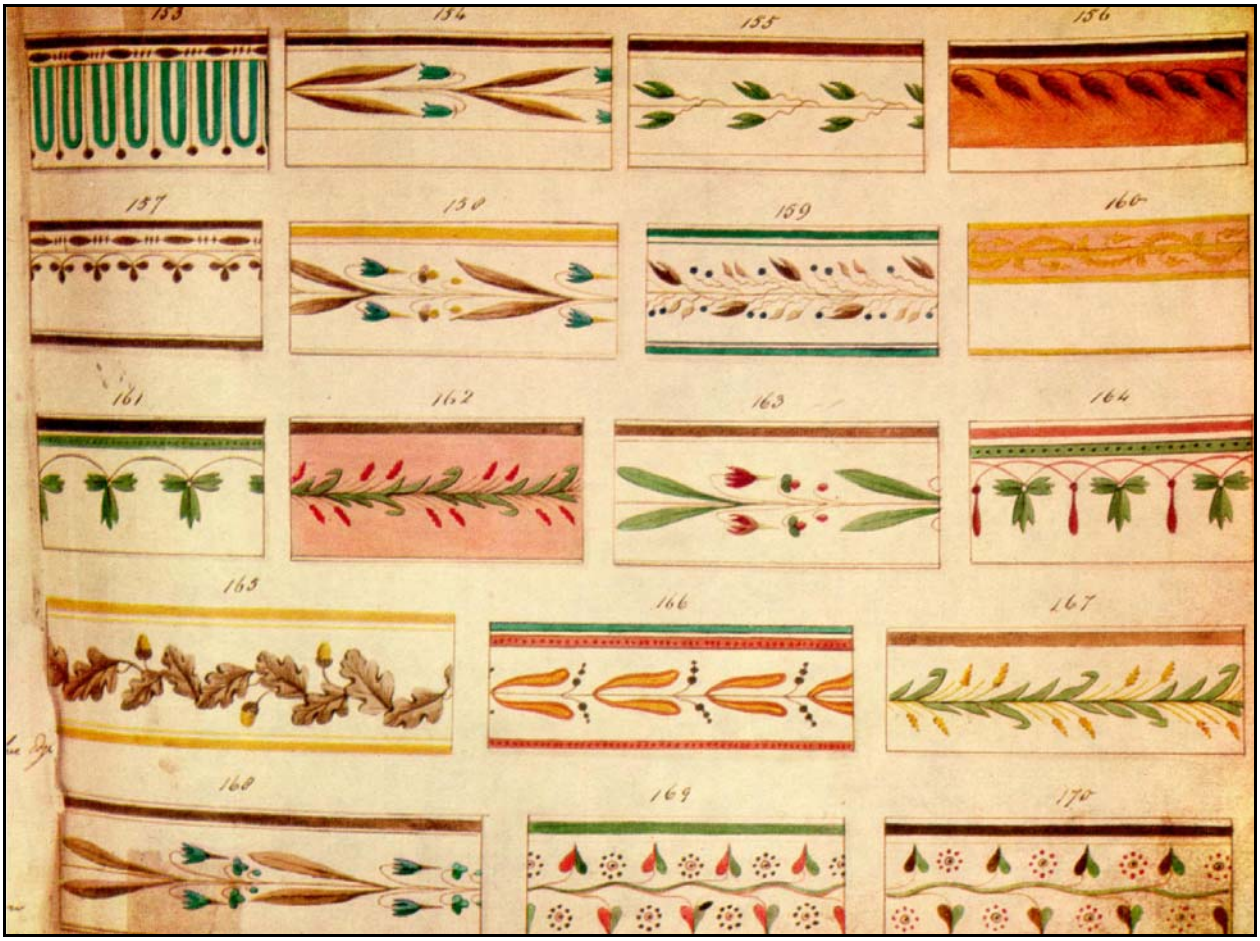

Figure 65. A page from the first pattern book in the Wedgwood Museum showing typical Wedgwood border patterns (Mankowitz 1980).

7.3.2 AU74

AU74 was a wood-lined privy. It yielded 27 vessels (MNV), and the vessel mean ceramic date (MCD) was 1790. The *terminus post quem* (TPQ) was 1780, based on the presence of a pearlware plate with a shell-edged rim pattern that was asymmetrical, undulating, and scalloped with impressed, curved lines along the marley (Figure 60). This shell-edged style dates between 1780 and 1800 (Hunter and Miller 1994:435). Most of the vessels were from the food-storage category and consisted of gray salt-glazed stoneware jugs and small- and wide-mouthed jars. The jars made up more than half of the vessels in the assemblage. The remaining food-related vessels were in the food- and beverage-consumption categories (Table 78), with the exception of one beverage-distribution vessel. The single non-food-related vessel was an unglazed redware flowerpot tray. Numerous pieces of kiln furniture were recovered from the upper layers of the feature. Their presence suggests that some of the fill used to close the feature was taken from the eastern portion of the project area, which was the location of the Crolius and Remmey stoneware kilns.

Table 78. Food-Related Ceramic Vessels in AU74

Functional Categories	Number of Vessels
Food consumption	3
Food distribution	–
Beverage consumption	5
Beverage distribution	1
Food preparation/storage	14
Total	23

The food- and beverage-consumption and -distribution categories are predominately of various decorated pearlware vessels. Four of the five teaware vessels are saucers and include one blue-painted and two transfer-printed pearlware vessels and one oriental porcelain. The porcelain teacup, the blue-painted saucer, and one of the printed pearlware saucers have blue Chinese house/pagoda landscape or floral motifs. The design on the printed saucer includes two birds. The bluish tinting on the body and the Chinese motifs suggest that the non-porcelain vessels are China glaze (Figure 63). The teacup (which does not appear to be oriental porcelain) is fluted and handled. The handled cups are a rare find on American sites. Handled cups, regardless of decoration, would have increased the price of the tea service, therefore making it a somewhat expensive investment. The cup exhibits slight residual marks associated with stirring.

The Chinese porcelain saucer is decorated with an enameled swag motif near the bottom or saucer well (Figure 66). The saucer's decoration is further enhanced by gold overglaze on the swag design. This decorative style seems to have been a common export into New York at the end of the eighteenth century. Various styles of Chinese porcelain were made available after the departure of the British in New York. New York merchants were then free to establish links to the Orient (Howard 1984:111; Mudge 1986:198; Blackmar 1989:45; Burrows and Wallace 1999:270). The goods most desired at the time of this burgeoning market were silk, tea, and porcelain. The vessel in the assemblage represents what would have been considered an expensive ware and more valuable than the common blue on white. While three of the teaware pieces have Chinoiserie designs and two (the handled cup and the porcelain saucer) were expensive, they are all different ware types and could not be considered a set.

Two green shell-edged pearlware plates make up the tableware. The plates have one of the earliest shell-edged styles. The rims are asymmetrical and scalloped, and the lines are curved around the marley (Figure 60). This style is contemporary with the more popular rococo style and was manufactured between c. 1775 and c. 1800 (Hunter and Miller 1994:434). The plates exhibit slight to heavy knife scarring that bespeaks daily use.

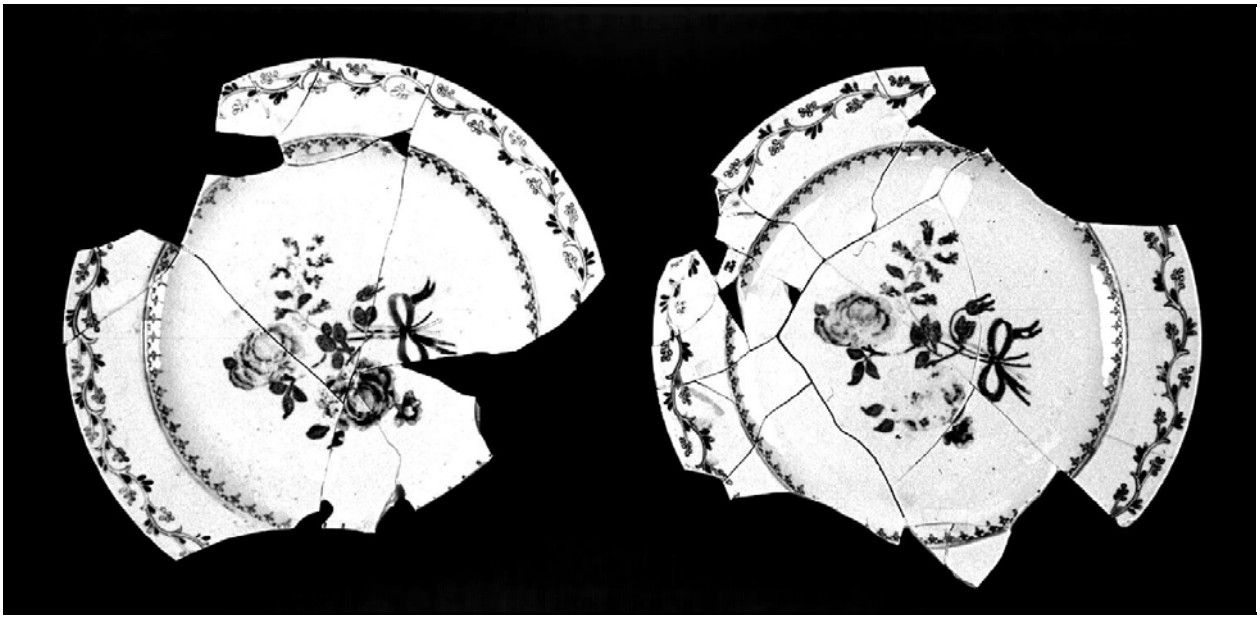

Figure 66. Chinese porcelain plates with enamel decoration recovered from the Five Points archeological site. The decoration is comparable to that of the porcelain from 290 Broadway.

A redware porringer is the only non-fineware vessel in the tea- and tableware assemblage. The porringer is lead glazed with manganese splotches. The vessel shape resembles that of an oversized cup. The main function of the porringer is to contain or hold liquid foods such as soups or stews. While the original form was produced in Europe for centuries, porringers were commonly produced in the Northeast, especially in New England, throughout the eighteenth and early nineteenth centuries (Ketchum 1991a:17–18).

Vessels associated with food storage make up the bulk of the ceramic assemblage. The dominant form in this category is the small-mouthed jar. Because there was no crossmending, the vessels may be wasters from the kilns of either Crolius or Remmey. The stoneware small-mouthed jars exhibit various decorative styles attributable to the Crolius and Remmey potters working on Pot Baker's Hill—in particular, the incised floral pattern termed the moose-antler motif (Janowitz, personal communication 1997). This motif (Figure 67), as well as painted and impressed floral swag-and-dot patterns, is considered the typical style produced by the Crolius pottery works.

7.3.3 AU91

AU91 is a pit located towards the back of the lot. The minimum number of vessels is 25 and the vessel mean ceramic date is 1803. The *terminus post quem* is 1800, based on a shell-edged pearlware plate that has an even-scalloped rim with curved lines along the marley (Miller and Hunter 1990:116). A preponderance of vessel forms (i.e., 19 of the 25) are categorized as food distribution, food and beverage consumption, or food preparation and storage functions (Table 79). The remaining vessels include those with unidentified functions and two flower pots.

Table 79. Food-Related Ceramic Vessels in AU91

Functional Categories	Number of Vessels
Food consumption	2
Food distribution	6
Beverage consumption	7
Beverage distribution	—
Food preparation/storage	4
Total	19

Pearlware is the dominant ware type and is present both in teaware and tableware forms. The printed saucer and a hand-painted flatware vessel have blue Chinoiserie floral motifs. They are an early pearlware style called China glaze. In North America, Chinoiserie decoration was quite popular in the late eighteenth and early nineteenth centuries.

Perhaps the most interesting beverage-consumption vessels are two dipped pearlware drinking cans in a checkered pattern (1780–1825). The vessels resemble the form Jonathon Rickard (1993:186) and the Brandywine River Museum Antiques Show Catalogue (Rickard 1995:6) refer to as a can, used for various types of drinks (Figure 68). Checkered or "chequ'd" is one of the earliest types of dipped decoration (Sussman 1997:48, 82). Lynne Sussman (1997:82) found the earliest mention of checkered decoration in an order placed by a New York merchant in 1774, which included bowls and several pint and quart mugs. Dipped decoration, together with the mechanical technology of "engine-turning," was commonly employed by potters such as Wedgwood, Spode, and Leeds (Rickard 1995:3–4; Sussman 1997:82–83).

The beaded rim with polychrome banding along the body is a later variant of the checkered style. Two bowls in the assemblage are decorated in this style. According to Rickard (1995:3) and Sussman (1997:83), this pattern is associated with the first decade of the nineteenth century. The banded style eventually replaced the checkered pattern.

Figure 67. Moose-antler motif on stoneware jar, Vessel 24, Lot 15, AU74.

Figure 68. Engine-turned pearlware with the checkered border. The teacup (center) resembles the vessel from 290 Broadway (Brandywine River Museum Antiques Show Catalogue 1995).

The tableware from AU91 consists of two plates. The green shell-edged plate is of a style that was quite common at the beginning of the nineteenth century. Plates with an even-scalloped rim with curved lines along the marley were part of the material culture symbolizing the neo-classical era and quickly replaced the earlier rococo pattern (Hunter and Miller 1994:437) (Figure 60). Shell-edged tableware is common on archeological sites throughout North America, and transcends all levels of economic and social class (Miller and Hunter 1990; Hunter and Miller 1994:440). George Miller and Robert Hunter have noted in their analysis of late-eighteenth- to early-nineteenth-century Staffordshire invoices that shell-edged vessels account for at least half of the tableware sold to the American market (Miller and Hunter 1990:204–206; Hunter and Miller 1994:441). Hence, these items were common and inexpensive.

The molded creamware plate has a spearhead pattern illustrated in sources such as Ivor Noël Hume's *A Guide to Artifacts of Colonial America* (1969b) and Donald Towner's *Creamware* (1978). It appears this pattern is a variant of the more popular molded styles such as feather-edged, recovered from archeological sites dating to the last few decades of the eighteenth century. The presence of this decorative variant illustrates the competition among English potters to capture the American market by continually creating diverse shapes. Furthermore, its presence in the assemblage reflects the myriad patterns and shapes available to New York City consumers at the close of the eighteenth century.

The single vessel classified as serving is a plain eight-inch creamware bowl. The bowl most probably functioned as a serving vessel rather than for individual use during the course of a meal. The absence of residual marks reinforces this point. However, there are also two dipped bowls (creamware and pearlware) that are considered serving vessels. Two other dipped vessels of undetermined form also occur in the feature.

Another interesting vessel in the assemblage is a slip-decorated redware vessel that could be either a bowl or a handleless drinking cup. The common drinking forms made in New Jersey and Pennsylvania were bowls and were sold with and without handles (Lasansky 1979:36). This vessel was classified under food distribution also.

The food preparation and storage category consists of two drape-molded redware pie plates and two small-mouthed jars, one of redware and the other of stoneware. The redware jar is covered in a manganese glaze. The maker of this vessel is unknown, but it is probably a product of local potters, although those in Pennsylvania or New Jersey also made them. Many firms in New Jersey and Pennsylvania produced vessels for use in storage of food, such as apple butter (Stradling and Stradling 1977:7; Lasansky 1979:34; Ketchum 1991a:32). The stoneware jar is decorated with a cobalt-blue painted motif on the exterior body. The motif is reminiscent of a design produced by the Crolius potters. The slip-decorated pie plate has multiple wavy lines across its interior.

7.3.4 AU77 (a and b)

AU77 is divided into two analytical units—AU77a is a wood-lined privy and AU77b is a pit cut into the privy. The following pages will discuss each analytical unit separately. There are fragments from a minimum of twenty vessels in the matrix used to fill this wood-lined privy. More than half of the vessels are fragmentary and form only 25 percent of a complete vessel. The mean ceramic date is 1796.14 and the *terminus post quem* is 1790. The terminal date is based on the presence of a dipped drinking can with a checkered-style border (Figure 68).

7.3.4.1 AU77a

Four burials associated with the eighteenth-century African Burial Ground were disturbed during the construction of the privy AU77a. Similar ceramic sherds were found throughout the various strata of the feature. Therefore, the small number of ceramic sherds from the burial matrices was part of the larger depositional episode and not related to the graves.

There are six vessel fragments associated with the fill of the wood-lined privy. The one-half of an undecorated creamware castor lid and a Chinese export porcelain vessel (Table 80) are both probably teaware. Towner (1978:140–141) contends that creamware castors were manufactured in large numbers throughout the last half of the eighteenth century. The Chinese porcelain saucer is represented by the rim. Because of the small diameter of the vessels represented by the single porcelain sherd (five inches), it has been placed in the teaware category and is either a teacup saucer or a bread-and-butter plate. The food-consumption vessel is a black redware porringer. The only other category represented, except for two miscellaneous vessels, is a salt-glazed stoneware storage vessel.

Table 80. Food-Related Ceramic Vessels in AU77a

Functional Categories	Number of Vessels
Food consumption	1
Food distribution	–
Beverage consumption	2
Beverage distribution	–
Food preparation/storage	1
Total	4

7.3.4.2 AU77b

There are fifteen vessels associated with the fill of the pit dug into the privy. The majority of the vessels is food related, with one pearlware chamber pot and one miscellaneous vessel of unidentified form (Table 81).

Table 81. Food-Related Ceramic Vessels in AU77b

Functional Categories	Number of Vessels
Food consumption	2
Food distribution	1
Beverage consumption	5
Beverage distribution	1
Food preparation/storage	4
Total	13

Pearlware is the dominant ware type, with smaller amounts of creamware, redware, and stoneware. With the exception of the creamware vessels, all other pieces are sherds that have distinct forms and decorative styles. The fragments of non-mendable vessels include food-preparation and -storage vessels, such as a sherd of a gray salt-glazed stoneware jar, redware and stoneware pans, and a trailed slipware plate. Based on the basal diameter (five inches), the capacity of the stoneware jar is approximately one to two gallons.

Beverage-consumption vessels are primarily single sherds as well. There is a sherd of a dipped pearlware drinking can with a checkered pattern along its exterior rim that is similar to the ones in AU91 and a creamware tankard. Teaware includes a China-glazed teacup with a Chinoiserie design and two hand-painted blue saucers or bowls. The teapot (base and body sherd present) is manganese glazed. The bottom exterior of the teapot has heavy charring. Black-glazed teapots were common and provided an inexpensive alternative to teapots made of the popular English Jackfield at the beginning of the nineteenth century (Ketchum 1991a:8).

The creamware plate is decorated with the Royal pattern. The plate mends to near completion and exhibits noticeable residual marks (Figure 61). The heavy knife or cutting scars indicate their use in the taking of daily or familial meals. The plate with cutting scars has an impressed "IH" backmark. According to Geoffrey Godden (1964:318), this mark is used by a variety of English potters. The most frequent user of this backmark, however, was Joshua Heath of Shelton, Hanley, England. Heath frequently used this mark

between 1780 and 1800 (Godden 1964:318). If it can be attributed to Joshua Heath, the mark thus provides a fairly tight chronology. The remaining creamware vessel is an undecorated serving bowl. The absence of residual marks indicates that the bowl was probably used for serving rather than for preparing food. The last vessel in the food-consumption category is a porringer with a yellow-brown glaze and manganese mottling. The only food distribution vessel is a plain creamware bowl.

7.4 Lot 16

7.4.1 AU58 (a, b, c, and d)

Four events occurred in this feature location, creating a series of overlapping pits and privies (see 4.7.2.4; Cheek 1999:15), which were assigned to four analytical units. The original feature is AU58a, a deep privy that is parallel to Duane Street. Any ceramic vessels associated with the closing of this privy would most probably have been removed during the construction of the later and smaller privy (AU58b) inside it. AU58b is a privy that is angled slightly in comparison to Duane Street, but in line with the boundary fence (Cheek 1999:15). AU58c is a roughly circular pit that was dug into the smaller privy. Finally, AU58d, a deep pit for a late-nineteenth-century pier, was dug through all of these earlier pit and privy features. The majority of ceramic vessels (41) come from the fill of AU58c. The vessels assigned to AU58d are vessels that did not mend with vessels from the other analytical units, so we cannot tell with which original deposition event they are associated. A few vessels were found in more than one analytical unit, other than AU58d. We do not know whether this is the result of disturbance or if the two deposition events were connected in some way. The ceramic evidence supports the depositional sequence for each analytical unit. As expected, the lower levels associated with AU58a are the earliest and date to the last decades of the eighteenth century. The date for AU58c is in the first years of the nineteenth century. This suggests a quick succession of building and filling episodes. As with the glass data, the pattern of the mends suggests that the two main deposition episodes were AU58a and AU58c. AU58b has very few artifacts and is separated from the AU58a deposits by deposits with few artifacts, which mended only occasionally with vessels from other analytical units. The following sections include a description of the ceramic vessels within their respective analytical units.

7.4.1.1 AU58d

There are fourteen vessels and the vessel mean ceramic date is 1796.9. As with the MCD based on sherds (Table 51), it is between the MCDs for AUs 58a and c. The *terminus post quem* is 1848, based on the presence of a sherd from a Staffordshire blue transfer-printed whiteware plate in the Columbia pattern (Williams and Weber 1978:238). The context containing the rim sherd may be part of the overburden associated with the disturbance of modern construction excavations. The next earliest vessel *terminus post quem* is a c. 1805 date for a green shell-edged plate with an evenly scalloped rim with impressed straight lines on the marley (Miller and Hunter 1990:210). Pearlware is the dominant ware type, making up half the ceramic assemblage, with smaller amounts of creamware, tin-glazed earthenware, black basalt, stoneware, and redware. The vessels assigned exclusively to AU58d are all food-related items (Table 82) with no chamber pots or food preparation/storage vessels.

The beverage consumption and distribution category for tea consists of pearlware teacups, saucers, and lids. The pearlware patterns do not match; the hand-painted lid has a blue floral style common during the first decade of the nineteenth century, one is printed with a blue Chinoiserie landscape, and two are polychrome. The patterns are similar to those on the blue-decorated vessels of the ceramic assemblages from Lot 15, with the exception that the vessels represented here do not appear to be the early China-glaze ware type. They do have the blue tint to the glaze that is typical of pearlware, but it is not as intense as that of China glaze as described by George Miller (1994:4–5). Almost all of the vessels are fragmentary and comprise less than a quarter of a complete vessel, so the identification of residual marks is impossible. There is also an oriental porcelain teacup.

Table 82. Food-Related Ceramic Vessels in AU58d

Functional Categories	Number of Vessels
Food consumption	4
Food distribution	2
Beverage consumption	6
Beverage distribution	2
Food preparation/storage	–
Table	14

A black basalt teapot is present in the assemblage. The teapot is engine-turned in a classical fluted style. Black basalt was extremely popular during the last decades of the eighteenth century, mainly because of its exotic qualities and, more important, for its low cost (Godden 1992:xix). Furthermore, it was believed that the white hands of the hostess would be enhanced while holding the black ware (Godden 1992:xix). The color of the body and the forms produced also coincided with the larger fascination with antiquity and the classical period (Figure 69).

Although Josiah Wedgwood was not the first to produce black-bodied ceramic vessels, the first record of such a vessel was in 1768, when Wedgwood presented a basket containing two Etruscan bronze vases to a wealthy patron (Edwards 1994:25). By the last decade of the eighteenth century, black basalt vessels were advertised throughout the major port cities of Boston, Philadelphia, and New York. In 1796, Ebenezer Young, a merchant in New York City, was advertising teapots in Egyptian black for three shillings (Edwards 1994:88).

The tableware category consists of two small mugs and four plates. The vessels are fragmentary, and only a small portion of the rims and bodies are present. One pearlware plate has shell-edged decoration consisting of an asymmetrical rim with curved lines along the marley. The other plate has an evenly scalloped rim with curved lines on the marley. The twiffler is similar to the even-scalloped plate but with straight lines on the marley. The fourth plate is tin-glazed with a blue painted swag motif along the marley. The two mugs are blue tin-glazed and plain creamware. The tin-glazed mug is decorated with an enameled floral pattern. It is possible that the mug is either a presentation piece or a child's cup. The other child's mug is plain creamware.

A fragmented blue-tinted, tin-glazed bowl is the only certain serving vessel from AU58d. The tin-glazed vessel is decorated with a common underglazed Chinoiserie motif. The central theme consists of a pagoda and a large tree next to it. The rim is decorated with a single blue band. The dipped bowl is a multifunction vessel that is also placed in the serving category.

7.4.1.2 AU58c

The minimum number of vessels from AU58c is 45 and the vessel mean ceramic date is 1801.6. The *terminus post quem* is 1805, based on the presence of a blue-edged pearlware plate having an evenly scalloped rim with straight lines along the marley (Miller and Hunter 1990:116) (Figure 60). Food-related vessels are the majority (n=42). The remaining vessels are classified as miscellaneous or hygiene. Food and beverage consumption make up more than half of the food-related vessels (Table 83). As one would expect from a feature dating to the first decade of the nineteenth century, the preponderance of the vessels is pearlware in a variety of decorative styles. Smaller amounts of creamware, Chinese porcelain, tin-glazed earthenware, redware, and gray salt-glazed stoneware are present in the assemblage.

Figure 69. An example of the fluted-style teapot manufactured during the last decade of the eighteenth century (Edwards 1994:111).

Table 83. Food-Related Ceramic Vessels in AU58c

Functional Categories	Number of Vessels
Food consumption	10
Food distribution	2
Beverage consumption	14
Beverage distribution	8
Food preparation/storage	8
Total	42

The beverage-consumption and -distribution categories contain primarily pearlware saucers and teacups. The vessels are painted either with a polychrome or monochrome floral pattern, with two printed vessels and one overglaze oriental porcelain. Unlike the teaware from Features 56 and 74, the polychrome painted teawares from this feature match. This suggests that the vessels were purchased as a set instead of by the piece. The floral patterns are similar to those that are present in the features in Lot 15. There are a few non-matching vessels in the assemblage, which may represent the household's attempt to replace a broken vessel or add to the existing set. Painted wares were almost impossible to match. Floral patterns changed constantly from season to season. Merchants and shopkeepers were unlikely to carry the same pattern from one season to the next. It appears that the strategy would have been to match vessels based on a common theme. The painted vessels reflect this interpretation to a degree, as there are items in various painted motifs (e.g., teapot and hot-water pitcher). There is one oriental porcelain teacup. Perhaps the most interesting teaware form is a wavy-bodied, diamond-shaped, polychrome painted pearlware teapot (Figure 70). The unusual shape of the teapot can be attributed to the work of the New Hall Company (Godden 1992:251), which was in production between 1781 and 1835 (Godden 1964:466).

A second teapot was recovered from AU58c. It is a lead-glazed, red-bodied, refined earthenware with an engine-turned wavy band. The vessel dates to the last decades of the eighteenth century, and its shape and ware type are based on the original Elers Brothers product. The Elers Brothers were the first to manufacture refined redware tea- and coffee pots throughout the first half of the eighteenth century. The Elerses were responsible for the improvement and refinement of redware by sifting out the impurities (Godden 1992:xiv). The Elerses began creating unglazed tea and coffee vessels imitating Chinese red porcelain by adding prunus blossoms to the exterior body. By 1765, most of the refined redware began to be engine-turned (Godden 1992:xiv). After engine-turning technology was introduced, numerous Staffordshire potters began manufacturing this ware type (Figure 71). By the early years of the nineteenth century, the vessels were usually glazed inside and out.

One of the most colorful ware types in the assemblage is Pratt ware. The name Pratt ware is given by collectors to molded vessels that date between 1790 and 1820. The molded decoration is enhanced with underglaze colors—blues, browns, greens, yellows, and black (Godden 1992:xxii). Although eventually copied by many potters, William Pratt of Delph Lane first manufactured these relief-molded jugs. The two jugs in the assemblage resemble the William Pratt style illustrated in the *Illustrated Encyclopedia of British Pottery and Porcelain* (Godden 1992:plates 468 and 469) (Figure 72).

Perhaps one of the most interesting of the vessels in the assemblage is a black transfer-printed creamware jug (Figure 73). The printed motif commemorates the death of George Washington in 1799. The text reads "America in tears." A weeping Lady Liberty and the American eagle are standing beside the tomb of Washington. The other side of the jug is partially complete, and the remaining text reads "He Would Be A Soldier." Throughout the end of the eighteenth century and the first half of the nineteenth century, numerous English potters produced a variety of patriotic American themes. This practice was designed to revive the depressed ceramic market that was hampered by anti-British sentiment in the United States throughout the early decades of the nineteenth century (Halsey 1974:x-xi; Snyder 1995:5).

Figure 70. Polychrome hand-painted triangular teapot in the style of New Hall Company, decorated side (left), base (right), Vessel 98, Lot 16, AU58c.

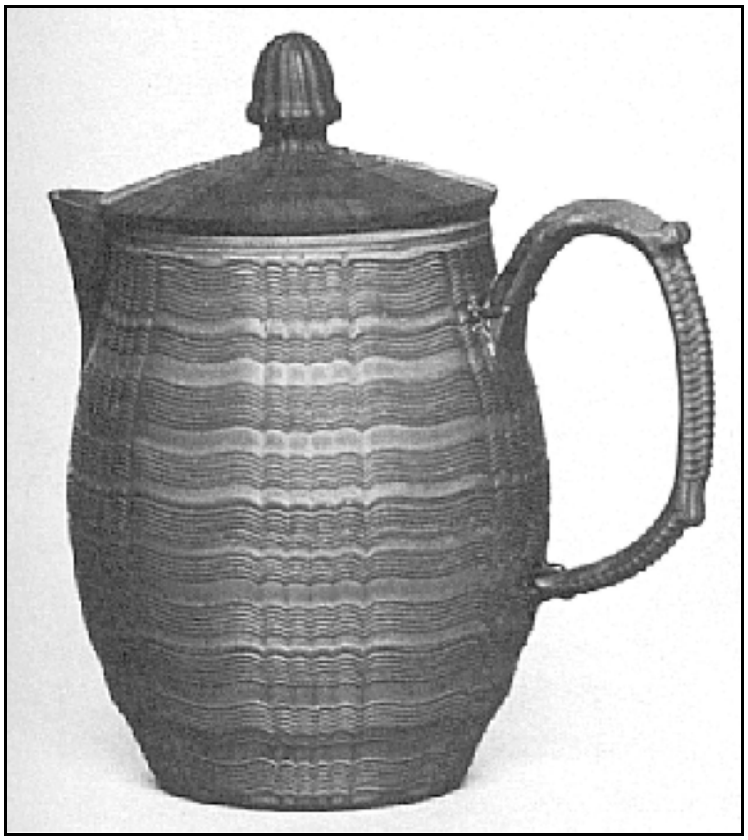

Figure 71. An unglazed example of engine-turned refined redware. The teapot from AU58 has the same wavy line decoration along its exterior body (Godden 1992:Plate 17).

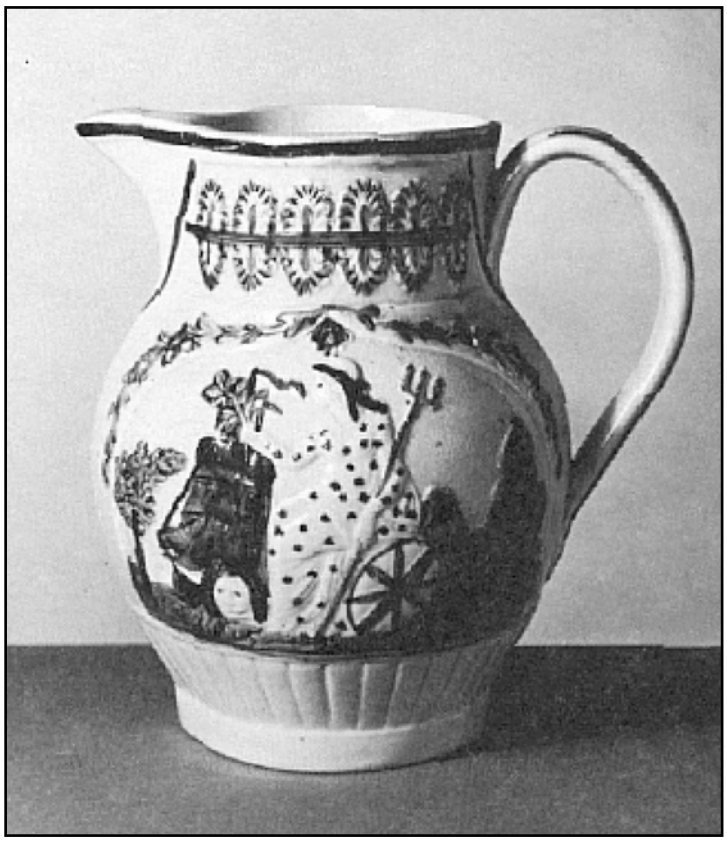

Figure 72. Pratt ware jug similar to those in AU58c (Godden 1992:Plate 469).

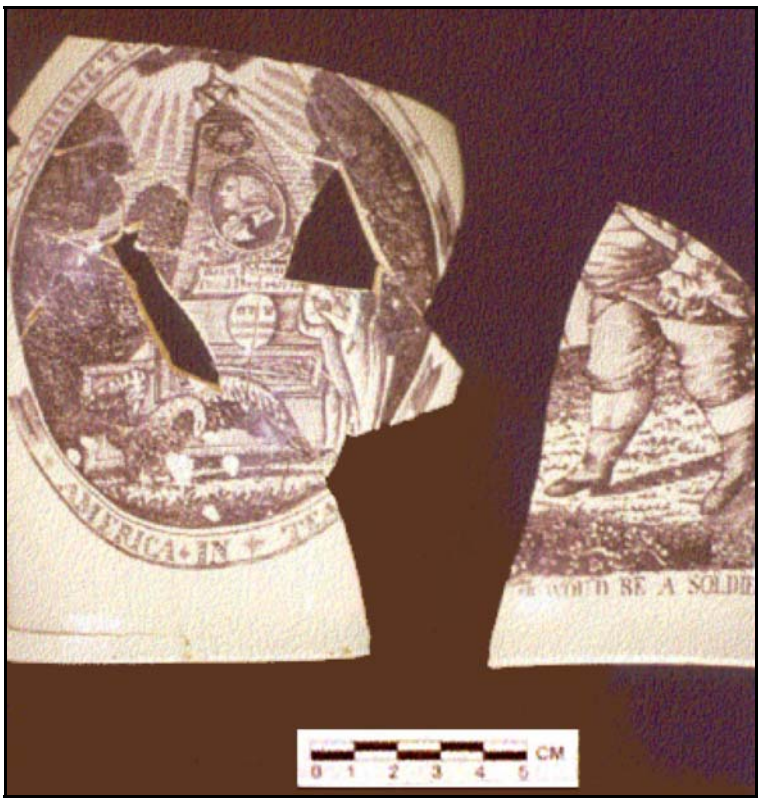

Figure 73. Creamware jug commemorating the death of George Washington, Vessel 115, Lot 16, AU58c.

Two additional pitchers, one for the table and one possibly for primary use in the kitchen, are both classified under beverage distribution. One pitcher is hand-painted underglaze sepia (Figure 74), similar to one of the teacups and a flatware item, and they may have been part of a set. The other pitcher is an undecorated gray salt-glazed stoneware vessel.

The six pearlware table-related vessels are blue and green shell edged. Regardless of color, the majority has the earliest edge design that includes an asymmetrical and undulating scalloped rim and curved lines along the marley (Hunter and Miller 1994:435). The exception is a blue-edged plate with the early-nineteenth-century pattern consisting of an even-scalloped rim with straight lines (Miller and Hunter 1990:210). Present in the assemblage are a soup plate and a large serving platter. The presence of such items reflects a table setting, although not matching in color, used for social occasions in which multiple courses were served. A blue-edged plate and green-edged serving platter have identical manufacturer's marks. The mark belongs to David Dunderdale of Castleford, England (Godden 1964:224). Dunderdale owned and operated a pottery works in Castleford, Yorkshire; the company was in production from 1780 to 1820 (Godden 1964:224).

The remaining tableware consists of three creamware plates—one undecorated and two molded plates in the Royal pattern (Figure 61)—and a creamware tankard. The vessels have visible and heavy residual marks in the form of knife cuts and fork scratches. The plates are probably remnants of a table setting that was used for everyday family meals. By the last decade of the eighteenth century, creamware was relegated to the status of utilitarian ware and became identified as a low-status item (Miller 1994:15). The remaining two food-consumption vessels were undoubtedly used in different times and spaces. They were a clear-glazed redware porringer and a oriental porcelain vessel the size of a muffin plate.

There are nine vessels relating to food preparation and storage. The storage vessels include two gray stoneware items, including a wide-mouthed jar (Figure 75), and an unglazed, red-bodied hollowware item. The latter vessel is thinly potted and resembles a vessel that Ivor Noël Hume (1969b:77) refers to as a late-seventeenth-century Iberian storage jar (Figure 76). The food-preparation-function vessels include three mixing bowls, two milk pans, and a deep dish/pan. The redware milk pans are brown and yellow-brown glazed, and the redware dish is slip-decorated. The three mixing bowls are undecorated creamware and pearlware. Residual marks in the form of stirring patterns indicate their constant use in the activity of food preparation.

The five hygiene vessels include a redware close-stool pot and undecorated chamber pots in creamware, redware, stoneware, and tin-glazed earthenware. The tin-glazed pot has a bluish tint with a rolled rim. The vessel mends to near completion. While tin-glazed vessels ceased to be used for tea- and tableware, they were used as medicinal containers and chamber pots up until the first decade of the nineteenth century (Miller 1994:10). The stool pot is covered with a black manganese glaze and has a flat everted rim that was made to fit into a close stool—a seat or box, usually framed of wood (Figure 77). The squat curved body of the chamber pot reflects the style common during the last decades of the eighteenth century (Noël Hume 1969b:146–148). There is also a pearlware ointment pot.

7.4.1.3 AU58b

Only one vessel included sherds from this analytical unit. It was an oriental porcelain overglaze teacup. However, the majority of the sherds came from AU58a, and the vessel was assigned to that analytical unit.

7.4.1.4 AU58a

There are twelve vessels in the assemblage. The mean vessel ceramic date is 1785.4 and the *terminus post quem* is 1795, based on the presence of a polychrome pearlware lid. Beverage-consumption vessels dominate the assemblage (Table 84).

Figure 74. Sepia hand-painted pearlware jug (Vessel 103) and handleless teacup (Vessel 160), Lot 16, AU58c.

Figure 75. Wide-mouthed, salt-glazed, stoneware jar with applied handles and a floral decoration, Vessel 126, Lot 16, AU58c.

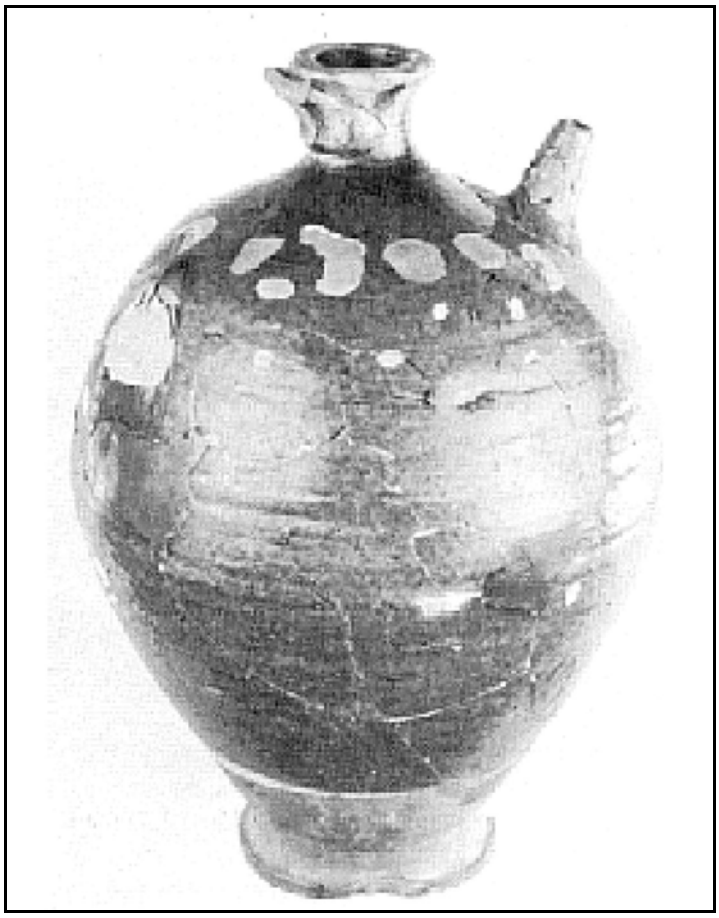

Figure 76. Spouted jug of redware, believed to be Iberian from the second quarter of the seventeenth century (Noël Hume 1969b:77).

Figure 77. Black-glazed redware close-stool pot, Vessel 146, Lot 16, AU58c.

Table 84. Food-Related Ceramic Vessels in AU58a

Functional Categories	Number of Vessels
Food consumption	1
Food distribution	1
Beverage consumption	6
Beverage distribution	1
Food preparation/storage	3
Total	12

There are seven tea-related vessels; four of the seven vessels are Chinese porcelain teacups and saucers. While the porcelain vessels do not match, they do, however, share a common enameled floral spray with gilt highlighting. Common enameled patterns exported at this time were floral vine motifs, usually with gilt highlights. The vessel is considered an above-average export and quite expensive (Howard 1984:111; Mudge 1986:198–200). The vessels were most likely sold by the piece or sold as a set with the various floral patterns.

The remaining three vessels are an underglaze polychrome painted pearlware teapot lid, a blue hand-painted saucer, and an enameled polychrome floral-decorated creamware teacup. The latter vessel is considered somewhat rare. It is more common for creamware vessels exported to North America to be decorated in molded patterns or plain (Miller 1994:15). The teacup has visible, although slight, residual marks.

A plain creamware twiffler and a ribbed creamware serving bowl comprise the non-beverage tableware. The molded bowl is ten inches in diameter. Visible along the interior base and body are residual stir marks.

The three food-preparation vessels are a stoneware jug and two redware slip-decorated pie plates. Both redware vessels are decorated with wavy trailed lines. The vessels are fragmentary, making any further analysis inconsequential.

7.4.2 AUs 79 and 108

No vessels were defined for AU79 because of the small size and number of sherds. AU79 was identified as a privy, but its fill was apparently not from an abandonment event. It did have identifiable sherds from an oriental porcelain saucer and teacup, a turned redware teapot and lid, a plain creamware bowl and a hand-painted overglaze bowl (both of undefinable diameter), and a drape-molded slipware-trailed plate.

AU108 had three vessels defined. The refined wares included a creamware Wheildon teacup and a plain hard-paste porcelain saucer. Most of the sherds were from kiln debris, suggesting this pit may have been dug early in the occupation of the lot or even before the use of the lot residentially. Among the stoneware sherds was the last defined vessel, a blue-decorated stoneware tankard.

While the vessels in AU108 suggest a pre-residential occupation, those from AU79 suggest contemporaneity with AU58a, which has the most oriental porcelain and drape-molded plates.

7.5 Discussion

The ceramic assemblage from Lots 15 and 16 spans the last decade of the eighteenth century and the first years of the nineteenth century. The average mean ceramic date for both lots is 1796.6, and the latest dating vessel, aside from overburden debris, is 1802. The presence of mendable vessels indicates the features were filled and abandoned quickly in a single depositional episode. The dates of ceramic vessels complement the historical documents, and it appears the combined assemblage is part of the back-lot filling episode of Lot 15 and the c. 1803 departure of the occupants living on Lot 16.

There are some limitations in the analysis. It is difficult to argue that a single household owned all the ceramic vessels. Equally troubling is attempting to divide the assemblage to allocate each ceramic category to a particular household. In a city where there is access to all types and varieties of goods, it is too simple to

state that ceramic types considered to be low in status are associated with the tenants while the landowners possessed the costly items. Numerous studies have been conducted to illustrate otherwise (LeeDecker et al. 1987; Klein 1991; Klein and LeeDecker 1991; LeeDecker 1991; Brighton 1996; Cook et al. 1996). What the assemblage does represent is the potential to illustrate the broad pattern of consumption and reveal the relative rejection or acceptance of consumer goods and the behaviors associated with the emergence of urbanization and industrialization (Paynter 1988:407–408).

A broad approach to the ceramic assemblage can illuminate patterns of standardization in ceramic forms and decorative types used for specific occasions. For example, different sets of tea and tableware containing specialty forms illustrate the emergence of new schedules of time discipline—a direct influence of industrialism and urbanization (Wilentz 1984:94; Shackel 1996:2, 144). Blackmar (1989:51) argues that by the end of the eighteenth century, everyday lives were restructured in ways that included their social and spatial landscapes. By 1800, there was an emergence of time routinization and competition in the marketplace that gradually changed society—creating new opportunities as well as pressures (Blackmar 1989:50–51).

The last decade of the eighteenth century was a period of economic and spatial expansion in Manhattan (Rubin 1967:24–25; Bridges 1984:9–10; Blackmar 1989:76; Wall 1994:2; Burrows and Wallace 1999:338). Between 1790 and 1820, wealth per capita in New York rose 60 percent (Wilentz 1984:25). Post-war Manhattan experienced a growth in international trade. Restrictive controls enforced by England were lifted and, as a consequence, unleashed a new set of business practices and specialization (Burrows and Wallace 1999:339). New York merchants developed new trade contacts other than Great Britain, for instance India, the Balkans, and China (Burrows and Wallace 1999:337). As profits were on the rise, the distribution of wealth decreased, thereby generating an increasing inequality in the population and accentuating disparities (Bridges 1984:9–10; Wilentz 1984:25; Paynter 1988:424).

The emergence of inequality and competition established the formation of neighborhoods that distinguished between the propertied and the propertyless. At this time, there begins to be a flow of rent from one to another—fostering the new structure of class relations within the city's social landscape (Blackmar 1989:76). According to Wall (1994:5), there is also a change in the ideology of the marketplace concerning the principles of land exchange. Land, labor, and goods cease to be tools of social interaction and begin to be utilized as commodities to be bought and sold. Once thought of as a social or moral issue, work becomes an economic one (Wall 1994:5). Property becomes something of a set of complex relations and created antagonistic and unequal forms of interactions, replacing the eighteenth-century idea of the natural right of all men to own property of their own labor (Blackmar 1989:73). Thus, the economic boom sparked ideals of inequality, capitalism, and the increasing standardization of the material culture that were expressed in new customs of drinking tea and dining in the newly industrialized urban society (Wilentz 1984:25; Paynter 1988:413–416; Blackmar 1989:51). The styles of decorated vessel forms and ware types from 290 Broadway exhibit some patterning of time routinization and standardization. For instance, the plain and Royal-pattern plates have heavy residual marks associated with daily use. In contrast to this, slight residual marks on pearlware shell-edged plates and serving dishes indicate sporadic use for special and formal dining activities. The households on both lots owned certain food distribution items that have the special function of serving multiple courses. Therefore, during the ritual of social dining, food was neither shared nor presented and served from the table plates used for eating.

The presence of serving pieces indicates that food was served from separate vessels either placed on a sideboard or placed around the table. Various etiquette books were readily available to the public by the beginning of the nineteenth century, and it appears that the households on Lots 15 and 16 subscribed to guidance given by such literature (Fordyce 1987:85–113; Carson 1990:28–29). In the same vein, the households preferred to use plain creamware cups for daily tea times and reserved the brightly decorated polychrome teaware for a specific time that was considered to be special or, in the case of Lot 16, the family made use of enameled Chinese export porcelain. The latter vessels are considered a class above the average export and would have been used for the most elaborate occasions (Howard 1984:111; Mudge 1986:199).

In comparison to other contemporary New York archeological assemblages, it appears the vessels in the 290 Broadway assemblages reflect the type of ceramics available to New York's artisan and merchant

community. With the exception of the Chinese export porcelain, none of the vessels discussed would have been very expensive. For this comparison, the ceramic assemblages for each lot-specific feature have been combined to provide a comprehensible representation of the total number of vessels actually used and discarded between 1796 and 1803–1805 (Tables 85 and 86). The assemblage resembles the ceramic forms purchased and discarded by others of the same professional status along nearby Pearl Street in an area known as the Five Points (Tables 87 and 88).

Table 85. The Combination of Food-Related Ceramic Vessels from Each Feature from Lot 15

Functional Categories	Number of Vessels	Percent of Total
Food consumption	19	21.3
Food distribution	9	10.1
Beverage consumption	29	32.6
Beverage distribution	5	5.6
Food preparation/storage	27	30.3
Total	89	99.9

Table 86. The Combination of Food-Related Ceramic Vessels from Lot 16

Functional Categories	Number of Vessels	Percent of Total
Food consumption	15	22.1
Food distribution	5	7.4
Beverage consumption	26	38.2
Beverage distribution	11	16.2
Food preparation/storage	11	16.2
Total	68	100.1

The area northeast of 290 Broadway experienced dramatic changes both to its landscape and in the nature of its occupants. The filling of the Collect Pond was in its early stages, and the structure of the community changed from an industrial setting to that of an artisan and merchant enclave (Yamin 2000). Among the artisans and merchants were Tobias Hoffman, baker, and William Wilson, merchant (Tables 87 and 88). The assemblages are analogous to the households on the Broadway Block and further illustrate the new ideas of standardization in the ritual of dining and tea drinking. The decorative food- and beverage-consumption and distribution vessels include shell-edged plates and platters, as well as polychrome and blue-painted teacups, saucers, and teapots (Brighton 2000b). The familial or everyday food- and beverage-consumption and distribution vessels were either plain or Royal-pattern creamware forms.

Table 87. Food-Related Ceramic Vessels in the Tobias Hoffman (Baker) Assemblage from the Five Points Site

Functional Categories	Number of Vessels	Percent of Total
Food consumption	29	23.6
Food distribution	10	8.1
Beverage consumption	63	51.2
Beverage distribution	5	4.1
Food preparation/storage	16	13.0
Total	123	100.0

Table 88. Food-Related Ceramic Vessels in the William Wilson (Merchant) Assemblage from the Five Points Site

Functional Categories	Number of Vessels	Percent of Total
Food consumption	8	20.5
Food distribution	7	17.9
Beverage consumption	16	41.0
Beverage distribution		0.0
Food preparation/storage	8	20.5
Total	39	99.9

The tea-related beverage-consumption and -distribution vessels are comparable in shape and form to those of 290 Broadway. By the early nineteenth century, tea sets included a teapot, cream jug, sugar bowl, cups, and saucers (Carson 1990:28). The polychrome decorations are of a floral and vine pattern. The blue-painted vessels are often on a China glaze body. It appears that both the Hoffman and Wilson households, also possibly the Freeland (Lot 16) and Valentine households (Lot 15), may have utilized at least three sets of teaware—further segregating and standardizing the social ritual of tea.

Although they were a standard product of every Staffordshire pottery throughout the late eighteenth and early nineteenth centuries, the presence of various-sized plates, platters, a pepper pot, and a tureen ladle illustrate the standardization of dining. Plates ranging in size from five to ten inches in diameter suggest that various foods and ways of eating are being incorporated into the ritual of formal meals, as evidenced by, for example, soup plates (Fordyce 1987:85–113; Carson 1990:29). The presence of a shell-edged decorated tureen ladle suggests this, as soup would be served not from the plate but rather from a tureen.

In conclusion, the pattern of segmented dining and social tea drinking is evident. The artisan and merchant communities reflect the larger change occurring in New York City. By the end of the eighteenth century, New York experienced a major socio-economic transformation. The ideology of industry and profit seeped into and changed the way daily affairs were conducted.

The ceramic assemblage from 290 Broadway and the Hoffman and Wilson households reflects this phenomenon. The presence of different sets of tea- and tableware containing different vessel forms and decorative styles illustrates the emergence of an ideology concerning the hierarchy of meals based on new schedules of time discipline subscribed to and acknowledged by the artisan and merchant classes. It has been argued here that form and decorative style signified the type of activity being conducted. This is further emphasized by the residual patterns evident on the ceramic forms. The standardization of meals and tea drinking, each having specific times and accouterments, is a direct influence of the rapid transformation of post-war Manhattan. By approaching the ceramic assemblage from this broad perspective, the ceramic forms provide insight into how the everyday lives of Manhattan's artisan- and merchant-headed households were restructured and standardized during the process of urbanization and industrialization.

8.0 BOTTLES, TUMBLERS, AND STEMWARE

by Michael Bonasera

8.1 Introduction

The 290 Broadway glass assemblage was deposited during a period of nearly a century on a property that was used as a place of burial outside the limits of Manhattan and, later, as a residential and commercial block. By the end of the first decade of the nineteenth century, representatives of the major classes and laboring groups, except for the elite and wealthy merchants, occupied Block 154.

In comparison with other historic sites excavated in lower Manhattan, the Block 154 glass assemblage is relatively small. The analysis identified 345 vessels and a few thousand sherds that could not be assigned to vessels. The residents of the block were generally using decorated, popular glassware. These glass vessels, often manufactured in Europe, were available in port cities like New York. Although the assemblage includes English products, Bohemian-type glass dominates the assemblage and was recovered on every lot on the block.

The goal of the glass analysis is to identify the drinking and dining habits of inhabitants whose ethnic, occupational, and economic affiliation or social status was similar. We identify the common and rare types of vessels that were in everyday use in this neighborhood. The people living here were laborers, artisans, and small merchants—many of whom could be considered middle class, as it came to exist in the nineteenth century. We also identify the glass in areas identified as industrial or non-domestic.

The analysis used individual vessels (the minimum number of vessels) since vessels, not sherds, are the best indication of use habits. After washing and labeling, the first step in the analysis of the glass assemblage was to crossmend the sherds within each feature. A vessel is considered as such primarily when sherds mend to form identifiable vessel shapes. Each vessel was then given a unique vessel identification number. Although there are often more bases than necks, the necks and finishes carry more information, so they were considered the primary indicators of a vessel. Glass sherds that did not mend but exhibited unique characteristics (e.g., decorative style, a base that did not go with a neck, a neck, or vessel form) also were considered vessels. Vessels, therefore, have from one to many sherds. Those that do not contribute to a vessel are called remainders.

Vessels were assigned to the context in which they were found. If a mended vessel came from multiple contexts, it was assigned to the one with the most fragments. The analysis of the glass assemblage is drawn from the classification of vessels, although the remainders are mentioned to help describe the characteristics of the assemblage.

8.2 Southeast Area

A block of excavation units was dug in the southern area of Lots 20, 20½, 21, and 22. Several features were identified—most were irregular pits. All but one of the SE Area features (F138) are eighteenth-century deposits. The frequency of pre-Revolution glass fragments is lower than that of Lot 12 and the NE Area—only forty glass fragments were found in Phase 1 proveniences. Thirty-one were recovered in three features (Features 139, 163, and 167). Eight fragments were found in AU139 (F139) in EUs 32 and 33. AU167 and AU163 contained nineteen and eight fragments respectively. None of these fragments represents a large portion of a vessel. Two vessels were identified in AU167: a square aqua base characterized by excessive bubbling with two non-mending body fragments (v.336) and a wine bottle (v.321). Vessel 336 appears to have been manufactured in the eighteenth century and may have been a snuff bottle. AU163, a trench, had two bottles and one possible flask (v.347). The neck and finish fragment (v.350) of a wine bottle indicates manufacture during the second or third quarter of the eighteenth century (Jones 1986:Figure 15). The other bottle (v.351) does not appear to be an alcohol bottle. Sherds from tableware are rare. The only tableware-vessel fragment was a clear stemware foot fragment not assigned a vessel number, which was also recovered from F167. It seems to be an early-nineteenth-century type. One aqua flacon (v.348), a small stoppered bottle, which seemed to be a pre-Revolution type, was found in the A/B horizon, AU521. The

glass assemblage recovered in the SE excavation units is not indicative of a household deposit, suggesting that the irregular pit features may have been dug for disposal of kiln furniture and waste (Table 89).

Table 89. Glass Vessels in the SE Area, Phase 1

AU	Function	Decoration	Vessels	Begin Date	End Date	Comments
163	Flask (?)		1		1776	v.347, straight finish, fire-polished lip, aqua
163	Hollowware		1		1776	v.351, thick green kickup fragment, dissimilar to alcohol vessels in form and color
163	Wine		1	1737	1774	v.350, neck and finish fragment, olive-green, see Jones 1986, Figure 15
167	Hollowware		1			v.336, square base, aqua, possible snuff bottle
167	Wine/Liquor		1			v.321, base, olive-green
521	Flacon		1	1750	1776	v.348, high kickup, aqua, blowpipe pontil

8.3 Northeast Area

Ten excavation units were dug in an area near the northeast corner of Block 154 in Lots 20, 20½, and 21. The strata under the late fills include a number of complex fills or occupation deposits over a gray-brown historic surface. The units were excavated in two tiers, oriented roughly east–west, and are described in north–south pairs from west to east.

8.3.1 Lot 20 (EUs 1, 7, 5, 10)

Pre-Revolution deposits, the lot fill, and twentieth-century contexts were encountered in EU7 and EU5; however, the glass remains indicate that a considerable degree of disturbance had occurred (Table 90). This is not unexpected since the western edge of the unit is a nineteenth-century wall and builders' trench (F169) between Lots 20 and 18. For instance, an unidentified amber finish (v.334) recovered on what appears to be the late-eighteenth-century ground surface (AU520) appears to be from the last quarter of the nineteenth century. A stemware stem with white gauze and a pink spiral was recovered in AU520, the historic ground surface (v.330). The robust, lower portion of the stem was leaded and was probably made in England between 1750 and 1775 (Nöel Hume 1969a:Figure 12). A mixture of aqua fragments and olive-green alcohol container fragments with dissimilar patinas and a few heavily abraded tableware fragments was also found with one more-recent clear fragment. Very few fragments were recovered from the A/B and C horizons. These glass fragments are typical of those from the NE Area: they are generally larger than the fragments from the Lot 12 excavation units. Phase 1 or 2 strata were not encountered in EU10.

Three early features in the historic ground surface (F2B, F3B, F32) were identified. The glass recovered in the top of AU2B consists of a few tableware fragments engraved with a variation of the most common Bohemian-type motif—the ellipse and diamond (v.346). A possible lighting font was also identified (v.349). One clear unidentified fragment with a sloping shoulder that terminates in a small-diameter, fire-polished finish was recovered lower in AU2B. Since some of the v.346 fragments mend with fragments from deposits that were assigned to disturbed fill, it may actually belong to the disturbances that occurred when the F169 lot wall was installed.

Although there were many more fragments in AU3B (21) than in AU2B (2) (in EUs 7 and 5), no diagnostic material was noted. Remainders included a probable French-finish wine-bottle fragment and other olive-green fragments. All have very heavy patination. Heavily patinated tiny olive-green fragments were recovered in the lowest glass-bearing stratum of the feature. AU3B contained a few mostly olive-green alcohol-container fragments. A cobalt fragment, possibly of a salt, was also recovered. The last feature, AU32, contained only an olive-green, a green, and an aqua fragment.

Table 90. Glass Vessels in the NE Area, Phase 1

Lot	AU	Function	Decoration	Vessels	Begin Date	End Date	Comments
20	2B	Flip	Engraved diamond and ellipse	1		1776	v.346, Phase 1 and Phase 6 mends, unleaded
20	2B	Possible lighting		1		1776	v.349, possible font fragment, unleaded
20	520	Stemware	Gauze and spiral	1	1750	1775	v.330, robust stem only, pale pink gauze within pale pink spiral, leaded
20	520	Unidentified		1			v.334, amber
20½	154	Stemware	Crizzled (?)	1	1700	1750	v.328, domed foot, fire-cracked
20½	520	Hollowware		1			v.325, thick base, aqua
20½	520	Wine		1			v.326, kickup, olive-green
20½	520	Medicinal vial		1			v.327, aqua

8.3.2 Lots 20½ and 21 (EUs 3, 9, 6, 8, 4, 2)

The historic ground surface (AU520) of Phase 1 was identified in all the excavation units (EUs) except EU8, which was not excavated to the level of this stratum. Four features were excavated into the surface. A pit was found in the northeast corner of EU3. In EUs 2 and 4, there were two trenches (F154 and F155) and a feature complex (F1B and F4B) of burnt material that overlay brick fragments and stones around a depression.

The highest frequency of glass fragments occurred in EUs 3 and 9 with the majority being non-diagnostic olive-green sherds. The material in the historic ground surface in EU6 includes some melted glass, which was not often reported in the NE Area. The historic ground surface of EU2 was littered with non-diagnostic olive-green fragments and one aqua fragment. Phase 1 or 2 proveniences were not identified in EU8, and small assemblages of aqua and clear sherds were found in the other units.

In EU4, larger fragments were recovered in the historic ground surface (AU520) and AU154, a deposit in the trench in the ground surface of EU4. An aqua kickup/bearing surface/lower body fragment of a small flacon, alcohol-container fragments, and clear tableware fragments had been deposited on the historic ground surface. Flacons contained European products such as olives or olive oil (Jones 1993:Figure 8); however, the contents of this vessel cannot be determined due to the absence of a neck/finish. A distinctive glass disease pattern on non-mending fragments suggested that some of the feature fill and some of the AU520 glass were part of the same olive-green alcohol bottle. A domed stemware base fragment (v.328) from AU154 was manufactured in the first half of the eighteenth century and was crizzled and cracked by fire (Table 90). Three other vessels—a medicine vial (v.327), an aqua unidentified hollowware (v.325), and a wine bottle base (v.326)—were collected from the ground-surface deposit.

The glass assemblage in AU1B had no identifiable vessels and consisted primarily of olive-green fragments. An intrusive twentieth-century sliver of green glass and a remainder with an aqua neck and fire-polished finish were noted also. The aqua fragment may have been part of a flask. The AU4B fill, with a fifth fewer fragments (14), is mainly composed of heavily patinated alcohol-container sherds and an embossed blue bottle fragment that postdates the first quarter of the nineteenth century. One fragment in the underlying stratum of the feature seems to be part of the lower body of a large, ribbed flip.

8.3.3 Northeast Area Discussion

The pre-Revolution assemblage recovered from the historic ground surface, feature deposits, and fill is quantitatively similar to the Lot 12 Phase 1 assemblage, but not qualitatively similar. These differences are not particularly meaningful, of course—first due to sampling size inequity, and second because of the differences in feature types between the areas. The NE Area has a greater percentage of tableware (44 to 36

percent), fewer alcohol vessels (10 percent to 50 percent for Lot 12 Phase 1), and a more diverse collection of vessel types. This is represented in the additional forms of a flacon, a possible flask, and a lamp component. Two of these vessels denote activities that can be associated with a household more confidently than the alcohol and tableware vessels (which need not be used in a dining room), or unidentified containers. The presence of a pattern-mold paneled and diamond-and-ellipse engraved Bohemian-type flip in AU2B, an early feature in the historic ground surface, suggests that the most commonly discarded Bohemian-type vessel of the Broadway Block was imported to America for more than two decades. However, this piece mends with fragments in the later deposits above it and could be an intrusion into the feature. Another possible indication of the mixture of Phase 1 material by later activity is the presence of most of the tableware items in Lot 20 next to the disturbance created by the nineteenth-century wall (F169).

8.4 Mid-Block Area

8.4.1 Lot 14

F107 was described as the eastern end of a ground surface (shell midden or floor), of which only the lower 0.1–0.2 feet remain. Non-mending olive-green alcohol-bottle, clear tableware, and green glass remainder fragments were noted.

8.4.2 Lot 15

Three families and one individual, or four families, lived on Lot 15. The earliest inhabitants were Wiert Valentine, his wife Metje Meyer, and five children, according to the New York City Tax Assessments and the 1800 federal census. Valentine was a cartman (also listed in the directories as a dock builder or laborer) who bought the property in 1796 and lived there until 1809 or 1810. His property was assessed at $1,400, the highest real-estate value on the street (New York City Tax Assessments 1799). This suggests that Valentine's house was substantial since the lot was an average size. Thomas Meyers and his family lived in the same house from 1800 to 1809 or 1810. He was also a cartman and had a wife and two children. A free African-American woman named Harriet also lived in the house. Martin Ramsey, his wife, and his children lived there also.

Four features were excavated on the lot. F56 was a truncated, wood-lined privy. Field records indicated that most of the feature was excavated without isolating strata, an error of little consequence due to the rapid deposition of cultural material. F74 was also wood lined and was probably a privy as well. F77 was interpreted as a possible privy and pit, and F91 was interpreted as a pit.

8.4.2.1 AU56

The deposit contained 73 glass vessels (Table 91) and several hundred remainders. The majority of the remainders was from tableware. The feature was filled rapidly in 1809 or 1810, probably just prior to the filling of the lot. There was no discernable stratification within the feature fill. The glass TPQ was 1800 (v.126 and v.127). These vessels were undecorated cylindrical tumblers, a form that replaced the conical tumbler and was initially manufactured in the early 1800s (Jones and Smith 1985:Figure 33).

Table 91. Glass Vessels in AU 56, Lot 15

Function	Decoration	Vessels	Begin Date	End Date	Comments
Flip	Engraved diamond and ellipse with pattern-molded fluted panels	3	1780	1810	v.96-98, conical, different heights
Flip	Pattern-molded fluted panels	3	1780	1810	v.99-101
Flip		6	1780	1810	v.102-107
Tumbler		7	1780	1810	v.108-110, 112, 113, 117, 118, conical, glass-tipped pontil
Tumbler	Engraved basket of flowers	2	1780	1810	v.115, 116, conical, ground ring around glass-tipped pontil, nearly identical motifs
Tumbler		4	1780	1810	v.111, 114, 119, 120, conical, ground ring around glass-tipped pontil
Tumbler		3	1780	1810	v.121, 123, 125, unknown shape, glass-tipped pontil
Tumbler		2	1780	1810	v.122, 124, unknown shape, ground ring around glass-tipped pontil
Tumbler		2	1800		v.126, 127, cylindrical, glass-tipped pontil
Tumbler	Enameled floral, raptor perched on heart, includes a white raptor, a blue heart with red and white, blue, red, white, gold and green flora, surmounted by a bold red line and a scalloped white line	1	1780	1810	v.128, conical, glass-tipped pontil
Tumbler	Enameled floral	1	1780	1810	v.129, similar to vessel 128 but less complete
Mug	Tooled or molded threading	1			v.130
Mug	Applied threading	1			v.131
Stemware		2	1780	1805	v.132, 135
Stemware		1	1780	1810	v.133, folded foot
Stemware		1	1780	1810	v.134
Decanter		1			v.136, tapered
Unidentified tableware or serving piece		1			v.137, foot fragment
Creamer		1			v. 138, cobalt, similar to vessel 217, AU519, Lot 12
Salt		1			v.139, cobalt, disc-shaped
Wine		3	1760	1790	v.140, 141, 143, wider-bodied
Wine		1			v.142
Wine		6			v.144-149, narrow-bodied
Unidentified hollowware		8	1760	1790	v.150, 151, 163-168
Demijohn		1			v.152, unknown shape
Medicinal vial		7			v.153-159, 6 aqua, 1 clear
Medicine bottle		2			v.161, 162, octagonal, aqua
Lampshade		1			v.160, flanged

Forty (55 percent) of the seventy-three glass vessels were tableware. Twelve flips, twenty-two tumblers, two mugs, and four stemwares were recovered. There were six flips with pattern-molded flutes; the three more-complete vessels were engraved with crosshatched ellipses and diamonds above the flutes (v.96 to v.98) (Figure 78). The remaining flips were decorated with pattern-molded basal rays, concave shapes, or diamonds. Fragments of two tumblers (v.115 and v.116) were engraved with a double-handled basket of flowers, a motif similar to examples from Feature AF, Five Points (Figure 79). Two tumblers (v.128 and v.129) displayed enameled floral decoration. The more-complete vessel had a white raptor perched on a blue heart (Figure 80). Bohemian glass ornamented with polychrome enamels was fashionable after 1750 (Petrova and Olivie 1990:34). There were also two mugs (Figure 81) with molded or tooled and applied horizontal ribs. Three stemwares were plain-stem types, probably manufactured 1780–1805. One stemware with a plain stem and a folded foot was dated 1780 to 1810. A preference in drinking-vessel (and beverage) type may be reflected by the thirty-six tumblers, flips, and mugs that were discarded with only four stemwares. Eight tumblers and three flips had a ground ring around the glass-tipped pontil mark, which probably indicates Bohemian manufacture (Olive Jones 1998, personal communication). All of the tableware was non-leaded glass, with the exception of some of the pattern-molded flips that did not bear the panel motif. In light of the amount of glass exported from Bohemia and adjacent central European principalities during this period (*New York Daily Advertiser*:October 2, 1802; Lanman 1969; Palmer 1989:220), it is thought most or all of these unleaded forms are composed of the potash-lime Bohemian glass mixture. They are not glasshouse products of southern New Jersey, Philadelphia, or New York, produced between 1780 and 1810.

Two or three (3 or 4 percent) serving pieces were recovered. There was a cobalt-blue, disc-shaped salt with a straight vertical lip (v.139). Another one similar or identical to it was recovered in Feature AF, Five Points. A tapered decanter (v.136) was also identified, as well as a large unidentified circular foot fragment that may be a tableware or a serving piece vessel (v.137). A cobalt creamer with a spout (v.138) and one clear, flanged lampshade (v.160) were also identified.

The alcohol assemblage was comprised of ten (14 percent) wine bottles. A few of these had squat bodies and may be considered a transitional form between the wider, earlier mallet type and the nearly modern cylindrical forms of the late eighteenth century (Jones 1986; Dumbrell 1992). Both English and French bottles were represented. Some bottles may predate the TPQ by up to thirty years and appear to represent reuse of these vessels for storage. Apparently, this was a common practice represented in both Broadway Block and Five Points features. There was also one storage demijohn of unknown shape in the feature. Seven medicinal vessels were undiagnostic cylindrical vials that contained ethical medicine available from a physician, pharmacist, or a dispensary. Two (3 percent) octagonal-bodied medicinal vessels were also recovered. They were probably manufactured around 1800 and cannot be associated with a medication, although another octagonal (probable) medicine bottle was deposited in F77, another Lot 15 shaft feature. Eight (11 percent) vessels were unidentified; most of these probably were medicinal bottles and came in a variety of colors—clear, aqua, green, olive-green, and white.

8.4.2.2 AU74

Another Lot 15 feature, F74, may have been a privy—soil stains indicated the walls had a wood lining. Ten glass vessels were identified in the AU74 deposit (Table 92). A piece of stemware had a folded foot and a plain stem (1780–1810). It was the only tableware vessel in the feature; however, there were three wine bottles and a case bottle in the assemblage. The most complete example of the English wine bottles seems to have been manufactured between 1790 and1810 and has heavy wear that indicates storing or rolling the bottle on its side. Two cylindrical medicinal vials were recovered. The analysis can tentatively attribute a function to two of the three unidentified hollowware vessels (v.1–3). One appears to have been a European flacon that might have contained olive oil, olives, or some type of pickled food. Another light-green vessel with concave chamfered corners (v.1) may have contained snuff or condiments. All identifiable remainder fragments were attributed to wine bottles, with the exception of one tableware fragment.

Figure 78. Flip with ¾-height, press-molded flutes with a Bohemian-type engraved motif below the rim, Vessel 96, Lot 15, AU56.

Figure 79. Tumbler with a Bohemian-type engraved decoration with a double-handled basket of flowers. Vessel from Feature AF, Five Points site, similar to Vessels 115 and 116, Lot 15, AU56.

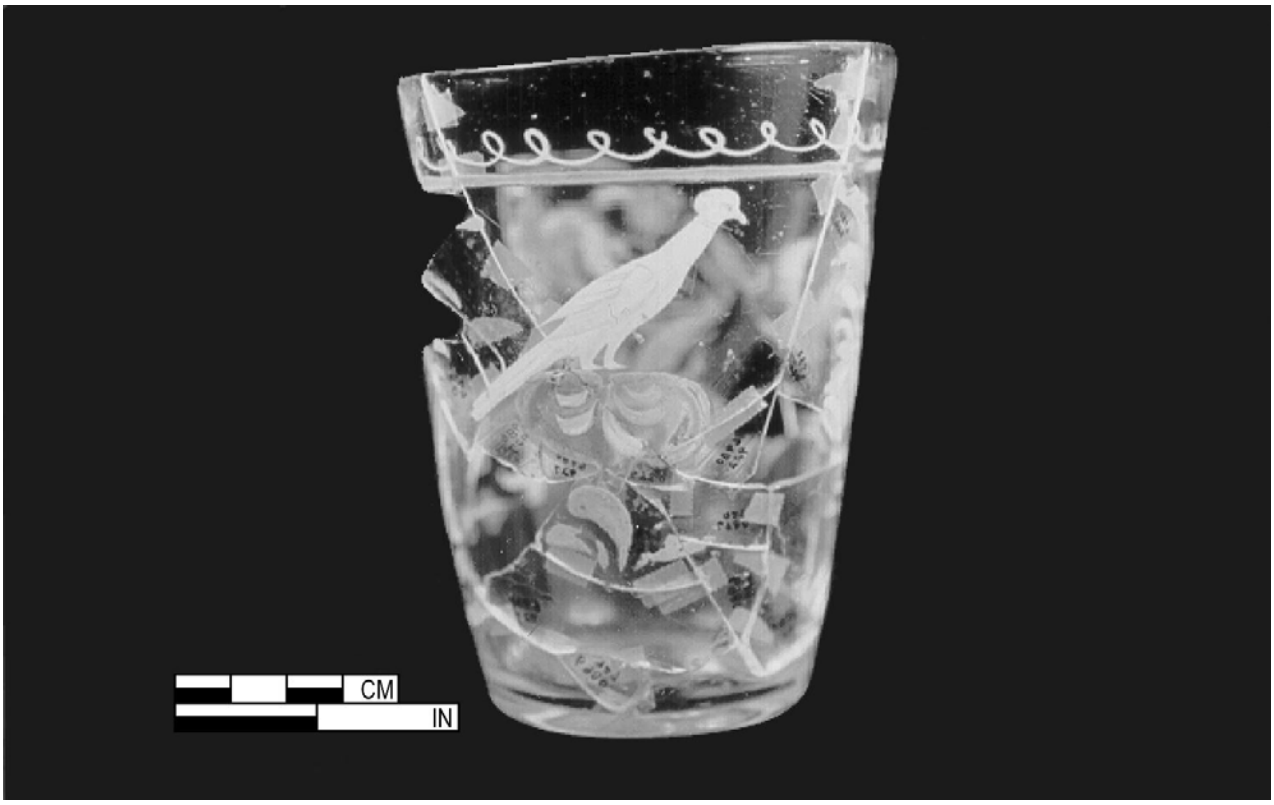

Figure 80. Tumbler with a Bohemian-type polychrome enameled decoration of a white raptor perched on a blue heart, Vessel 128, Lot 15, AU56.

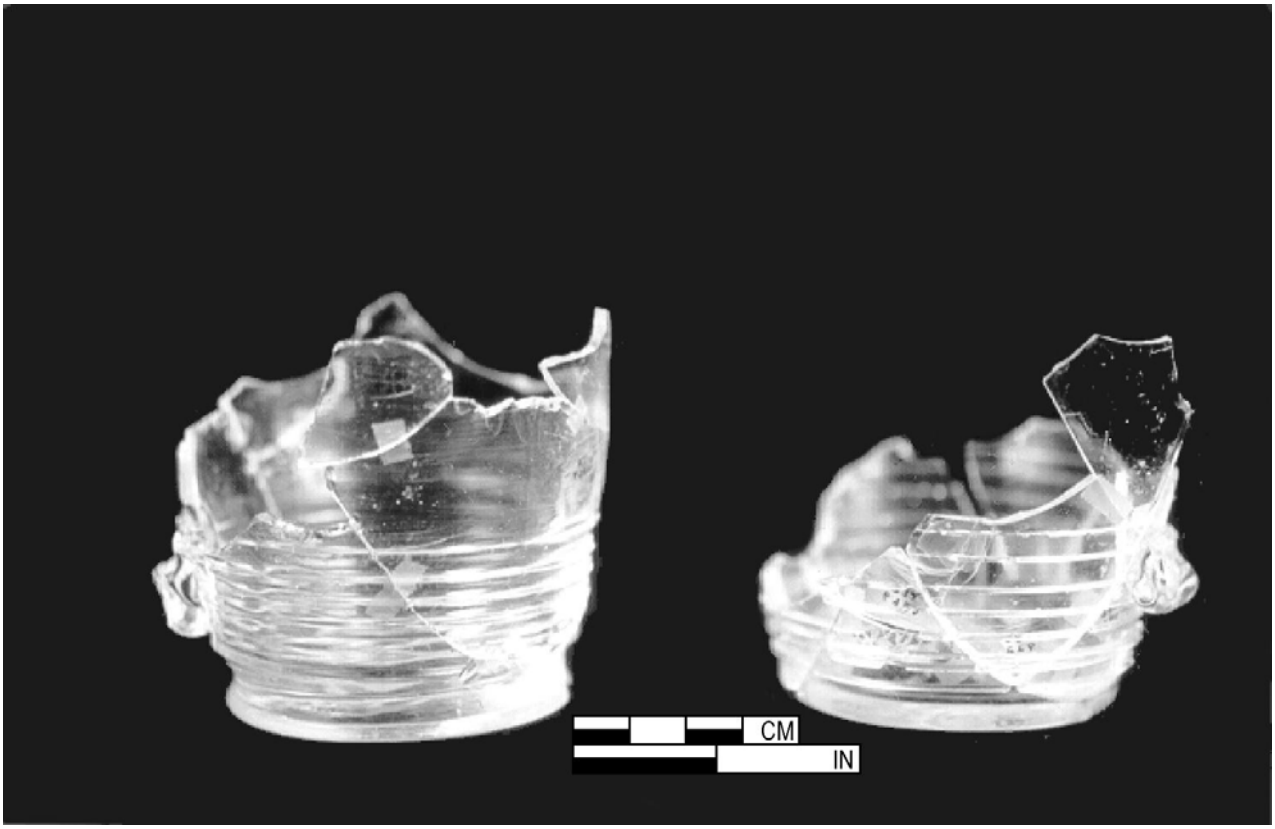

Figure 81. Two mugs with molded or tooled and applied horizontal ribs, Vessel 132 (left), Vessel 131 (right), Lot 15,

Table 92. Glass Vessels in AU74, Lot 15

Function	Decoration	Vessels	Begin Date	End Date	Comments
Stemware		1	1780	1810	v.6, plain stem, folded-foot wine glass
Hollowware		1	1790	1825	v.1, green bottle with chamfered corners
Hollowware		2			v.2-3
Case bottle		1			v.10
Wine		1	1790	1810	v.7, sand-tipped pontil
Wine		2			v.8-9, sand-tipped pontils
Medicinal vial		2			v.4-5, clear and olive-green

8.4.2.3 AU77

Also interpreted as a possible privy, the feature was composed of a north–south-oriented excavation (F77a—the possible privy) into which an irregular pit was dug (F77b). A posthole, F76, cuts into F77. The three identified vessels in AU77 mended from overburden and pit fragments (Table 93). A large, heavy, barrel-shaped tumbler was recovered (v.169). It was probably manufactured between 1775 and 1810. Jones and Smith (1985:35) note the rarity of this tumbler form. This is only one of three examples of a barrel-shaped tumbler from the Broadway Block. Two were recovered from F58, Lot 16. Three were also identified from Feature C, a contemporary deposit situated on Lot 6 of the Five Points site. The other AU77 vessels were a clear octagonal bottle with a flanged lip that appeared to be medicinal (v.170), and a case bottle (v.171). Non-mending remainders were recovered from the overburden, F76, and Features 77a and 77b. A case-bottle fragment and unidentified tableware and alcohol fragments were noted.

Table 93. Glass Vessels in AU77, Lot 15

Function	Decoration	Vessels	Begin Date	End Date	Comments
Tumbler		1	1775	1825	v.169, barrel-shaped
Hollowware		1	1775	1825	v.170, clear
Case bottle		1			v.171

8.4.2.4 AU91

Due to the lack of a wooden lining and night-soil deposits, F91 was interpreted as a pit. It was located in the southeastern section of Lot 15. Three vessels were recovered from the AU91 deposit (Table 94). There was a clear tumbler fragment (v.11) with an abraded ring around the pontil, like the F56 tumblers and flips. A plain-stemmed stemware with a folded foot (v.12) was dated 1780 to 1810. The third vessel was comprised of aqua bottle fragments (v.13). No significant information was derived from the small group of remainder fragments. The small glass assemblage suggests that the primary function of the feature was not a trash pit.

Table 94. Glass Vessels in AU91, Lot 15

Function	Decoration	Vessels	Begin Date	End Date	Comments
Tumbler		1			v.11, unknown shape
Stemware		1	1780	1810	v.12, folded foot
Hollowware		1			v.13, aqua

8.4.2.5. Lot 15 Discussion

As noted above, a relatively small group comprised of at least three families and an individual lived on the lot by 1800 after the 1796 construction of a substantial house by the owner of the property, Wiert Valentine. The composition and size of the F56 glass assemblage suggests the privy contains the vessels of the Valentine family and probably the Meyers family as well. It may also contain glass deposited by the Ramseys. The analysis becomes more difficult with the presence of two possible privies and a pit on the lot

containing modest, yet interesting, assemblages. The high percentage of tableware in AU56 suggests it was filled immediately before the families moved to the eighth and tenth wards (Hodges 1986:123), due in part to the elevated percentage (55) of tableware discarded in the privy, an indicator of mortality or relocation that has been noted with other documented deposits. This scenario indicates that the lot was filled as late as 1810 when Valentine sold the property to John West (New York City Tax Assessments 1810). Filling of the lot in 1810 is supported by the 1810 tax assessment description of the house as "unfinished," suggesting the construction of a new house after filling.

Like the Hoffman family at the Five Points site, Wiert Valentine seems to have been more successful than many of his Broadway Block neighbors. The purchase of the property and construction of the block's highest assessed home at the time and his city of New York appointment as night watchman testify that Valentine was a laborer of considerable means.

The Valentines chose to furnish the kitchen with predominantly Bohemian-type tablewares: seventeen of the tableware items were Bohemian glass (43 percent). The choice of Bohemian-type glass could reflect economic considerations. Glass was often sold by weight during this period (Jones and Smith 1985:34). The flips, tumblers, possibly the stemware, and other vessels were generally less expensive (and not as favorably regarded by the affluent) as compared to the heavier leaded forms from England. The ethnicity of the family who owned Lot 15 also may be related to their choice of Bohemian-type glass. Wiert Valentine, from a New Jersey Dutch family, and his wife Metje Meyer, who may also have been of Dutch ethnicity, may have purchased Bohemian-type glass because certain motifs like the tulip and the basket of flowers were of Dutch origin. This is tentatively supported by the contemporary Feature AF of the Five Points site, where much of the tableware appears to be Bohemian-type vessels. The Hoffmans, owners of Lot 7 who deposited the feature, were German-Americans who discarded the largest and most diverse Bohemian-type glass assemblage documented at the Courthouse and Broadway Blocks. Choosing and using Bohemian-type glass, however, may be related to other factors as well. According to Wilentz (1984:62), the Republican feelings of artisans and laborers of this period included a rejection of Toryism, which was equated with tyranny. Anti-Anglo sentiments, quite understandable after the devastation of the Revolution, may have had a profound impact on the glassware purchases of the laborers and artisans of the Broadway Block. Finally, the preference for Bohemian-type glass by Lot 15 residents may simply reflect the large volume of central European glass exported to America (and other countries) at the time. Questions regarding the choice of Bohemian-type glassware must be evaluated with data from other deposits, such as those attributable to Anglo-American households or households other than those of German or Dutch ancestry. However, reports from the appropriate period with sufficient glass description are rare for New York City.

New York City site reports were examined in an attempt to find another site with significant amounts of Bohemian-type glass. Most of the large sites that have been excavated are too early to address the issue. Bohemian-type glass was recovered at two sites, neither particularly useful for comparative purposes. The 175 Water Street site was characterized by commercial deposits (there were wholesale and retail establishments on the block) with some Bohemian-type glass. It was thought that much of the glass was broken during importation. The distribution process is certainly interesting (Lanman 1969), but it cannot identify the purchaser. The Assay site did have more domestic features with Bohemian-type glass. The Feature 18 assemblage (*terminus post quem* 1800) was noteworthy for glass that was similar to the Broadway Block material with additional Bohemian-type glass that may have been more expensive. Unfortunately, the material may have been deposited by up to three sources—the Ming Cooperage, the John Ellsworth boardinghouse, and the household of Courtlandt VanBeuren. Again, an enameled tumbler was recovered as well as stemware with the little tulip motif and other Bohemian-type glass. Of particular interest are two matching cut and engraved tumblers with pattern-molded panels, similar to Broadway Block vessels but with the addition of a silver horizontal band below the rim.

AU56 has at least seventeen vessels whose decoration, potash-lime glass, and grinding around the pontil (or a combination of these attributes) indicated Bohemian manufacture. Bohemian-type glass has been recovered as a minor component at other archeological sites in Manhattan; however, in a household context, AU56 may have a greater percentage of the type. In fact, a greater percentage of the feature

contents (albeit fewer vessels) has been identified as Bohemian-type than the larger Feature AF on the Five Points site (the Hoffman privy). The three octagonal medicine bottles suggest a prolonged or chronic illness. The contents of these bottles cannot be determined, and each vessel may have contained a different preparation.

8.4.3 Lot 16

John Freeland, also spelled Vreelandt, purchased Lot 16 in 1797. He was a merchant from Bergen, New Jersey. By 1799, he had moved onto the property with his wife, two sons under ten, and an enslaved person. John Day, a carpenter, his wife, and a young son also lived with the Freelands. Freeland lived on the lot for one to three years, and sold the property in 1803 to John Bacon. Other tenants on the lot were William Brower and John Haviland in 1802. Charles Hendrickson, an African American, was a tenant in one of Bacon's houses on the lot from 1806 to 1808. Hendrickson was a butcher with a personal estate valued at $200, the highest in the project area. However, the lot was probably filled by c. 1803, and we do not have trash from Hendrickson.

8.4.3.1 AU58

F58 was composed of a complex of four features (58a to 58d). What was originally identified as a part of the adjacent F108 was reclassified as part of F58a. F110 was a modern post and posthole that was excavated into the disturbed portion of F58. F58's four components included two shaft features interpreted as privies (F58a and F58b), a pit (F58c), and a support pier (AU58d) from the late nineteenth or early twentieth century. The earliest feature, F58a, was wood lined and at least four feet long. The feature was oriented to Duane Street and had a visible builders' trench. The second feature, F58b, was another wood-lined shaft feature whose dimensions were approximately 3 by 3 feet. F58b was oriented to the rear fence line. Its southeast and southwest corners cut into the south and east sides of 58a. F58c was a roughly circular pit, 2.5 to 3 feet in diameter, that was excavated within 58b and 58a. Stratigraphic analysis suggested F58a was mostly cleaned out before F58b was constructed. F58b was filled with soil containing few artifacts; the F58c pit, filled with trash, was dug into the filled F58b. The construction feature, 58d, destroyed from one-half to three-quarters of each of the earlier features, mixing the cultural material and eliminating its original provenience information.

A total of seventy-two glass vessels were identified in the AU58 complex (Table 95). Four vessels were identified from single fragments recovered in AU58a—two stemwares (v.19 and v.35), a tumbler (v.30), and an unidentifiable aqua fragment of a sphere (v.20). One plain-stemmed stemware piece with a conical bowl was manufactured about 1780–1805 (Nöel Hume 1969b:Figure 64). The tumbler fragment is notable for its greater thickness and was probably manufactured from the mid-eighteenth to the early nineteenth century (McNally 1982:63). Four vessels crossmended from AU58a and AU58d fragments and were considered to be affiliated with AU58a. This assemblage is composed of a piece of stemware, a vase, and two wine bottles. The portion of what was formerly F108W, reclassified as AU58b, had two vessels, a wine (v.96) and an aqua hollowware (v.91).

Table 95. Glass Vessels in AU58, Lot 16

AU	Function	Decoration	Vessel	Begin Date	End Date	Comments
58a	Stemware		1	1780	1805	v.19, plain stem
	Stemware		1			v.35
	Hollowware		1			v.91, Feature 108W, aqua
	Hollowware		1			v.20, aqua, sphere
	Wine		1			v.90, Feature 108W, narrow body, sand-tipped pontil
58a-58b crossmends[1]	Flip	Pattern-molded medium diamonds	1			v.21
	Mug		1			v.22, applied handle

AU	Function	Decoration	Vessel	Begin Date	End Date	Comments
58a-58c crossmends	Flip	Pattern-molded small diamonds	1			v.23
	Hollowware		1			v.24, aqua
58a-58c-58d crossmends	Decanter		1			v.31, tapered
	Tumbler	Engraved basket of flowers	1	1780	1810	v.30, conical, glass-tipped pontil
	Tumbler	Twenty cut basal flutes with engraved horizontal line below tiny vertical ellipses	1	1780	1810	v.65, conical, ground pontil, unleaded
58a-58d	Stemware	Cut panels on stem and lower bowl	1			v.26, ground pontil, leaded
	Wine		1	1780	1820	v.28, narrow body
	Wine		1			v.29
	Vase	Enameled floral	1			v.27, milk, mending fragments recovered in 18 layers
58b	Tumbler		1			v.32, conical, ground ring around glass-tipped pontil
	Medicinal vial		1			v.33, aqua
58b-cleanup crossmend	Tumbler		1			v.34, glass-tipped pontil
58c	Punch cup		1			v.44, spherical, ground pontil, applied handle
	Tumbler	Engraved stylized rose	1	1780	1810	v.36, conical, glass-tipped pontil
	Tumbler		1	1750	1800	v.37, conical, glass-tipped pontil
	Tumbler		1	1750	1800	v.38, unknown shape, glass-tipped pontil
	Tumbler		3			v.39-41, unknown shape, glass-tipped pontil
	Tumbler		1			v.42, unknown shape
	Tumbler	Pattern-molded spheres on exterior base	1			v.43, unknown shape, glass-tipped pontil
	Stemware		1	1780	1805	v.45, plain stem, glass-tipped pontil
	Stemware		1	1780	1810	v.46, plain stem, folded foot, glass-tipped pontil
	Stemware		1	1780	1810	v.47, plain stem, folded foot, glass-tipped pontil
	Dessert glass	Pattern-molded vertical rib body	1	1770	1800	v.48, disc-shaped rudimentary stem with 12 vertical ribs
	Wine		2			v.49, 51, glass-tipped pontil
	Wine		1			v.50, narrow body, blowpipe pontil
	Wine		1			v.89, narrow body, sand-tipped pontil
	Whiskey		1			v.52, sand-tipped pontil, amber
	Hollowware		3			v.53, 55-56, aqua, clear, and blue
	Hollowware		1			v.54, glass-tipped pontil, clear
58c-58d crossmends	Flip		1			v.58
	Tumbler		1			v.57, unknown shape
	Tumbler	Engraved	1	1780	1810	v.59, conical, ground ring around pontil
	Tumbler		1			v.60, conical
	Stemware		1			v.61
	Decanter		1			v.62
	Decanter	Cut basal flutes, 12 cut	1	1780	1800	v.76, tapered, ground pontil,

AU	Function	Decoration	Vessel	Begin Date	End Date	Comments
		flutes below everted lip terminating in spatulate forms on upper body, cut ellipses and engraved tulips oriented diagonally to upper flutes				ground bore
	Decanter	Cut basal flutes, 12 cut flutes on neck and upper body bisected by quadruple bevel on upper neck	1	1780	1800	v.77, tapered, ground pontil, ground bore
	Hollowware		2			v.63-64, aqua
58c-cleanup crossmend	Stemware		1	1780	1810	v.66, folded foot
58d	Flip	Pattern-molded panels	1	1780	1810	v.25, conical, glass-tipped pontil
	Flip	Pattern-molded medium diamonds	1	1780	1810	v.335, glass-tipped pontil
	Tumbler	Cut multi-faceted "x"	2	1780	1810	v.67-68, barrel-shaped body, vessel 67 has ground pontil, matching vessels
	Tumbler		1			v.69, conical
	Tumbler	Engraved, probably basket of flowers	1	1780	1810	v.70, unknown shape
	Tumbler		1			v.71, unknown shape
	Tumbler		1	1800		v.72, cylindrical, ground pontil
	Tumbler		1	1750	1825	v. 81, unknown shape
	Stemware		3	1780	1810	v.73-75, glass-tipped pontil, folded foot
	Wine		2			v.78, 80, narrow bodied, blowpipe pontil
	Wine		1	1770	1790	v.79, see Jones 1986: Figure 38, unknown pontil
	Wine		1			v.82, narrow bodied, sand-tipped pontil
	Wine		2			v.83-84, narrow bodied, unknown pontil
	Hollowware		2			v.87-88, aqua with blowpipe pontil, blue
	Medicinal vial		2			v.85-86, flanged lip, glass-tipped pontil

1. The first AU in the list of crossmends is the one to which the vessel was assigned.

Two vessels were mended solely from 58b fragments—a relatively smaller conical tumbler (v.32) with a ground ring around the pontil and a thin-bodied aqua cylindrical vial (v.33). A clear tumbler (v.34) of indeterminate shape was also mended from 58b and mixed context fragments.

Thirteen tableware, four alcohol, and four unidentified vessels were identified in AU58c. Two of the eight tumblers (v.36 and v.43) were decorated; however, all except one had only a small portion of the body represented. One conical tumbler (v.36) was decorated with an engraved, stylized rose (Figure 82), which is somewhat similar to a decorated tumbler from Feature AF, Five Points. The three stemwares were probably manufactured between 1780 and 1805–1810. One punch cup (v.44) with a globular, handled body was identified (Figure 83). This well-made object had a ground and polished base and was one of several vessels from the feature that was probably manufactured in England. Like the punch cup, a leaded dessert glass (v.48) was the only vessel of its type recovered from the Broadway Block. It (Figure 84) had pattern-

Figure 82. A conical tumbler decorated with an engraved stylized rose, Vessel 36, Lot 16, AU58c.

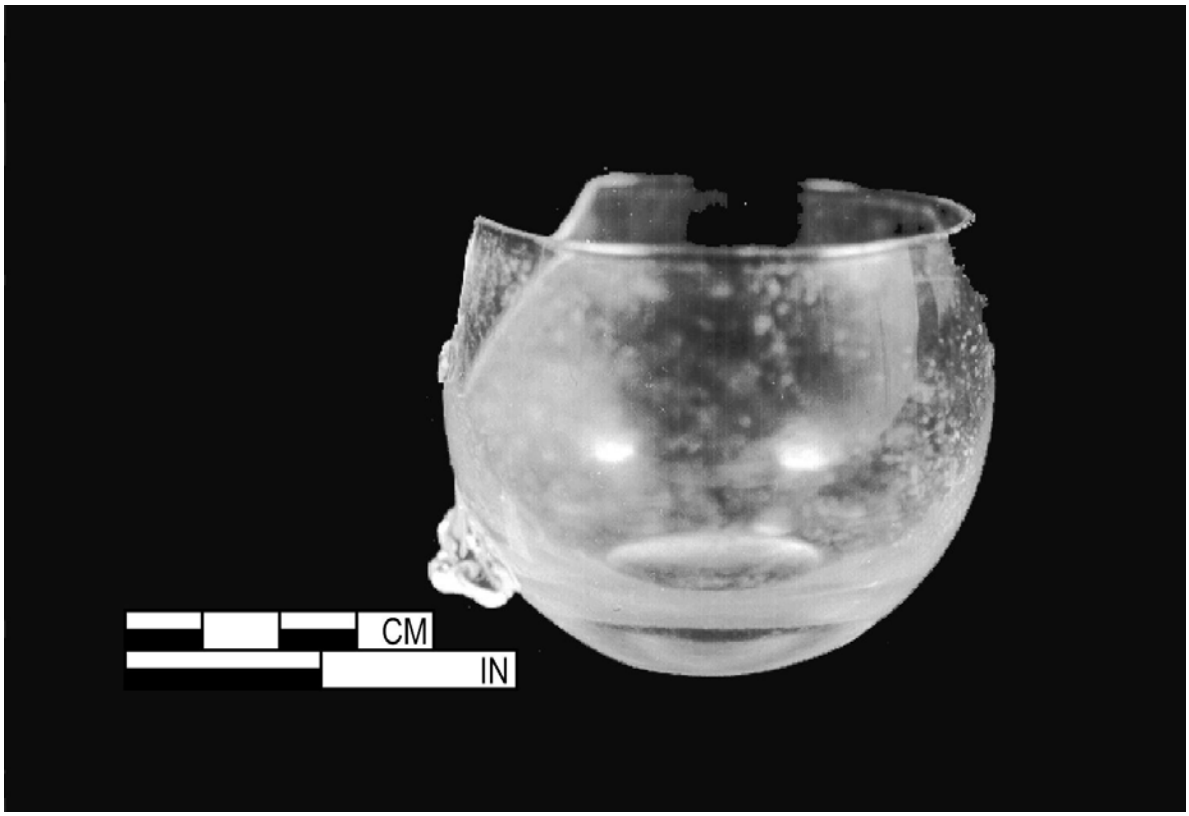

Figure 83. A globular handled punch cup with a ground and polished base, lead glass, Vessel 44, Lot 16, AU58c.

Figure 84. A leaded dessert glass with pattern-molded ribbed body decoration and a rudimentary, disc-shaped stem with twelve vertical ribs, Vessel 48, Lot 16, AU58c.

molded ribbed body decoration and a rudimentary, disc-shaped stem with twelve vertical ribs. This form was manufactured between 1770 and 1800. The alcohol containers could not be dated; however, two seemed to be French wines (v.49 and v.51), and one vessel had the wider base and dome kickup of an English wine bottle of the late eighteenth century (v.50). Ten vessels were crossmended from 58c and 58d fragments and were considered to have been 58c fill. These vessels were a flip, three tumblers, a stemware, three decanters, and two unidentified vessels. One conical tumbler had a ground ring around the pontil and a trace of engraved decoration on the fragmented body (v.59). All of the decanters were tapered forms of leaded glass. Two had basal fluting of indeterminate height. Vessel 76 (Figure 85) had a smaller diameter base and a neck of cut flutes that terminated in scallop forms on the shoulder. Engraved tiny flutes with tulips on the shoulder and upper body were oriented diagonally to the neck fluting. The thick neck of Vessel 77 was exquisitely cut with twelve vertical flutes. One or two quadruple bevels encircled the neck.

The original proveniences of a number of vessels were not discernable due to the disturbance of F58d. AU58a and AU58b crossmends consisted of two tablewares. A flip (v.21) with pattern-molded diamonds was probably manufactured during the third quarter of the eighteenth century (McNally 1982:64). A clear mug (v.22) with a flaring base was also identified. Another flip with small pattern-molded diamonds and an unidentified cylindrical aqua bottle were mended from AU58a and AU58c fragments. A tumbler (v.30) and a decanter (v.31) were mended from AU58a, 58c, and 58d fragments. The tumbler was probably manufactured in Bohemia; its engraved handled basket was similar to AU56 and Feature AF (Five Points) examples. Vessel 65 (Figure 86) was mended from AU58a (including F108W), AU58c, and AU58d fragments. The clear, probably Bohemian tumbler (non-lead) had cut basal flutes and an engraved line below the rim. Above the line were small, freestanding, cut vertical flutes surmounted by engraved tulips.

Twenty-three vessels were identified in AU58d, the fill of the late nineteenth- or early-twentieth-century support pier. All dated to the period of the other features. The assemblage consisted of seven tumblers, two flips, three stemware, six wine bottles, two medicinal vials, and two unidentified vessels. There were two matching barrel-shaped tumblers (v.67 and v.68) with complex, engraved decoration of diamonds and multi-faceted Xs (Figure 87). These unleaded vessels were probably manufactured in Bohemia in the late eighteenth or early nineteenth century. Another unleaded body and rim portion of a tumbler (v.69) was adorned with an engraved XII above an embellishment of scrolled lines. This motif was not located in an extensive search of pertinent literature and may have been custom engraved according to a lot-inhabitant's specifications. Another tumbler (v.72) appeared to be a cylindrical type with a heavier base, which originated during the early nineteenth century. There was a mixture of French and English wine bottles. One English vessel with a wider cylindrical body was probably manufactured between 1770 and 1790.

8.4.3.2 AU79

This feature is described as the bottom 0.5 feet of a wood-lined feature that may have been a privy. One highly fragmented vessel was recovered that matched the style and form of vessels in Features 56 and AF of the Five Points site. The Bohemian-type flip had engraved ellipses filled with diamonds above pattern-molded flutes (Table 96). It was probably manufactured in Bohemia between 1780 and 1810. One clear remainder was also recovered.

Table 96. Glass Vessels in AU79, Lot 16

Function	Decoration	Vessel	Begin Date	End Date	Comments
Flip	Pattern-molded panels	1			v.172, glass-tipped pontil

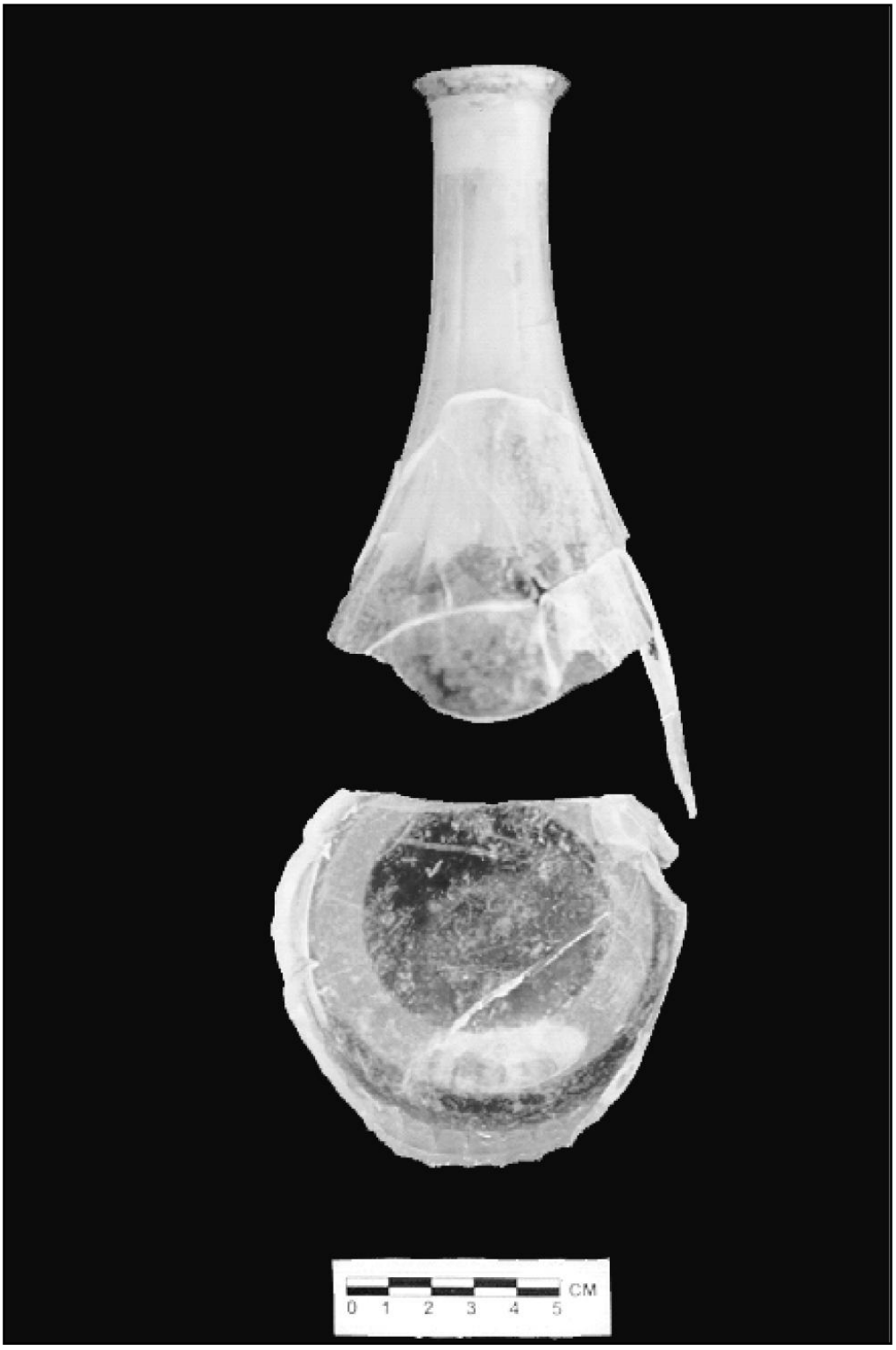

Figure 85. A leaded tapered decanter decorated with basal fluting of indeterminate height, and a neck of cut flutes that terminates in scallop forms on the shoulder. Engraved tiny flutes with tulips on the shoulder and upper body are oriented diagonally to the neck fluting, Vessel 76, Lot 16, AU58c.

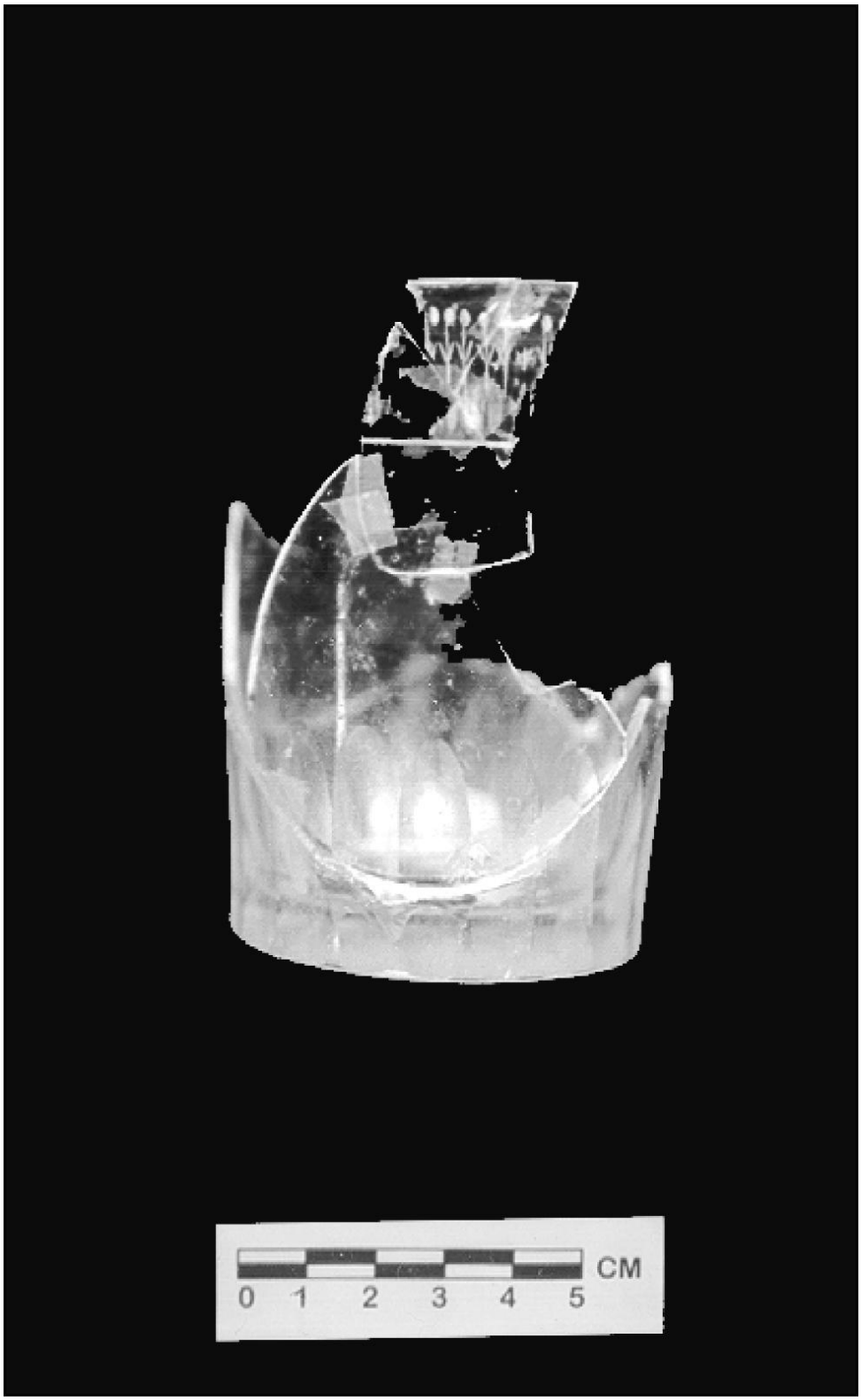

Figure 86. A clear, probably Bohemian, tumbler with cut basal flutes and an engraved line below the rim. Above the line are small, freestanding, cut vertical flutes surmounted by engraved tulips, Vessel 65, Lot 16, AU58c.

Figure 87. One of two unleaded, matching, barrel-shaped tumblers (Vessel 67 and Vessel 68) with complex, engraved decoration of diamonds and multi-faceted Xs, Vessel 67, Lot 16, AU58d.

8.4.3.3 Feature 111/120

F111/120 was an irregularly shaped natural channel about twenty feet in length that was oriented north–south in Lot 16. Only two non-mending wine bottle fragments were recovered in the fill of this Phase 1 deposit.

8.4.3.4 Lot 16 Discussion

Like the contemporary deposits AU56 and Feature AF (Five Points), the AU58 assemblage was comprised of a number of Bohemian-type vessels. However, they were often represented by remainder body and rim fragments, particularly in AUs 58a and 58c. The AU58 complex differed from AU56 in several respects, primarily in the greater numbers of leaded, probably English, vessels. Some of the English vessels included the punch cup; flips with pattern-molded diamonds, spheres, and ribs; stemware; the decanters; and the dessert glass. The mix of English and Bohemian-type glass and undecorated forms may reflect the lot's multicultural inhabitants—a merchant of Dutch or German heritage, a carpenter of English descent, an African-American butcher who possibly lived on the property prior to the lot filling, and at least one owner who may have resided on the lot before Freeland.

The privy designated AU58a was the first shaft feature excavated on the lot. It was not clear which individual or family discarded the glass in this privy, but the 58a assemblage was notable in a few respects. At least eight vessels with Bohemian-type motifs and three English-made vessels with decorative motifs were identified in the tableware assemblage. A milk-glass vase was also recovered in 58a. Milk-glass vase decorative variations, in this instance with small enameled red flowers, were also noted in two or three vessels from Lot 12. Another similar vase was excavated in the privy designated Feature AF of the Five Points site. These handsome vessels had two opposing opalescent applied handles that were made offhand and were intricately curved and looped. They were apparently manufactured in central Europe and are referred to here as Bohemian-type vessels, although vases of this form and decorative motif may be attributed to Thuringia. A 1740 example of the type referred to as a *henkelvase* with "Indian flowers" (Brozkova 1989: Figure I.36) is similar to the Broadway and Five Points vases. Vases are one of a small group of objects from the Broadway Block that were not essential household purchases. The Lot 12 and Lot 16 vases may reflect a touch of refinement and represent a modest attempt to exhibit attributes of the homeowners' gentility (Bushman 1992:275).

As noted above, both Bohemian-type and probable English decorative motifs were represented in AU58a; however, in most instances the engraved or cut designs were found on body fragments without the base portion of the object. A variety of drinking-vessel tableware were recovered in AU58a, including a stemware with cut panels on the stem, which terminated in spatulate forms on the lower bowl. One of the three wine bottles was an English form with a larger body diameter. In contrast to the two French wines in the assemblage, heavy wear on the bearing surface suggested the English bottle was employed as a liquid storage container. If v.31, a 58a-58c-58d-crossmended decanter, was originally deposited in 58c, no serving pieces were represented in 58a. This might be interpreted as an indication of a meager assemblage, but the quality of the vessels belies this conclusion. A more reasonable conclusion may be that the serving pieces used with the fine assemblage of 58a were taken with relocating owners or were discarded in analytical unit 58c.

The AU58c assemblage (including crossmending fragments of AU58c and AU58d and, possibly, other more-complex crossmends), had the largest glass assemblage of the three features, was diverse, and was composed of several more-costly vessels. The most-expensive glass objects were the two leaded, tapered decanters (v.76-77) with beautifully engraved motifs and carefully ground pontil scars. Continental motifs were employed by English glass cutters in the final quarter of the eighteenth century, as illustrated by the small engraved tulips emanating from cut ellipses on the body of v.76, the smaller of the pair. According to Jones and Smith (1985:25), "documentation suggests that decanters were used in pairs and that an individual might have several different sizes." The person or family who owned these vessels may have possessed a third decanter. Fragments of another tapered form were mended from AU58c and AU58d fragments. It is believed that the same family, possibly the Freelands, owned v.76 and v.77. They had the

financial security to purchase the lot, own an enslaved person, and move elsewhere after a short period of residence. The supposition regarding single ownership of the decanters is strengthened by v.65, an unusual tumbler that was mended primarily from 58c fragments, and included 58a, 58d, and 108W glass. The tumbler bore the same basal fluting as the decanters, and was engraved with an ellipse-and-tulip motif at the rim. While this glass was blown of unleaded metal, it clearly represented an attempt to create a set. The statement is plausible when it is noted that the basal flute-and-tulip combination was unique to the block. In fact, the character of the AU58c glass suggested someone's relocation episode, if not the Freelands. F58c may have been used to discard cultural material over a longer period as well. Thus, it may have contained glass from a few residents or everyone on the Barley/Duane side of the lot with the conspicuous "sets" of glass and more-costly vessels, imparting the false perception that material from one or two families is represented. Although the Freelands may not have discarded all of the 58c glass, the quantity of glass and the presence of two "obsolete" forms are notable. AU58c contained more than double the tableware and serving pieces of AU58a and AU58b combined.

The vessels referred to as obsolete were a dessert glass and a handled punch cup. Judging from the crude foot, v.48 was probably made during the early years of manufacture noted above. The absence of a flaring rim is unusual. The well-made punch cup, like the dessert glass, may have been a set component with a bowl. The punch cup may have been discarded broken, as the sinuous handle was not recovered.

8.4.4 Lot 17

Lot 17 was probably first developed soon after James and Susan Sergeant purchased the property on March 25, 1797. The lot was divided into two sections facing Barley Street and Republican Alley. Residents do not appear to have lived on the rear of the lot until 1807. The earliest occupants were a series of African-American households: the Williams's household and some single men, John Sanay and Primus Sackett. After 1805 when the lot had been raised, a Haitian woman and her household bought the front of the lot from Sergeant. Although there is no evidence of shaft features or buildings before the lot was raised, the two pit features suggest some occupation of the lot by the early African-American residents.

8.4.4.1 AU104

This was a shallow irregular pit on the central west side of the lot. Small numbers of a variety of cultural material types were recovered. Shell fragments appeared to predominate among the recovered materials. A small tableware fragment with copper wheel engraving (v.14) and a tiny olive-green case bottle (v.104) fragment were the only designated vessels (Table 97). Single fragments of clear and olive-green glass were also recovered.

Table 97. Glass Vessels in AU104, Lot 17

Function	Decoration	Vessels	Begin Date	End Date	Comments
Unidentified tableware	Engraved and diamond-point motif	1	1780	1810	v.14, unleaded, diamond-point work is in the engraved area
Case bottle		1			v.15, small body fragment

8.4.4.2 AU126/127

AU126 was the designation for the combined Features 126 and 127, a shallow irregular pit on the east side of Lot 17, about 20 feet north of Republican Alley. It was only a half-foot deep at most. A small glass assemblage including three vessels was encountered (Table 98). Another clear paneled flip with diamond and ellipse Bohemian-type engraving was noted (v.16). About 50 percent of the vessel was recovered from both halves of the deposit. Three mending fragments were also recovered in an overburden and disturbed fill context. The other tableware vessel was a clear, undersized tumbler (v.17) with a thick base, composed of leaded glass (Figure 88). This is the only example of this form found in the project area. A small, olive-

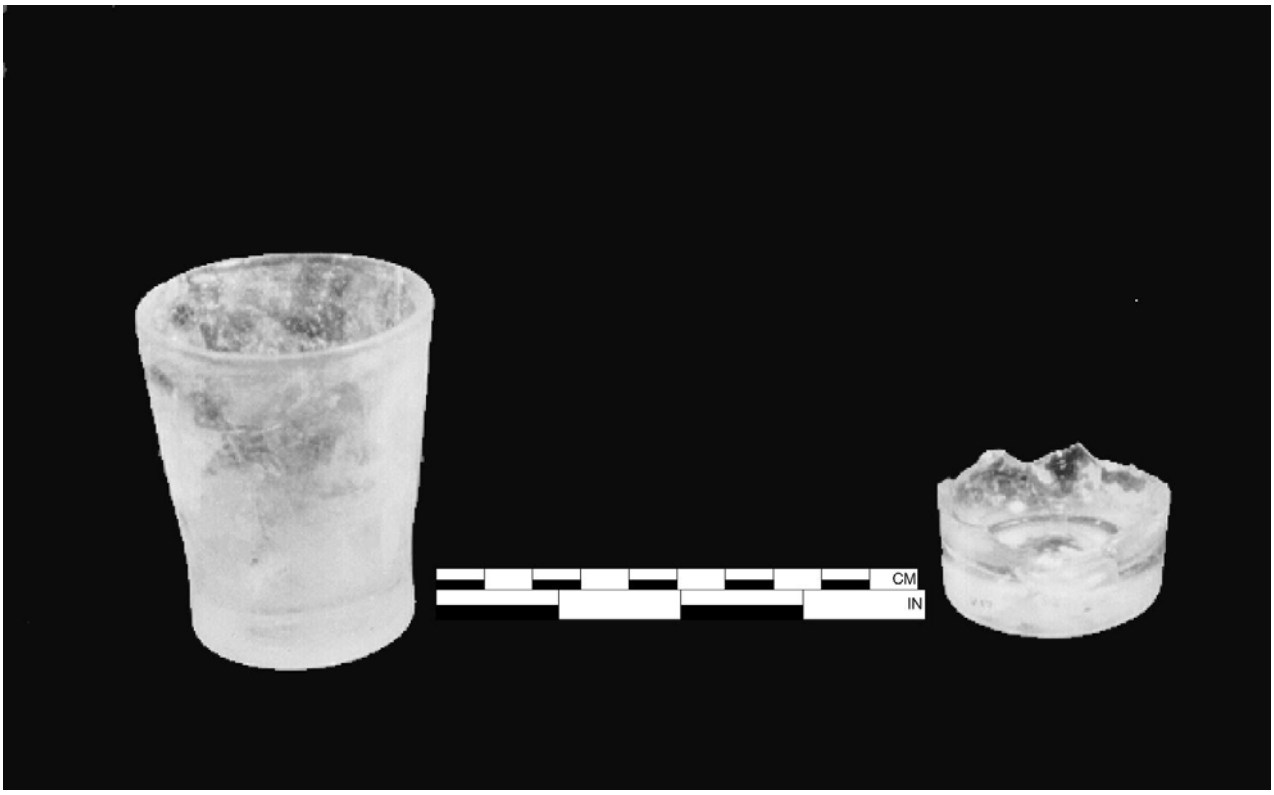

Figure 88. Clear undersized tumbler on right with a thick base, composed of leaded glass, Vessel 17, Lot 17, AU126, similar to Vessel 959 (left), Feature B, Five Points site.

green, alcohol-container body fragment was also designated a vessel (v.18). All but one of the sixteen remainder fragments were clear; two seemed to be tableware remains.

Table 98. Glass Vessels in AU126/127, Lot 17

Function	Decoration	Vessels	Begin Date	End Date	Comments
Flip	Engraved diamond and ellipse above pattern-molded panels	1	1780	1810	v.16, conical, unleaded
Undersized tumbler		1			v.17, conical, leaded, thick base, glass-tipped pontil, similar to v.959, Feature B (lower deposit), Five Points
Unidentified alcohol		1			v.18, olive-green, small body fragment

8.4.4.3 Lot 17 Discussion

The excavation team did not encounter shaft features on this lot. The debris in the features could be from neighbors if there were no buildings on the lot until after it was raised to street level. However, we are assuming that the deposits were left by the African Americans who are recorded on the lot before 1805, especially the Williams household, whose head was a confectioner. The two excavated features, described as pits, contained a total of only five vessels and a handful of remainders. Although the inhabitants must have used many more glass vessels, their place of deposition was not found. As noted for F126/127, Bohemian-type glass appealed to one African American living on the lot. Another drinking vessel, an undersized tumbler, was also deposited in F126/127. It is morphologically similar to a whiskey taster or a shot glass, although the first term was not adopted until the early 1830s and the second just prior to the Civil War (Pickvet 1992:27, 29). As noted above, there was only one other object of its type recovered at the Broadway Block. A similar undersized tumbler, apparently nearly identical (except for its non-lead composition), was recovered in the lower deposit of Feature B, the Five Points site. The lower deposit of Feature B has been associated with the household of Isaac Cross, a cabinetmaker who also made coffins. His household lived at 472 Pearl Street from about 1809 to 1838. According to the 1820 Federal Census, the household consisted of his wife, two children, four men 26–45 years old, and a black female 14–16 years old. Therefore, although there is a tenuous correlation at very best, there possibly may have been a preference for use of the uncommon undersized tumbler drinking vessel by African Americans living on Duane Street and by immigrant carpenters or an African-American female living on the Five Points site. The five Lot 17 vessels represent drinking vessels or alcohol containers.

While the largest assemblages of Bohemian-type glass were deposited in Features AF, 56, 58, and throughout Lot 12 in general, Bohemian-type glass was also purchased and used by individuals who were not of central European heritage. Broadway Block examples probably include two Lot 17 drinking glasses—v.14, AU104, an engraved body fragment, and v.16, AU126, a flip with pattern-molded panels and the engraved diamond-and-ellipse rim motif. From 1797 to 1805, Lot 17 was primarily leased by African Americans, including William Williams, confectioner, and his family and possibly two or three other households including John Sanay and Primus Sackett.

8.5 Lot 12

Lot 12 was known as 6 Barley Street between 1805 and 1808. Grant Cottle, an upholsterer and paper stainer, lived on the property from 1794 to 1800. His house was situated on Lot 12, and a frame structure, probably his workshop, stood on Lot 13. By 1799, he leased Lots 12 and 13, which were assessed at $800, and he rented Lot 12 to Henry Ashmore and Charles Simmons, a mason. In 1802, Ashmore was also an upholsterer and may have taken over Cottle's business. By 1804, Ashmore and Simmons had left and

Michael Miller took over the lease for the property, purchasing it from Susan Barclay in 1807. Miller was a distiller who also ran a grocery on the lot between 1805 and 1812 (Jones 1805; Longworth 1805–1811:12). By 1829, he brought his nephew, George Miller, into the business. Although Michael Miller's household appears to have included distillery workers or other extended family, he probably remained a bachelor for life. By 1839, he moved to 168 Fourth and then to 151 Wooster by 1841.

Glass was recovered from Lot 12 feature and yard-surface contexts and was deposited during the eighteenth century prior to the Revolution (Phase 1), and Phase 2, the period from 1787 to the first decade of the nineteenth century. Phase 2 ended when the lot was filled to street level (Phase 3), an improvement required of the lot owner, which apparently occurred at different times for various lots. Phase 4 spans the period from the filling of the lots to the 1860s.

8.5.1 Phase 1 (Pre-Revolution)

The pre-Revolution assemblage recovered on Lot 12 was generally comprised of non-diagnostic degraded fragments and came primarily from trench features (AUs 16 and 51) and the A/B interface (AU521). In addition to the larger, at times mendable, fragments designated as vessels in the trench features, a low-intensity scatter of fragments was detected on a small portion of the lot's historic ground surface. In total, fourteen vessels were identified (Table 99)—four in the A/B horizon and subsoil (AU521), and the rest in trench features. AU16 contained two vessels, and eight vessels were recovered in AU51; no vessels were identified in the trench F15. AU521 was encountered primarily on the east side of the lot. All three of the vessels recovered in AU521 are from the central and southeast portion of the lot (EUs 10 and 8).

Table 99. Glass Vessels in Lot 12, Phase 1

AU	Function	Decoration	Vessels	Begin Date	End Date	Comments
16	Case bottle		1			v.263
16	Hollowware		1			v.262, aqua
51	Stemware		2	1750	1780	Two clear stemware stems, v.338, milk spiral gauze within double milk spiral, unleaded; v.339, blue gauze within blue spiral, leaded
51	Unidentified tableware		1			v.337, body fragment with Bohemian-type engraving, tumbler or flip
51	Case bottle		1			v.343, large base and lower body with blowpipe pontil
51	Possible wine		1		1787	v.344, thick base fragment
51	Wine		1			v.341, base and lower body fragments, high pointed kickup, blowpipe pontil
51	Wine		1	1770	1787	v.342, neck and finish (see Jones 1986: Figure 34)
51	Medicinal		1			v.345, neck and flanged lip, aqua, melted
521	Mug		1			v.218, handle
521	Possible flip	Engraved floral	1			v.220
521	Wine		2			v.316-317, bases

Two English wine-bottle bases and lower body fragments (v.316-317) and a mug or tankard handle of non-leaded glass (v.218) were recovered in AU521. The width of the wine bottle bases indicated they were forms that were initially manufactured in the early 1760s (Jones 1986:Tables 16–17, Figure 57 c-d). This form is not as wide as the mallet but has a greater diameter than the taller wine bottles introduced in the 1790s (Jones 1986:78). The wine-bottle fragments are badly degraded. The remaining AU521 glass (184 sherds) was primarily olive-green cylindrical and case-bottle fragments (78 percent) with highly fragmented clear (2 percent) and aqua (20 percent) glass.

AU16 (EUs 5, 9, and 13) was a trench that appeared to have been open for an extended period. A related pit (AU24) was documented. Two vessels were identified in AU16, a probable medicinal body fragment (v.262) and a case bottle (v.263). The rest of the trench assemblage was composed of a few tableware and medicinal fragments. Four small olive-green fragments were the only glass remains in AU24.

AU51 was a trench at the southern end of the lot that extended from EU11 southwest into EUs 15, 7, and 12. Eight of the vessels recovered in pre-Revolution contexts had been deposited in this feature. Fragments representing two stemwares, a tumbler, or flip, four alcohol bottles, and a medicinal bottle were found in AU51. The stemware stems were parts of wineglasses manufactured between 1750 and 1775 (Nöel Hume 1969a:Figure 12) or 1750–1780 (McNally 1982:Figures 44–45). One of the stems was clear with interior milk-glass spiral gauze within a double exterior spiral. The other stem was clear with blue spiral gauze inside a single blue spiral. The wine-bottle neck and finish were similar to dated examples from 1770 and 1796 (Jones 1986:Figure 34). The assemblage also included a case bottle and a wine-bottle base. The AU51 remainders (356) included mostly olive-green fragments (67 percent) with lesser amounts of clear (22 percent) and aqua (11 percent) glass. AU51 glass exhibited advanced glass disease.

AU15 was the only other Phase 1 feature with more than a few glass fragments. The highly fragmented and abraded material was comprised of three clear, four olive-green, and five aqua remainder fragments. A clear and an aqua fragment had molded decoration or an embossment and one other clear fragment was line engraved. The aqua fragment (with part of a letter or number) is probably from an early two-piece mold bottle. The earliest example of a bottle produced by this type of mold is a Turlington's Balsam of Life, embossed with the date of 1750 (Jones and Sullivan 1985:26–28).

8.5.2 Phase 2 (1788–1810)

The sale of lots in 1788 and the initial occupation of the block, possibly in 1794, occurred during this phase. The phase terminated with the filling of each lot to the street level. The lot filling was required of each owner and was done at different times during the first decade of the nineteenth century. Different sampling strategies were employed on the project area's lots. Lot 12 was most thoroughly sampled—all Phase 2 contexts were excavated, including the historic ground surface. This surface, as discussed above (Section 4.8.3), revealed two components. The first was the Phase 1 use of the lot and the second was an early Phase 2 occupation. For this reason, all the contents of the A horizon down to the interface with the B horizon were designated AU519 (the intermediate, or Phase 2, ground surface) rather than AU521 (the A/B interface, assigned to Phase 1). Deposits on the AU519 ground surface were assigned to AU518, and features were cut into either AU519 or AU518. No shaft features from this phase were encountered.

The Phase 2 glass assemblage of Lot 12 was comprised of forty-one vessels (Table 100). Thirteen vessels were found in AU519 (the intermediate ground surface), and AU518 (deposit on the intermediate ground surface) proveniences yielded fifteen vessels. One vessel was mended from AU518 and AU519 fragments, and one was from a mixed-phase feature cleanup. Twelve vessels were recovered in features excavated into the ground surface. The Phase 2 drinking-related vessels—alcohol bottles, tableware, and serving pieces for liquids—comprised 79 percent of the total glass assemblage (not including a vessel that may be related to distilling).

Table 100. Glass Vessels in Lot 12, Phase 2

AU	Function	Decoration	Vessels	Begin Date	End Date	Comments
16a	Hollowware		1		1787	v.222, rim and body
16a	Hollowware		1			v.261, aqua
16a	Wine		1		1787	v.221, base
16a	Font		1			v.319, clear lamp glass
25	Wine		1			v.209
25	Spout		1			v.210, possible distillery-related vessel
26	Case bottle		1			v.224
26	Hollowware		1			v.223
26	Probable wine		4			v.225-228
40	Tumbler		1			v76, unknown shape, EU40
518	Flip		1			v.97, EU7
518	Flip	Pattern-molded basal flutes and medium-sized diamonds	1	1750	1803	v.211, ground ring around glass-tipped pontil, crossmend, EU11
518	Stemware		1	1700	1750	v.196, crossmend, EU7
518	Stemware		1	1780	1803	v.206, EU11
518	Tumbler		1			v.204, unknown form, ground ring around glass-tipped pontil, EU11
518	Tumbler		1			v.205, unknown form, EU11
518	Tumbler		1			v.213, unknown shape, EU11
518	Tumbler		1			v.214, unknown shape, EU10
518	Hollowware		1			v.203, aqua bottle neck and finish, EU11
518	Probable wine		1			v.208, EU11
518	Probable wine		1			v.215, EU10
518	Probable wine		1			v.219, EU10
518	Wine		1	1760	1790	v.207, wide base, EU11
518	Possible scent bottle	Rigaree ribbon	1			v.212, melted, EU11
518	Vase	Enameled	1			v.201, EU11
519	Flip	Pattern-molded panels	1	1780	1810	v.216, ground ring around glass-tipped pontil, EU5
519	Stemware		1			v.200, bowl fragment, EU12
519	Stemware		1			v.340, folded-foot fragment, leaded
519	Tumbler	Enameled	1	1780	1803	v.195, red and black unidentified motif below bold red line, surmounted by scalloped white line, EU15
519	Tumbler	Engraved sunburst	1	1780	1810	v.198, crossmend, EU12
519	Tumbler	Engraved tulip with trellis-filled calyx	1	1780	1810	v.256, crossmend, EU9
519	Decanter or Carafe		1			v.199, neck and finish with ground bore, EU12
519	Creamer		1			v.217, melted spout, EU5,
519	Demijohn		1			v.257, EU9
519	Probable wine		1			v.264, EU13
519	Wine		2			v.258-259, base and lower body fragments, EU14
519	Possible distilling tool		1			v.260, clear flat fragment, EU9

The AU14 assemblage had fragments from pattern-molded ribbed and undecorated drinking vessels as well as a clear fragment and an aqua medicinal body fragment. Like the pre-Revolution trench (AU16) it was deposited in, AU16A yielded a small assemblage, which included three vessels—an aqua bottle fragment (v.261), a wine bottle (v.221), and fragments of a clear bottle (v.222). Tableware vessels are represented by single mending fragments of unleaded metal; the thin-bodied fragments are engraved with a floral motif. A lamp font fragment (v.319), an engraved tableware fragment, and a few medicinal fragments were excavated in addition to alcohol-bottle remainders. Some of the trench fill fragments are melted, indicating a garbage-disposal method used by a Lot 12 inhabitant.

AU18, the fill among the cobble pile in EU10, was also composed of a mixture of mostly non-mending fragments. The majority were olive-green alcohol-container fragments with different color variations, thicknesses, and patinas. There were up to three tumblers represented by small, clear fragments. Two ribbed fragments of a small vial-sized container were also recovered. A fragment that was heavily scratched and appeared to be from the same distinctive vessel was noted in EU12 on the other side of the F11 wall.

The material included in AU25 was in and under the remnant of a sandstone wall (F25) in EU11. A wine-bottle base and body fragment (v.209) and an unusual olive-green tapering conical fragment (v.210) were designated as vessels. Vessel 210, the conical fragment, appeared to be a spout of a non-household object (Figure 89). It was dissimilar to domestic glass vessels of the period in form and color. The remainders included fragments of a thin-bodied, hand-painted, milk-glass vessel, probably a vase, and fragments of a paneled flip, two engraved tumblers or flips, and medicinal and alcohol vessels. Some of the glass had been subjected to heat; all of the remainders are very small. This material does not mend and may have been trampled in the yard prior to deposition.

An undecorated tumbler with a ground ring around the pontil was found in AU40. The small assemblage also included a paneled tableware fragment and another clear, melted fragment.

The fill around planks oriented parallel to each other in the back of the lot was designated AU26. The assemblage contained fragments of five wine-bottle kickups or bearing surfaces (v.223, 225–228), a small case bottle (v.224), and small fragments of a clear tumbler and an aqua bottle shoulder and neck fragment with molded decoration. The remainders were nearly all olive-green fragments (both cylindrical and case bottles). One finish fragment can be assigned a date of 1785–1810. Clear tableware fragments include ribbed and Bohemian-type engraved floral examples. The function of a flat, clear fragment with four deep parallel grooves is unknown.

Cultural material deposited between the time the lot was occupied for residential/commercial use and the filling of the property was recovered from about 75 percent of Lot 12. The strata were grouped into two contexts: AU518—a deposit on the intermediate ground surface, and AU519—the intermediate ground surface. Although the mends among the ceramics and the glass fragments, especially in the middle of the lot, indicated some mixing between the layers (dating in total to a ten- to twenty-year period), the two main contexts are treated separately to see if any major differences developed over this period.

It appears that trash was dumped on the east side of the lot, possibly along a fence line. Greater amounts of highly fragmented, non-mending glass were recovered in this area within EU5 (AU519) and EUs 11 and 10 (AU518).

The AU519 glass was highly fragmented in general. Crossmending fragments indicated that glass was discarded on the lot surface, broken by activities such as walking on the vessels, and sometimes scattered to various parts of the backyard. Thirteen vessels from the intermediate ground surface were identified (Table 101). All but one or two were drinking vessels, alcohol bottles, or a serving piece used for pouring liquids, probably alcohol. A melted spout fragment of a blue creamer was also identified. Fragments of engraved and pattern-molded Bohemian-type glass and an enameled tumbler were encountered all over the lot.

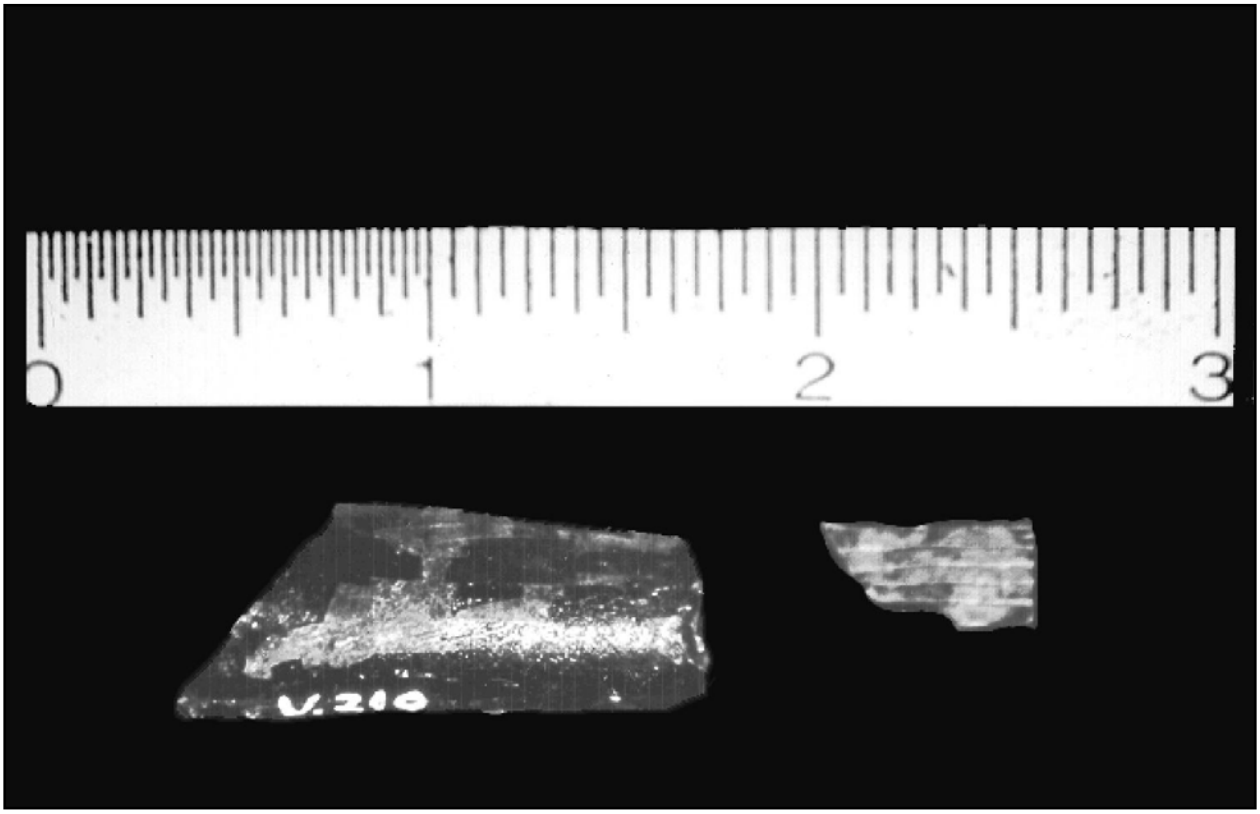

Figure 89. A conical olive-green fragment (Vessel 210), and a clear, flat, scored fragment (cat. no. 361); both are possible non-household implements.

Table 101. Comparison of Vessels in AUs 518 and 519, Lot 12, Phase 2

Function	518	519	Total
Possible scent bottle	1		1
Vase	1		1
Decanter or carafe		1	1
Creamer		1	1
Flip	2	1	3
Stemware	2	2	4
Tumbler	4	3	7
Hollowware	1		1
Unidentified		1	1
Demijohn		1	1
Probable wine	3	1	4
Wine	1	2	3
Total	15	13	28

Glass in deposits (AU518) on the intermediate ground surface was notably similar to AU519 (Table 101). Twelve of the fifteen vessels are drinking-related tableware or alcohol bottles. A milk-glass enameled vase (v.201) and part of a scent bottle (v.212) were recovered in this context—part of a very small group of non-essential glass objects recovered on the lot. At least two AU518 vessels appeared to predate occupation of Lot 12—fragments of a wine bottle and a stemware. The bottle (v.207) was an intermediate form with a wide body that was manufactured after the mallet-type bottle and prior to the narrow-bodied, basically modern form. It was probably manufactured between 1760 and 1790. The clear stemware foot that was domed above a folded bearing surface (v.196) appeared to have been made during the first half of the eighteenth century. The provenience of these vessels seemed related to disturbance.

Overall, the assemblages from AUs 518 and 519 were very similar. The main differences were in the non-drinking-related vessels found in AU518 and the serving pieces in AU519. The differences receded further after lumping the probable wines with the wine bottles.

8.5.3 Phase 4 (1810–1890s)

The excavated Phase 4 analytical units were recovered from construction or construction-related features that were either excavated into fill or deposited on a construction feature. However, the artifacts seemed to date to the end of Phase 2 or the very beginning of Phase 4, and all appeared to be associated with the Miller household. The ninety vessels recovered from these features were overwhelmingly alcohol-bottle related (Table 102).

F17 was a mortar slab beneath a brick floor in the southeast area of the lot with a cultural-material assemblage dominated by glass. The feature served as an architectural component. Fifty-two of the sixty-four vessels recovered in the feature were olive-green alcohol-bottle bases, kickups, or kickup and lower-body fragments. Most of these vessels appeared to be English wine bottles; however, at least six vessels had less concave kickups than English types of the late eighteenth century (Jones 1986; Dumbrell 1992). Although none of these bases could be dated, six of the eight neck/finish remainders were assigned tentative dates by comparison to bottles with dated seals and similar finishes. The dates were 1785–1822, 1784, 1765–1796, 1794–1820, 1781, and 1793–1822 (Jones 1986:54–68). This was significant, since these were all later than the other bottle finishes in Phase 2.

Table 102. Glass Vessels in Lot 12, Phase 4

AU	Function	Decoration	Vessels	Begin Date	End Date	Comments
17	Tumbler		1	1800		v.265, cylindrical
17	Decanter		1			v.308, unknown shape
17	Demijohn		1			v.306
17	Hollowware		1			v.307, possible flip
17	Case bottle		5			v.248–250, 267, 302
17	Alcohol, wine-style quart		12			v.233, 235, 270, 272–276, 278, 280–282
17	Probable alcohol		1			v.251, olive-green with distinctive flattened kickup
17	Probable wine		40			v.234, 236–247, 266, 268, 271, 277, 279, 283–301, 303–305
17	Medicinal vial		1			v.269, aqua
17	Unidentified		1			v.309, green
27	Flip		1			v.310, F43/44
27	Tumbler	Engraved	1			v.314, floral, F43/44
27	Case bottle		1			v.313, F43/44
27	Probable alcohol		16			v.179, 181–188, 190–193, 252–255, F27
27	Probable wine		2			v.311–312, F43/44
27	Wine		2	1760		v.180, 189, F27
27	Hollowware		1			v.315, dark blue, F43/44, possible salt
27	Hollowware		1			v.255, aqua, F27
27	Medicinal vial		1			v.320, cylindrical, F43/44

In addition to the 1,060 olive-green remainder fragments, nearly all of the remaining AU17 vessels appeared to be alcohol or drinking-related as well. Five case bottles, a demijohn, a decanter, a tumbler, and a possible flip as well as two unidentified bottles were recovered. The tumbler base and lower-body fragment indicated a cylindrical form; hence, it was manufactured around 1800 or later. The fragments of the vessel that may have been a flip were decorated with an engraved Bohemian-type motif. One aqua cylindrical medicine vial was identified. The assemblage exhibited heavy glass disease from exposure to the mortar.

AU27 came from a feature complex composed of a hearth (F43) and an adjacent area to the west (F27) that may be an inglenook. Both parts of the complex were paved with broken and whole bricks, although the hearth area (F43) was better laid or preserved. Both parts of the feature elements were underlain by a sandstone foundation on and in a bed of sand deposited on or cut into the ground surface. The sandstone foundation and sand bedding under F43 was called F44. The foundation under and behind (north of) F27 was not given a separate designation.

Thirteen of the nineteen vessels identified from AU27 were olive-green cylindrical bottles with shallow convex (nearly flat) kickups that were dissimilar to wine-bottle kickups (Figure 90). They are believed to be associated with the grocery or the early operation of the distillery. The vessels are poorly manufactured and some deviate substantially from a cylindrical shape. As in AU17, a high percentage of base/body portions to neck/finish portions (16/2) were identified.

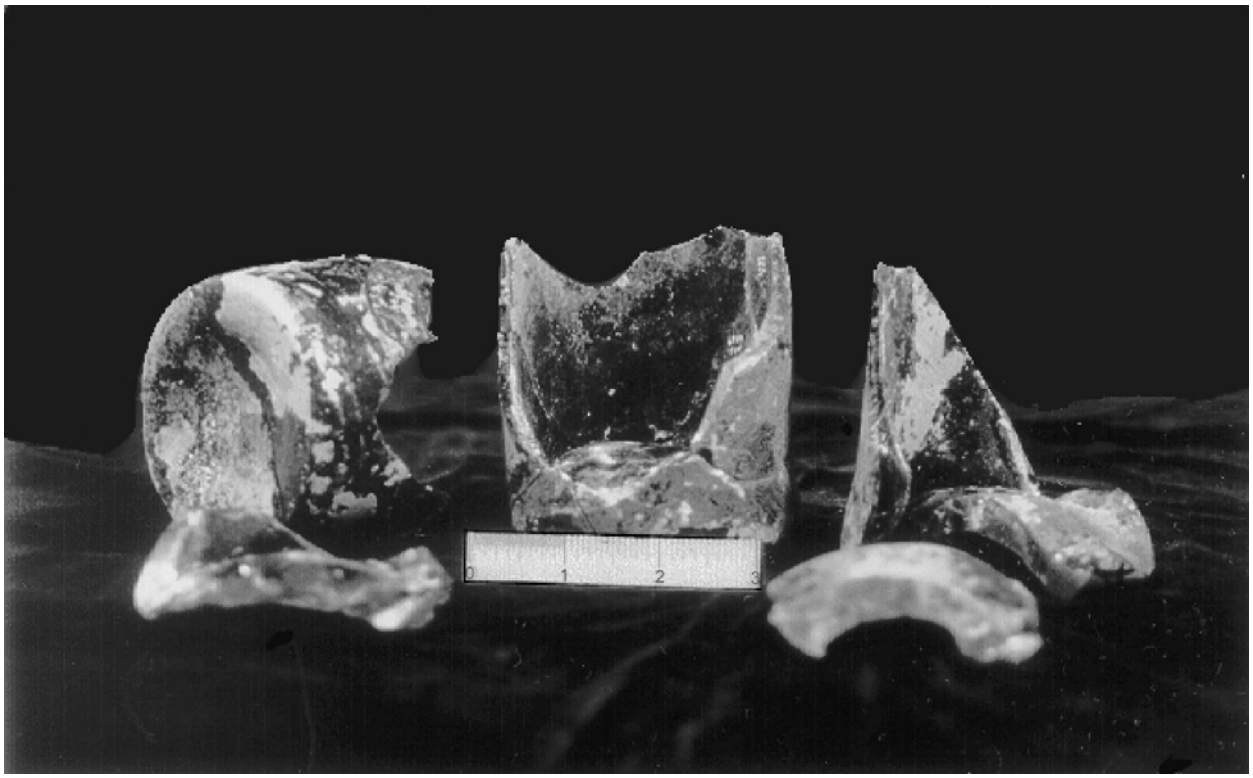

Figure 90. Probable alcohol containers with relatively shallow kickups, Vessels 179, 182, 181, 186, and 192, Lot 12, AU27.

The AU27 assemblage was characterized by a greater variety of functional types that suggested a household deposit. Fragments of a Bohemian-type engraved tumbler, a flip, two alcohol (probably wine) bottles, a heavily diseased case bottle, a cylindrical medicinal vial, and a possible salt were recovered. Remainders included milk-glass vase, tableware, medicinal, and wine-bottle fragments. Like the tumbler, some of the tableware remainders bore Bohemian-type motifs and probably were manufactured during the last quarter of the eighteenth century or the first decade of the nineteenth century.

8.5.4 Lot 12 Discussion

8.5.4.1 Phase 1

This unoccupied block sloped to the northeast toward a natural, marshy depression outside the mid-eighteenth-century palisade delineating the northern boundary of Manhattan. Glass may have been discarded there as early as the first quarter of the eighteenth century. The limited glass assemblage recovered in Phase 1 contexts was generally similar to those of the Phase 2 AUs 518 and 519 in one respect—it is mostly comprised of alcohol bottles or drinking vessels. The earliest glass was discarded during the period when there were no structures on the lot and the block was used as a place of burial, predominately for enslaved Africans and African Americans. We must remember that the majority of the glass came from the fill of F51, used to dispose of kiln waste. The household items on the surface at the time the trench feature was excavated, after 1760, may have been incorporated into the feature as it was backfilled.

Therefore, the glass recovered from the Phase 1 ground surface and features was believed to be associated with a few possible sources. An undetermined amount of this material was brought to the lot to be discarded by residents of nearby houses, or possibly by trash collectors. The houses nearest Lot 12 were situated on the east side of Broadway in the mid-eighteenth century. Some of the glass could also be associated with dumping from the potteries near the northeast corner of the block. Non-industrial refuse must have been generated by those enterprises other than quantities of kiln furniture and wasters that were recovered in the eastern area of the block. In addition to refuse from families residing or the industries operating near Block 154, some of the glass may be attributed to British soldiers, who commandeered a house near the northwest corner of Lot 12 (Section 3.2) during their occupation of the island during the Revolution.

Although none of the pre-Revolution glass described above was recovered in a burial context, another possible source is placement or discard by persons who were burying their dead or from disturbed burials. Kongo and Angola grave decoration traditions include the placement of bottles on branches for protection against evil spirits (Welty 1971 in Thompson 1983:144) or to block the disappearance of the talents of the important dead (Thompson 1983:144).

Eleven of fourteen vessels (79 percent) identified in Phase 1 contexts were alcohol bottles or drinking vessels (Table 99). There are two stemwares in the Phase 1 assemblage. According to Jones and Smith (1985:34), "during the Seven Years' War period stemware outnumbers tumblers both in newspaper advertisements and in archaeological contexts." Stemwares were considered socially and aesthetically superior to tumblers, although they were less expensive (Jones and Smith 1985:38). The blue gauze and spiral stemware stem was leaded and was probably made in England. Fluorescing revealed that the milk-gauze and double-spiral stem did not contain lead, suggesting Continental or possibly American colonial glasshouse manufacture. No chronological significance can be inferred from twist variations (McNally 1982:69). However, both stems represent fashionable drinking vessels. A stemware with similar stem decoration was found in the wreck of *Le Machault*, a French ship sunk in 1760. McNally (1982:73) cites Thorpe (1961:210) who argues that the rococo flair epitomized by these stem motifs was particularly attractive to French (in the cited example) consumers. The stems held various bowl types, including the bucket, ogee, trumpet, round funnel, and other forms (Nöel Hume 1969a:Figures 11, 12; McNally 1982:Figures 43, 45; Jones and Sullivan 1985:Figure 114). The engraved possible flip (AU51) was almost certainly Continental, probably Bohemian, from the period preceding the great influx of Bohemian glass at the end of the eighteenth century and the first one or two decades of the nineteenth century (Lanman 1969).

8.5.4.2 Phase 2

During the first twelve or thirteen years of occupation, at least four individuals or families resided on Lot 12. None of the glass could be positively attributed to anyone, but the composition of the assemblages was suggestive. AU518 consisted of 80 percent drinking-related vessels, 27 percent of which were alcohol containers. The AU519 assemblage was comprised of 86 percent drinking vessels (29 percent were alcohol bottles). The percentage of alcohol containers was elevated in contrast to MID Area features and a contemporary Five Points feature. The AU56 glass assemblage consisted of 13.7 percent, the entire AU58 complex was comprised of 18.1 percent, and Feature AF, Five Points, had an alcohol-container assemblage constituting 17.9 percent of the assemblage. This suggested hard-drinking Broadway Block artisans, refuse from the grocery, or a domestic-commercial mix of material.

Miller leased Lot 12 in 1804 or 1805 (Jones 1805; Longworth 1805). He is first listed on the block, in the David Longworth and Jones directories, as a distiller and grocer and may have sold alcohol with other grocery goods. It is unclear if the construction and operation of the distillery predated the filling of the lot. Only one Phase 2 vessel may be distillery related. A conical olive-green fragment (v.210) was deposited in the pre-fill Feature 25. It appeared to be a spout fragment, used to decant liquids. Whenever the still was built, it was an opportune time to make liquor. On July 1, 1802, all federal liquor and still excise taxes were abolished (Downard 1980:Appendix VII). The choice of Barley (Duane) Street for the site of the distillery was also advantageous and foreshadowed the proliferation of industrial and service-related businesses in the mid-nineteenth century along the edges of refined spaces such as Broadway, according to Bushman (1992:361–363). Miller later collaborated with his nephew George who was listed as a cordial distiller and lemon- and raspberry-syrup manufacturer in 1839 at this address, a year after Michael Miller moved off the lot to 168 Fourth and finally to 151 Wooster where he died, probably in 1843 (Longworth 1839–1849). While the archeological evidence cannot determine the year of the lot filling, the archives may help. The filling episode date may have been as late as 1808 or 1809. The year 1808 is significant as the final year when Michael Miller's occupation is listed as both distiller and grocer on 6 Barley (Longworth 1808). Since it was necessary to rebuild all structures after the placement of as much as ten feet of fill on the lot, it seems logical that the grocery, although probably situated in the house, would be eliminated prior to the filling episode. When he discontinued the shop, Miller's marketing strategy must have changed from the sale of spirits in the grocery to supplying the product to commercial establishments or wholesalers.

Although the type of spirits distilled by Michael Miller is unknown, they were probably derived from grain. He may have been making whiskey, a practice that had become popular in America only a decade or two earlier, especially among farmer-distillers in the area of the modern state of Kentucky (Downard 1980:62). Documentation of the manufacture of cordials by Michael Miller was not encountered, but a cooperative effort with his nephew George is likely. Michael Miller ran a distilling enterprise that must have been profitable. This is difficult to discern from the glass assemblages that were probably associated with his household and businesses, but implied in the duration of the distillery and a relocation of residence off his business lot. His move uptown was part of trend which is elucidated by Wall (1994:28) who states, "In looking at the members of the middle class who chose to maintain residences separate from their workplaces, we find a picture emerging that is quite different from that of the merchant elite…. There was a gradual but steady increase in the percentages between 1800 and 1830, with a somewhat larger leap between 1830 and 1840."

The earlier Cottle, Ashmore, and Simmons households must have discarded some of the AU518 and AU519 assemblages. Later Phase 2 construction disturbance must have significantly impacted these deposits or yard-scatter assemblages. Crossmending glass was noted in a nearly contiguous tier of units from EU4 to EU9 on the west side of the lot and EU11 to EU5 on the east side. Within this group of units, situated in the mid-lot and north mid-lot area south of the probable house location, a group of distinctive vessel fragments mended between two and, in two instances, three contexts. Crossmends were not noted in the more recently disturbed area that was straddled by EUs 12 and 9 (EUs 1, 2, 6, 6A, 6B). Three vessels of the AU518 and AU519 assemblages—a scent bottle (v.212), a vase (v.201), and a creamer (v.217)—were unique to the lot. A woman probably used the first vessel, and the vase suggests a hint of refinement. Drinking vessels are adorned with basal flutes surmounted by diamonds (v.211), pattern-molded panels

(v.216), engraved tulip with trellis-filled calyx (v.256), engraved sunburst (v.198), and an unidentified enameled motif (v.195).

The six vessels and a small group of remainders recovered from Phase 2 features do not seem to offer many insights into Lot 12 activities and may have been deposited incidentally. It is interesting that the only lamp component on the block was identified in AU14 associated with the building wall. The spout fragment in AU25 suggests pre-fill distillery operation. However, material was swept or migrated into this feature, thus there exists a degree of uncertainty regarding this artifact.

8.5.4.3 Phase 4

Considering the relatively large numbers of alcohol containers, the presence of probable distillery-related objects, and Miller's ownership of the lot at the time, AUs 17 and 27 are believed to be associated with the distiller. These analytical units are composed of glass that appears to be primarily affiliated with the distillery and possibly Miller's household. The Phase 4 deposits include 97 of 131 vessels from the lot and reflect the use of glass in the foundation of features that cut through the Phase 3 deposits and into the Phase 2 deposits.

F17 was a mortar slab containing bases and neck/finishes of English wine bottles with at least six unusual olive-green bottle fragments with nearly flat kickups. These bottles did not appear to be domestic trash. The ratio of alcohol bottles to other glass was extremely high (59/64 or 92 percent alcohol). The feature seems to represent refuse from Michael Miller's grocery, distillery, and household, or all of these contexts. The discrepancy between the number of bases and neck/finishes is also notable and suggests that base/lower body fragments were purposely selected to prepare the mortar slab beneath the brickwork.

F43/44, the hearth at the northern end of the lot, had a reduced number of vessels compared to F27 and a higher percentage of domestic material in the foundation for the hearth. F43/44 may have been refuse from the Miller household or Phase 2 material incorporated into the foundation. Its glass remainders included Bohemian-type glass, a flip, a medicinal vial, a possible salt, and vase and other tableware fragments.

F27 was the inglenook associated with the hearth (F43/44). Eleven of the sixteen vessels recovered in F27 were also olive-green cylindrical bottles with nearly flat kickups that were dissimilar to wine bottle kickups. A tentative association of these bottles, which were different from other alcohol bottles, with Miller's distillery and/or grocery does not seem unwarranted. The bottles were poorly manufactured, and some deviated substantially from a cylindrical body. These bottles were also similar to those found in AU27.

Two pale aquamarine fragments (v.255) that appeared to represent the bowl and tube of a funnel were recovered in AU27. A clear flat fragment, deposited in AU26, another post-fill feature, was scored with more than four perpendicular grooves (fractured on the two exterior grooves) and might also have been a distilling tool. Although its function was unclear, it was dissimilar to household glass of the period. The scored lines may have represented calibrations on a tool such as a rudimentary hydrometer (Diderot 1987: 452, Figure 8), used for measuring the specific gravity of the batch or some other distilling tool. A perforated ceramic block, used to roast grain, was also recovered in AU27. Tableware recovered in Phase 4 Features comprised only five percent of the feature assemblage, supporting a non-household source.

9.0 URBAN FORAGING: FUEL, FOOD, AND MEDICINAL PLANTS

by Leslie Raymer and Mary Theresa Bonhage-Freund

9.1 Introduction

This archeobotanical analysis focuses upon macro-plant remains collected by flotation and directly during excavation from forty-six non-burial-related cultural features and natural ground surfaces associated with late-eighteenth to early-nineteenth-century residential occupation and commercial use of 290 Broadway in New York City (Appendix F-10). Two major periods of occupation were defined during the analysis: Phase 1, pre-Revolution (all materials dating prior to 1788), and Phase 2, post-Revolution (1788–1810).

Eighteen contexts, including features (N=14) and historic ground surfaces (N=4), dated to the pre-Revolution occupation. Pre-Revolution contexts consisted of construction features (trenches, possible structure), postholes, indeterminate pits, puddling boxes, and a firepit. Twenty-one features and two ground surfaces dated to the Phase 2 occupation. Flotation samples were collected from six wood-lined shaft privies, one posthole, seven indeterminate pits, seven construction-related features, and two historic ground surfaces (a fireplace foundation and planks). A cistern, a fireplace, and a brick surface were intrusions into the Phase 2 deposits, probably immediately after Lot 12 was filled, and date before 1810 in Phase 4. Samples were also collected from two features (Features 103, a charcoal stain, and 138, a barrel buried in the ground), which postdated the post-Revolution occupation (Phase 5). Macro-plant remains from Phase 4 and 5 features are discussed with the Phase 2 materials.

Macro-plant remains from eighteen Phase 1 and twenty-three Phase 2 contexts are discussed in this chapter; the five from later phases are discussed with Phase 2 where appropriate. All of the macro-plant remains were taken from similar depositional environments. With the possible exception of the historic ground-surface samples, all of the macro-plant samples were collected from features that were sealed shortly after abandonment and deeply buried by later building episodes. Macro-plant remains from each feature are directly comparable due to the similar depositional environment of all of the archeological deposits from which the archeobotanical assemblage derived.

The European-American occupation of the project area in Lower Manhattan provides a laboratory for the study of social and cultural evolution in old New York. This area rapidly developed from hinterland during the eighteenth-century British occupation, to middle-class artisan enclave in the early Republic, to immigrant-tenant working-class neighborhood in the nineteenth century. Macro-plant remains from both the pre-Revolution and the post-Revolution (c. 1788–1810) phases provide insights into both daily life and the role of citizens in the local ecology of this urban neighborhood.

Macro-plant remains consist of wood-charcoal and charred and uncharred plant-food remains. The majority of wood-charcoal was derived from open land surfaces and natural depositions associated with European-American industrial use of the African Burial Ground. These open proveniences include yard surfaces, open ditches, builders' trenches, structural features, puddling boxes, artifact concentrations, and miscellaneous pits. One artifact scatter may be of African-American origin. Plant-food remains were extracted from these features and also from well-sealed privies, wells, and similar well-documented proveniences.

For purposes of analysis, data in this report are clustered into three analytical groups, namely pre-Revolution, post-Revolution, and a single African-American artifact scatter from the post-Revolution phase. Although as discussed in Section 4.3.3, it is not positive that African Americans lived on Lot 17, it is likely, and this deposit is considered as such for this analysis. Flotation samples and directly excavated remains are the source of macro-plant remains examined in this study. This analysis focuses upon changing patterns of plant use through time. Key research questions include the following:

(1) What was the overall character and composition of the urban forest, and was it stable during the study period?

(2) Was the overall local ecology stable over time?

(3) Does the macro-plant assemblage provide evidence of home gardening, gathering of locally available wild plant foods, and/or ornamental plantings on lots?

(4) What is the evidence for urban foraging?

(5) Does the macro-plant assemblage offer evidence of ethnic and/or class differences in diet and plant use?

(6) How does the macro-plant assemblage from the Broadway Block compare to other macro-plant assemblages from other nineteenth-century urban sites?

9.2 Methods and Procedures

Macro-plant remains collected by flotation and directly during excavation from forty-six non-burial-related cultural features and natural ground surfaces are presented in this report. Mr. William Sandy processed the flotation samples in a Shell Mound Archeobotanical Project type of flotation device. The volume of each flotation sample was approximately one liter. No recovery controls were added to the samples.

In the laboratory, each flotation light fraction was weighed and then passed through nested geologic sieves (4.0 mm, 2.0 mm, 1.0 mm, 0.71 mm, 0.5 mm). Each size-graded light fraction was fully sorted under low magnification (6–25x). All of the material from the screens that was greater than 2.0 mm was pulled from the sample matrices and was quantified by material type, weight, and count. Material that was smaller than 2.0 mm was sorted, but only charred and uncharred seeds were removed. Six heavy fractions were sorted to verify the flotation separation, which seems to have been adequate. The raw data upon which this archeobotanical analysis is based are presented in Appendices F-1 through F-10.

9.2.1 Wood-Charcoal

For each light fraction and some heavy fractions of flotation samples, taxon identifications were attempted on a random "pinch sample" of wood-charcoal. These specimens were drawn from the charcoal that was retained in the greater-than-2.0-mm sieve. Whenever it was possible, the wood specimens were identified to genus. Specimens that were too fragmentary or poorly preserved to identify were placed in the more-general categories of conifer, ring porous hardwood, diffuse porous hardwood, and unidentifiable hardwood.

In this project, samples are assigned to "analytical units" that consist of one or more samples from one or more features or natural ground surfaces. These analytical units were considered by the principal investigator to comprise parts of a single feature, use area, trench, or other investigative unit. The analytical unit is the basis of the wood-charcoal analyses.

This analysis is based on wood counts, rather than weights, to mitigate the differential preservation of individual wood types. Various wood species possess unique physical properties, which result in different levels of combustion and ultimately result in skewed representation in the archeological record. For instance, hardwood-charcoal fragments in archeological assemblages are smaller and less durable than pine. Therefore, utilizing weights instead of counts would tend to overemphasize the importance of pine in a given archeological assemblage simply because fragments of pine charcoal tend to be larger than hardwoods.

Each wood-charcoal taxon was evaluated for diversity, as a percentage of the total amount of identified wood-charcoal, and ubiquity. In small samples such as these, diversity cannot be estimated using standard indices, such as the Shannon-Weaver Index (Shannon and Weaver 1949). Therefore, diversity indices, which are simply scored as the number of unique taxa per provenience/time period, are used in this report to model a rough estimation of forest composition, which is based on the gross number of unique taxa identified in the samples.

Evaluation of the number and specific varieties of species allows an assessment of the general level of diversity within a given context. It is not possible to make a virtual reconstruction of the local woody plant population by identifying specific taxa, but by understanding their growth requirements, the qualities of their wood, and similar characteristics, a gross level of environmental description can be achieved. An assessment of abundance stretches these data by estimating the prevalence of each taxon in a given context.

Abundance (relative proportion of each taxon) is measured by calculating the relative percentages of individually identified species as compared to the total identified taxa within a given provenience or group of proveniences. The relative proportions of hardwood, conifer, monocot, or other major categories of recovered charcoal remains were also calculated.

"Ubiquity" measures the percentage of site proveniences in which a given taxon occurs. Each unique feature or group of features is regarded as a single provenience. Each taxon is weighted equally, regardless of the quantity of seed or other tissue recovered. Since taxa are scored on presence regardless of their counts or weights, ubiquity analysis partially compensates for differential preservation (Popper 1988). Ubiquity analysis is based on two premises. First, those taxa that were more prevalent at the site at the time of its occupation will be present in more archeological proveniences. Second, each provenience is independent. Accordingly, if a taxon preserves poorly and yet was ubiquitous at the time of deposition, it is still possible that at least a single seed will survive in multiple contexts, even though the species' gross count or weight will be insignificant in absolute terms (Yarnell 1982; Johannessen 1984). Ubiquity analysis is a reliable measure of relative significance. An important characteristic of this technique is that the score of one taxon does not affect the score of another; thus, the tallies of different taxa can be evaluated independently (Popper 1988). A disadvantage of ubiquity analysis is that it can be affected by disposal patterns (Bonhage-Freund 1997:177 for discussion). Discard patterns are not a major issue in this project because samples were analyzed from every context except privies. While the analysis of privy samples would have rounded out the database, it is unlikely that they would have contributed much additional information. Privies do not typically contain much charcoal. In Bonhage-Freund's experience, the uncharred wood often found in privies usually represents splintering from the privy structure.

9.2.2 Seeds

The analytical procedures of species ubiquity and richness were employed to study the seed assemblage. In ubiquity analysis, the occurrence of each plant type is expressed as a percentage of the total number of proveniences in which a particular taxon is present. This measure ascribes equal weight to the physical presence of a given taxon, regardless of the abundance of that plant type in a particular sample. Therefore, a sample that contains one seed of a given taxon is equivalent to a sample containing several hundred of the same seed. This offers a way to assess the relative importance of various plant species and gives an indication of how common each plant type is at the site. Ubiquity analysis is utilized in the analysis of plant-food remains to assess the relative importance and meaning of the seed assemblage (Minnis 1985; Popper 1988).

The ubiquity of each seed taxon was calculated for all the analyzed pre-Revolution features, post-Revolution privies, and non-privy Broadway Block features. The percentage-presence of seeds found in the privies is assessed separately from non-privy features because privies typically contain the most abundant and well-preserved seed assemblages. Ubiquity data from the privies are compared to inter-site ubiquity data from well-to-do owner-occupant and poor immigrant/working-class tenant privies to gain a perspective on the relation of the Broadway Block macro-plant remains to those from other nineteenth-century urban occupations.

The richness of the macro-plant assemblage from the Broadway Block privies was calculated and graphically displayed to compare and contrast dietary richness of the occupants of the Broadway Block with the nineteenth-century diet of high- and low-income individuals from other urban settings. This was accomplished by counting the number of plant taxa (simply scored as present or absent—absolute quantities were not considered in this comparative analysis) recovered from eight Broadway Block privies and thirty-five privies from other nineteenth-century urban sites and organizing the plant data by presumed economic importance of each plant taxon. The privies that were selected for comparative

analysis all exhibited roughly similar flotation sample volumes. However, the plant taxa were simply scored as present/absent in each context to ameliorate the deleterious effects of differing sample volumes.

This comparative analysis was limited to privies because these shaft features provide excellent preservation environments (uncharred plant remains are typically well-preserved in these deep shaft features, which are often below the water table) and provide direct evidence of diet. Hence, plant remains collected from these contexts are basically comparable since factors of preservation and deposition (fecal material and dumped kitchen trash) are controlled. This analysis, which is based upon presence/absence data (quantities of each recovered plant taxon were not taken into account), is a simple comparison that was designed to examine broad patterns of plant use among historic-period city dwellers from varying socioeconomic backgrounds.

9.3 Wood-Charcoal: Analysis and Interpretation

9.3.1 Introduction

This wood-charcoal analysis focuses upon macro-plant remains collected by water flotation from the English Colonial and Early Republican periods of occupation in the Broadway area of New York City. With the exception of the single African-American feature, these samples were all created and used by European Americans. Of the ten pre-Revolution contexts with charcoal, one, the early ground surface (AU521), is earlier than the others. There are five from the post-Revolution period including the one African-American context. The sampled contexts include six open contexts (yard surfaces, open builders' trenches), four structural contexts (possible structure, posthole, fence line, fireplace foundation), two puddling boxes, and two miscellaneous pit features.

Wood-charcoal macro-remains found in archeological deposits are likely to represent either the remains of firewood or the burned vestiges of structural timber resulting from catastrophic conflagrations. Since there is little evidence of catastrophic fires in the project locality for the occupations under analysis, it is Bonhage-Freund's opinion that the charcoal recovered in these excavations primarily represents spent fuel. Industrial and domestic stoves and fireplaces needed to be cleaned regularly. Ash, charcoal, cinders, and other products of combustion would be deposited in kitchen middens and convenient trash receptacles such as abandoned privies and wells. From there they might be blown against walls and into trenches, scattered by animals, and otherwise dispersed throughout the site. Charred fuel could thus appear in almost any context in the site locality.

Construction features, historic ground surfaces, miscellaneous pits, and foundations are all typical collecting points for scattered particles of debris. Throughout the eighteenth century and into the nineteenth, charcoal, ash, and cinders would comprise a dominant proportion of wind-borne and accidentally spilled industrial and household debris since heating and cooking facilities associated with historic urban households produced enormous quantities of spent fuel remains. If posts were burned *in situ*, then the charcoal from the single species of which the post was composed should be dominant; debris commonly works its way into the crevices between post and ground, and so small amounts of other species' wood-charcoal may be observed.

It is almost certain that the charcoal recovered from the fire pit represents fuel. Some feature types are more likely than others to contain household debris and, thus, fireplace sweepings. Examples of these would include middens and privies. Most features from this analysis do not fall under this category. Thus, it must be assumed that, with the possible exception of the post mold and fire pit, charcoal recovered from this site represents debris from the neighborhood rather than from a specific address.

This study documents historical observations regarding the use and abuse of the mid-eighteenth to early-nineteenth-century urban forests of Manhattan. The presumed forest composition during the period of the site's occupation is based on the historical records (Hibernicus [De Witt Clinton] 1822; Valentine 1853; American Scenic and Historic Preservation Society 1910), notes of early naturalists (Hedrick 1950; Kiernan 1982), voucher specimens (Kirchgessner 1998, New York Botanical Gardens, personal communication), and government reports (United States Department of Agriculture 1942).

Key research questions include the following:

(1) What was the overall character and composition of the Broadway urban forest during the second part of the eighteenth century, before and after the Revolution? What genera are documented? Does the charcoal assemblage provide evidence of the deforestation of lower Manhattan during its occupation by the British in the American Revolution?

(2) To what extent can ecological conditions be either discovered or confirmed through the wood-charcoal assemblage?

(3) Is there evidence of orchards or of landscaping with European species in the Broadway area?

(4) Did Broadway residents have access to high-quality fuel wood? Were people exploiting local trees as firewood?

(5) To what extent was there differential preference for particular wood types according to their intended use?

9.3.2 Historical Background

Prior to British occupation, the Dutch settled Manhattan in the seventeenth century. By 1639, the lower part of the island was developed from the Battery to Wall Street. The Dutch constructed docks, streets, shops, and wharves, but most of the island was farms (Valentine 1853:18ff, 303; Kiernan 1982:6). In 1667, the area behind today's City Hall Park, two blocks north of the project site, was considered to be, "waste vacant and unappropriated lands,... [a] wild, uncultivated tract on the outskirts of civilization" (American Scenic and Historic Preservation Society 1910). It is the Dutch who introduced slavery to Manhattan Island, using their labor to tend crops. Most of these crops were derived from seeds, trees, and shrubs imported from Europe (Valentine 1853:221ff; Hedrick 1950:54).

The English conquered New Amsterdam in 1664 and renamed it New York. The city received its charter in 1686. By the beginning of the eighteenth century, the burgeoning population pushed northward in small numbers along Broadway Street to what is now Greenwich Village.

Of interest to this project is a description of the city hall area in the mid-eighteenth century. In 1734, an "Alms House," or workhouse for the indigent, was constructed on the commons in back of city hall (Valentine 1853:283; American Scenic and Historic Preservation Society 1910:9–10). In 1757, a small piece of ground, "of the length of two boards," was established as a burial place for the poor associated with the almshouse. The almshouse was replaced in 1797 by a larger one on the same lot (American Scenic and Historic Preservation Society 1910:9–10, 15–16). Joseph Paulding leased another portion of the commons in 1742 and established a large brick kiln (Valentine 1853:283). To the northeast and bordering the project area was the Fresh Water or Collect Pond. The Broadway Block archeological project explored a rediscovered, mainly African-American burial ground, and the concurrent and subsequent uses of the site. Among the eighteenth-century industries established in the project vicinity were ceramic kilns and tanneries. These uses of the land were consistent with other neighborhood enterprises.

The swamps of lower Manhattan around the Collect Pond were filled by 1800. A mere five years later, these former wetlands were developed (Valentine 1853:181ff; Winkelman 1986:3). By 1834, the Collect Pond itself was filled. Prior to 1840, Canal Street marked the northern boundary of the city proper, while beyond this were large farms stretching up toward Harlem (Cook 1972:10). This northern region included the location of the Broadway Block excavations. The city hall area was eventually developed as a planned open public space, but even as late as 1825, the area was rural or suburban in character, with many houses sitting on wooded, landscaped tracts.

The eighteenth- and early-nineteenth-century residents of the Broadway neighborhood would have been working- or middle-class families, some of whom rented and some of whom owned their homes. Most of the post-Revolution features under consideration were split between Lot 12 and the features of the MID Area (Lots 15, 16, and 17) where most of the occupants were known to be artisan/tenants.

9.3.3 Ecological Context

New York City lies in an ecotone between two broad ecological plant communities. Southern-type trees are mixed with the predominantly oak-hickory forest cover. Trees characteristic of New England forests farther north, including maple, beech, hemlock, and birch, are also found in Manhattan. Chestnut would have been common, and perhaps co-dominant with oak. Pine would have been present, but not abundant (Jorgensen 1978:113, 122–123). Today, a "virgin" stand of hemlock (*Tsuga canadensis*) is preserved in the New York Botanical Gardens (Barlow 1969:33; Kiernan 1982:211). It is the only piece of virgin forest intact in the five boroughs that comprise New York City.

Hemlock is a successional species, and this "virgin tract" most probably postdates the original hardwood forest (Walker 1972:24). Tory and Hessian forces chopped down most of the city's forest during their Revolution-era occupation of the city. Today, most New York City trees are non-native, oriental, or hybrids. Ginkgo (*Ginkgo biloba*) and London plane tree/American sycamore hybrids (*Platanus* spp.) are especially common (Barlow 1969:33). Some indigenous species persist, including shagbark hickory (*Carya ovata*), red oak (*Quercus rubra*), white oak (*Quercus alba*), tulip tree (*Liriodendron tulipfera*), beech (*Fagus grandifolia*), and others. Some of these native remnants are up to 200 years old (Kiernan 1982:200, 211). Most of these old native trees are in parks.

New Amsterdam was already fully developed with European-style orchards by 1678. When the Dutch first settled Manhattan, many Old World species were introduced from or via Europe, including apples, peaches, apricots, plums, figs, almonds, gooseberries (*Ribes* spp.), and jimsonweed (*Datura stramonium*). Persimmons were also noted, but it is unclear if they were native (Barlow 1969:10) or introduced species. European Americans living on Long Island also exploited native woody species such as mulberries, persimmons, grapes, huckleberries (*Vaccininium* sp. or *Gaylussacia* sp.), cranberries (*Vaccinium* sp.), plums, roseberries (*Rosa* sp.), and strawberries. By the mid-eighteenth century, several nurseries were thriving on nearby Long Island (Hedrick 1950:71).

Along the Hudson River "a great store of goodly Oake and Wal-nut tree [probably *Juglans nigra*], and chest-nut tree [*Castanea dentata*], and trees of sweet wood in great abundance" were noted by Robert Juet in 1609. Similar taxa were noted by Daniel Denton on Long Island, namely, "oaks, white and red, Walnut trees, Chestnut trees…Maples, Cedars, Saxifrage [*Sassafras* sp.?], Beach, Birch, Holly, Hazel, with many sorts more" (Barlow 1969:10).

In 1748, Peter Kalm noted that trees deliberately planted in the city included sycamores and locusts. He also noted pines and elms (Kiernan 1982:9). European and European-American hybrids would eventually replace the native species in settled areas of the city. Today, forty percent of all plants in New York City are of European origin (Kiernan 1982:6). After the American Revolution, abandoned or unsettled lands would revert to immature forests, dominated by quick-growing conifers, brambles (*Rosaceae*), and pioneering hardwood species like arrowwood (*Viburnum* sp.), spicewood (*Lindera benzoin*), cherry, and birch, which thrive to this day (Kiernan 1982:197).

During the colonial period in the New York Harbor area were "swamps filled with fish, large and small whales, tunnis and porpoises, eagles and birds of prey," but no forests of note (Barlow 1969:10; 33). "The Swamp," in the vicinity of Ferry Street, was low ground covered by "Kripple-bush" or tangled briars in 1734 (Valentine 1853:284). Species noted in Van Cortland Swamp and considered to be "common" in the city included several members of the cattail family, arrowleaf (*Saggitaria latifolia*), skunk cabbage (*Symplocarpus foetidas*), Jack-in-the-Pulpit (*Arisaema* sp.), arrow arum (*Peltandra virginica*), many grasses and sedges, common reed, duckweed (*Sirodela polyrhiza* and *Lemna minor*), spiderwort (*Tradescantia virginiana*) and many other herbaceous species. Many of these hydric herbaceous species persisted to the late nineteenth century when they were sampled for voucher specimens for the herbarium at New York Botanical Gardens (Kirchgessner 1998, personal communication).

A number of hydric tree species are thought to have once been common in Manhattan. Many of these species were observed in the tract that was later developed into Central Park (Cook 1972:39ff). These included dozens of species of willows, hickories (*Carya ovata, C. cordiformis*), and black walnut. Other native taxa included northern white cedar, Atlantic white cedar, cottonwood/poplar (*Populus tremuloides*, *P.*

grandentata, P. alba, P. nigra), additional hickory taxa (*Carya glabra, C. ovalis, C. tomentosa*), birches, blue beech, hophornbeam/ironwood, hazelnut (*Corylus americana, C. cornata*), native black or sweet cherry, several types of oaks, and more (Kiernan 1982:245). In the seventeenth century, American chestnut was the most common tree of the northern forest, while eastern white pine provided the most lumber in this region (Ketchum 1970).

As early as 1787, the city began employing paupers to collect street dirt and spread it on the City Hall Park green in preparation for planting grass seed. In the 1820s, the City Hall "Commons" was truly developed as a park, with wrought-iron fences and landscaped with trees and rose bushes. Grass plats were laid in 1832. In that same year, the park was described as being "adorned with trees" (American Scenic and Historic Preservation Society 1910:26).

9.3.3.1 Properties of Wood

The fuel value of wood varies directly with its specific gravity. That is, the heavier the wood, the greater its heat value. In the Middle Atlantic states, the leading fuel woods during the period 1630–1930, in preferred order, were oak, maple, birch, pine, beech, and hickory. The burning qualities and relative fuel values of these woods are presented in Appendix F-1. Softwoods, or conifers, such as northern larch (*Larix laricina*), hemlock, spruce, and pine were used primarily as kindling. The fuel value of these woods is much lower than that of hardwoods, and/or they have other undesirable properties for burning (see Appendix F-1). A cord of good dry hardwood such as oak, hickory, hard maple, or beech weighs about two tons and has as much fuel value as a ton of coal. Preference for the listed woods was based on a complex of factors, including availability, fuel value, ease of splitting, and a perceived lack of objectionable qualities. Government studies suggest that eighty percent of the fuel would have been oak, maple, and birch in the eighteenth and early nineteenth century (United States Department of Agriculture 1942:6–7).

Some woods have a high water content that leads them to dry imperfectly, burn poorly, and yield little heat. These include black oak and elm. Chestnut and hemlock snap during burning, making them unpopular as firewood. Many conifers, like pine, have high pitch content that yields high flames, smoke, and pitch when burned. These characteristics make them undesirable and even dangerous as cooking fuels and heating fuels. Therefore, these woods were avoided for most such purposes.

9.3.3.2 Fuel in New York

Sources of locally grown wood became increasingly scarce and expensive over time in New York, as in other eastern cities. In the mid-seventeenth century, British ships leaving England sometimes used coal for ballast. People purchased this alternate fuel for kitchen and parlor fires because it was cheaper than wood (Valentine 1853:294–295). As early as 1721, the poor suffered a shortage of firewood in New York City. In that year "the Corporation did permit gathering of felled timber lying on its common lands" (Bridenbaugh 1960). This provides early documentation of Manhattan residents foraging for firewood.

In 1732, the firewood shortage became severe and the price of fuel rose to prohibitive levels. Poor and desperate people stole at least one shipload of firewood, and people regularly complained that the wealthy exhausted the market supply of wood while the poor were "left to freeze" (Bridenbaugh 1960). The lack of affordable firewood must have driven the poor to seek alternate sources of fuel. Recall that the British had largely deforested Manhattan during the Revolution. This would have exacerbated the fuel shortage problem, making clean-burning firewood largely unavailable, even to the wealthy. The fuel crisis continued as late as 1797. Many artisans and working-class people could not afford wood because they had no money to buy it due to a financial crisis (Burrows and Wallace 1999:351).

Throughout the United States, hardwood was the preferred fuel for cooking and heating until at least the 1880s. Nevertheless, it has been noted that people sometimes economized by substituting coal. Before 1830, when iron wood-burning stoves became cost effective, wood was burned in open fireplaces. In cities such as New York, open-box fireplaces were sometimes used in shops, offices, public rooms, and churches. Use of wood stoves did not become common in New York City until after 1840 (United States Department of Agriculture 1942:3–4). By 1820, local fuel wood was becoming scarce around northern cities, and soft coal

was being used in both industrial and household contexts (United States Department of Agriculture 1942:5).

By the early nineteenth century, preferred wood was becoming less readily available both near and at some distance from the eastern cities (Hibernicus 1822:102; United States Department of Agriculture 1942:4). By 1800, farmers in Canandaigua in upstate New York were being warned to conserve wood and urged to set aside twenty acres for fuel, harvest one acre per year, and allow a twenty-year regrowth period (Hibernicus 1822:102).

9.3.3.3 Miscellaneous Uses for Wood and Woody Species

Wood was of course an important construction material. Homes were shingled with "white fir" (eastern pine, *Pinus strobus*) (Valentine 1853:53, 292; Kiernan 1982:11). White fir was considered to be "as durable as…white cedar" (Valentine 1853:292). Wood was used for structures, stockades, fences, docks, and in the production of furniture, machinery, barrels, gallows, and miscellaneous implements and utensils (Valentine 1853:71 ff; Kiernan 1982:11; American Scenic and Historic Preservation Society 1910:26). Woody species were also used medicinally. Several softwood species, native to or naturalized in New York State, were used for medicines in the early nineteenth century. City dwellers used the resin of European larch (*Pinus larix*) as well as those of two native tamaracks (*L. pendula* and *L. microcoiba*) as a diuretic, "stomachic," and antiseptic, among other medicinal uses (Hibernicus 1822:102). Oak, walnut, and chestnut trees in "New York and the Adjacent New Netherlands" yielded mast for swine in the late seventeenth century (Kiernan 1982:8) and probably did so until harvested by the British in the Revolution.

9.3.3.4 Summary

During the period when the Broadway Block was occupied (the mid-eighteenth through early nineteenth centuries), wood was an important resource to the inhabitants. Wood was the preferred and probably the primary fuel, and was important for cooking, providing heat during the cold winters, and providing energy for industries such as the ceramic kiln located in the project area. Wood was also used for construction and was the material from which numerous items of daily importance were crafted.

At the time span covered by this report, the urban forest of Manhattan would have been undergoing tremendous change. Human land-use practices altered the forest from a rich mix of hardwoods dominated by oaks, hickories, and chestnut (mid-seventeenth century to late eighteenth century) to a denuded landscape (post-1783). Historical records indicate that premium firewood was an important but relatively scarce resource in Manhattan as early as the mid-eighteenth century, when some people began to look for less-expensive alternatives. It is expected that these patterns will be reflected in the macrobotanical record.

Most of the land to the north of the project area was in use as farmland. That closest to the project area was in estates. Maps show trees only on estates, but it is possible that this was merely a convention of map making. Farmers in the Middle Atlantic states have always used windrows of trees, and often keep wood lots as well.

The charcoal could have entered the archeological record as the remains of fuel or even from destructive fires. Various activities could have generated the charcoal given the specific history of the immediate vicinity (Charles Cheek, personal communication 2000). Residential and industrial uses of wood for fuel were the most common sources.

In the post-Revolution period, most of the charcoal would have come from residential cooking and heating fires of the house occupants. Some may also have come from later intrusions after the block was raised.

In the pre-Revolution period, there were a greater variety of potential sources. Industrial sources included a pottery established after 1730, constructed c. 400 feet away, and another was located by 1740 on the northern boundary of the Broadway block. Both would have been a high consumer of fuel. In the 1760s, a potash factory on the northeast corner of Duane and Broadway would likewise have required fuel for production. Tanneries operated to the northeast on the opposite side of the Collect Pond but are rather far away to have contributed much charcoal to the site. Africans and African Americans used the land for

burial. It is quite possible that charcoal from their nighttime fires worked its way into the features under consideration.

Although there was no formal residential use of the property, household debris and charcoal could have been deposited in the project area either through erosion or dumping. British soldiers may have camped on Broadway at the edge of the project area during the Revolution. It is thought that they may have burned Teller's 1760s fence around the property. This could be considered as both fuel and construction wood. Similar debris would be expected from the barracks and almshouse that were built on the common lands to the north, uphill of the site. After the Revolution, construction workers who built the industrial and domestic structures near the project site would have used fire for warmth, cooking, and possibly burning trash or garbage.

All of these contexts favor the deposition of large amounts of spent fuel into the archeological record. This could be in the form of either wood or coal. Smaller amounts of wood-charcoal might result from scrap lumber, but even this would most probably be used as fuel, rather than wasted.

What would the source of this fuel be? It has been documented elsewhere that both wood and coal were purchased on the open market. Public lands were legal sources of firewood. Timber on estates and farms was privately owned and probably protected by law. However, wood shortages, coupled with exorbitant prices, may have left the private lands open to poaching. Recorded incidents of major thefts make pilfering a logical expectation. While this petty wood collecting could not fill all the fuel needs of the needy, it would certainly help. Although period maps do not show much timber in the area, the charcoal assemblage that includes trees not usually selected for fuel suggests that trees did grow in the project area during the formation period of the sites.

9.3.4 Overall Recovery

Wood-charcoal recovered by flotation consisted of 13.19 grams of wood, bark, and monocot charcoal fragments that were greater than 2.0 mm in size. While the sample is small, it is still sufficient to reconstruct the fuel use-patterns of the mid-eighteenth through early-nineteenth-century occupants of the Broadway Block. It is assumed that most charcoal recovered from the project area is derived from firewood.

Wood-charcoal is examined to reconstruct paleoenvironment, as an independent measure of anthropogenic effects on the environment and to discern patterns of selective resource exploitation. In this analysis, wood counts, rather than weights, are used to evaluate the different wood types. This approach partially compensates for the fact that woods contain different physical properties, resulting in more or less thorough combustion and, ultimately, causing differential archeological preservation of each wood taxon.

Identifications were attempted on a sub-sample of 452 charcoal fragments from the 13.19-gm wood-charcoal population (the size fraction greater than 2.0 mm), but only 421 were identifiable. Twenty-seven of these fragments dated to the mid-eighteenth century, 192 to the pre-Revolution phase, 201 fell within the post-Revolution phase, and 32 for the African-American context. Each inspected specimen was placed into one of twenty-one taxonomic categories. The raw data upon which this wood-charcoal analysis is based is presented in Appendices F-2 and F-3.

Two hundred ninety-eight fragments were successfully identified to taxa, and 123 were placed into the more general categories of monocot, indeterminate hardwood, and ring porous hardwood. Wood fragments categorized as ring porous, conifer, or monocot lacked critical features needed for more precise identification.

Thirty-one fragments were identified as bark, unidentifiable wood, tissue, resin, or cinders. These thirty-one unidentifiable fragments, all of which originated from post-Revolution contexts, are excluded from the following analysis.

9.3.5 Temporal Analysis

Success in identifying charcoal increased with the Phase 2 material, with species being determined in 61 percent of the pre-Revolution specimens, 80 percent of the post-Revolution specimens, and 94 percent of the c. A.D. 1800 specimens (Tables 103 and 104). This variability in classification success may be attributed to several conditions. First, the pre-Revolution samples included more hardwoods than conifers when compared to either the Phase 2 or African-American (c. 1800) samples. In general, hardwoods burn more completely than resinous conifers, and the archeological hardwood specimens are smaller or more highly degraded than conifer (Bonhage-Freund 1997). Second, there is considerably more variation in the structure of hardwood versus softwood because there are simply more species of hardwood in eastern North America. Third, pine is easily identifiable to the trained eye, and even very small fragments can be identified from several views without resort to high microscopic powers. Fourth, there is a much larger sample for the pre-Revolution period (ten analytical units) than the post-Revolution period (four analytical units), and there is only one African-American analytical unit. The large differences in contexts are important to consider. However, the composition of the samples in each context is internally consistent, suggesting that they are representative of the trends in wood use over time. The nature of these data is discussed in the following text.

Table 103. Counts and Percentages of Hardwoods, Conifers, and Monocots Associated with Each Period

Period	Pre-Revolution		Post-Revolution		African-American		Total
	#	%	#	%	#	%	#
All Hardwood	187	85.4	73	42.9	2	6.3	262
All Conifer	32	14.6	96	56.5	30	93.8	158
All Monocot			1	0.6			1
Total Wood	219	100.0	170*	100.0	32	100.0	421

*The 31 unidentifiable fragments from post-Revolution contexts were omitted from this table.

Table 104. Relative Proportions (Abundance) of Identified Wood-Charcoal Associated with Each Period

Period	Pre-Revolution		Post-Revolution		African-American		Total for Site	
	#	%	#	%	#	%	#	%
Hardwoods								
Basswood			2	1.5			2	0.7
Chestnut	2	1.5	8	5.9			10	3.3
Cottonwood/Poplar	6	4.5					6	2.0
Elm/Hackberry	5	3.8					5	1.7
Hickory	17	12.8					17	5.7
Maple	6	4.5	3	2.2			9	3.0
Sycamore	11	8.3	1	0.7			12	4.0
Oak	54	40.6	25	18.4			79	26.4
Conifers								
Pine	29	21.8	96	70.6	30	100.0	155	51.8
Hemlock	3	2.3					3	1.0
Monocot			1	0.7			1*	0.3
TOTAL	133	100.1	136	100.0	30	100.0	299	99.9

*Indeterminate monocots are included in this table; however, the 122 indeterminate hardwoods were omitted.

Appendices F-2 and F-3 and Table 103 present a chronological summary of the wood-charcoal. In Table 103, temporal categories are collapsed into pre-Revolution and post-Revolution components (here, the pre-Revolution component includes the 27 mid-eighteenth-century and 192 pre-Revolution fragments). The post-Revolution component consists of 170 specifically identified wood fragments (the 31 unidentifiable

fragments that dated to the post-Revolution component are omitted). Finally, the single African-American feature (AU104) is separated from the rest of the post-1787 material. This c. A.D. 1800 feature is teased out because it is likely that African Americans created this feature (Cheek 1999, personal communication). In Table 104, wood identified by species is presented as a percentage of the total wood-charcoal identified by species. Removing the unidentifiable wood, bark, resin, and cinder categories from consideration permits important patterns in the wood-charcoal assemblage to be discerned.

9.3.5.1 General Observations

There is a striking contrast in the number of species and proportions of hardwoods and conifers between the pre-Revolution, post-Revolution, and African-American, c. 1800, wood-charcoal assemblages (Figure 91). The pre-Revolution charcoal assemblage is comprised of 85.4 percent hardwood and 14.6 percent conifer (Table 103 and Figure 92). The post-Revolution assemblage is 42.9 percent hardwood, 56.5 percent conifer, and 0.6 percent monocot. The c. 1800 feature, thought to have been deposited by African Americans, consists entirely of a single conifer, pine. Resin, an indirect indicator of pine, is six times more prevalent in the post-Revolution component than in the pre-Revolution samples (Appendix F-2). It is likely that this wood profile is not accidental.

Most of the wood-charcoal identified as to species within pre-Revolution samples is hardwoods (75.9 percent) (Figure 93). Almost 54 percent of the specifically identified pre-Revolution woods are oak and hickory (Table 104). Five other hardwood taxa (chestnut, cottonwood/poplar, elm/hackberry, maple, sycamore) make up the remaining 22.5 percent of the specifically identified woods from this time period. Pine and hemlock comprise 24.1 percent of the specifically identified pre-Revolution woods.

Wood-charcoal identified by species within post-Revolution component samples is overwhelmingly pine (70 percent of identifiable wood). Five hardwood taxa (18.4 percent oak; 10.3 percent basswood, chestnut, maple, sycamore) account for 29 percent of the specifically identified wood and monocots for 1 percent of the wood (Figure 92).

As noted earlier, oak and hickory were major components of the original northeastern forests. Scattered pines would be present in the mature forest, but large stands would develop only in open tracts. Hemlocks were present in Manhattan, but were much more common farther north. Oak was the first choice for fuel, while pine would be deliberately chosen only for kindling. Chestnut is a noticeably minor component of the overall assemblage. In the eighteenth century, chestnut should have been co-dominant with oak in New York forests. Its scarcity in this assemblage suggests the following possibilities: (1) it had been over-harvested; (2) the microhabitat was not suitable; and (3) most of this wood-charcoal consists of burned fuel, and chestnut was not ideal for this use. The increasing representation of conifers over time suggests restricted availability or access to hardwoods in the post-Revolution phase. A look at species diversity sheds additional light on these issues.

9.3.5.2 Diversity and Abundance

Table 105 summarizes the number of different species noted in each of the four time periods to which analytical units were originally assigned: mid-eighteenth century, pre-Revolution, post Revolution (1788 to c. 1806), and c. 1800 African American. The pre-Revolution samples contained a higher number of specifically identified individual taxa than either the post-Revolution component or the c. 1800 samples. This is true even though the success rate in identifying specimens increases over time, as discussed above. Table 104 lists the individual species that were identified and documents the prevalence of each taxon. With the exception of basswood, all of the post-Revolution wood taxa were present in the pre-Revolution assemblage. Hemlock, cottonwood/poplar, elm/hackberry, and hickory were only found in pre-Revolution samples.

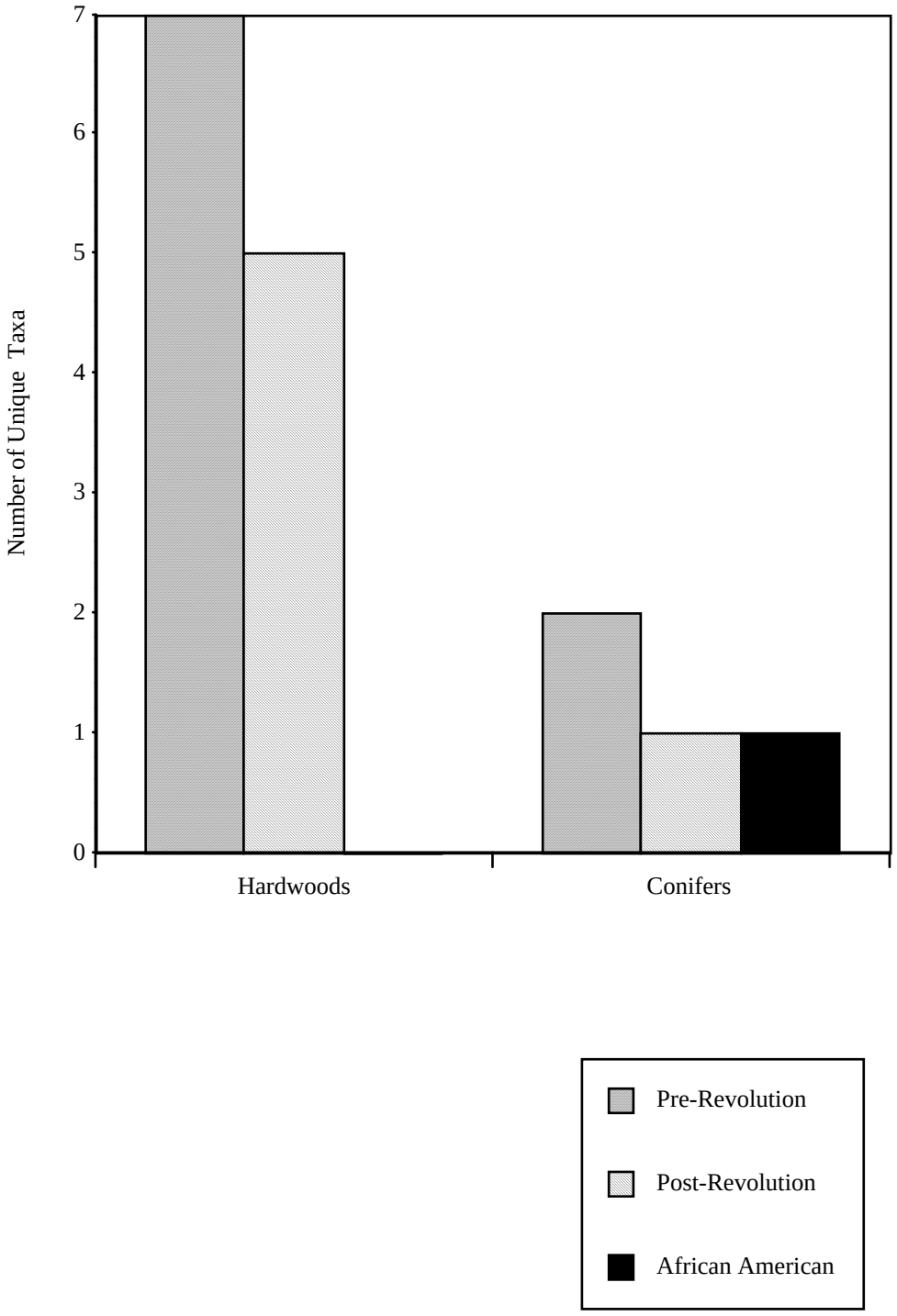

Figure 91. Species diversity of wood-charcoal.

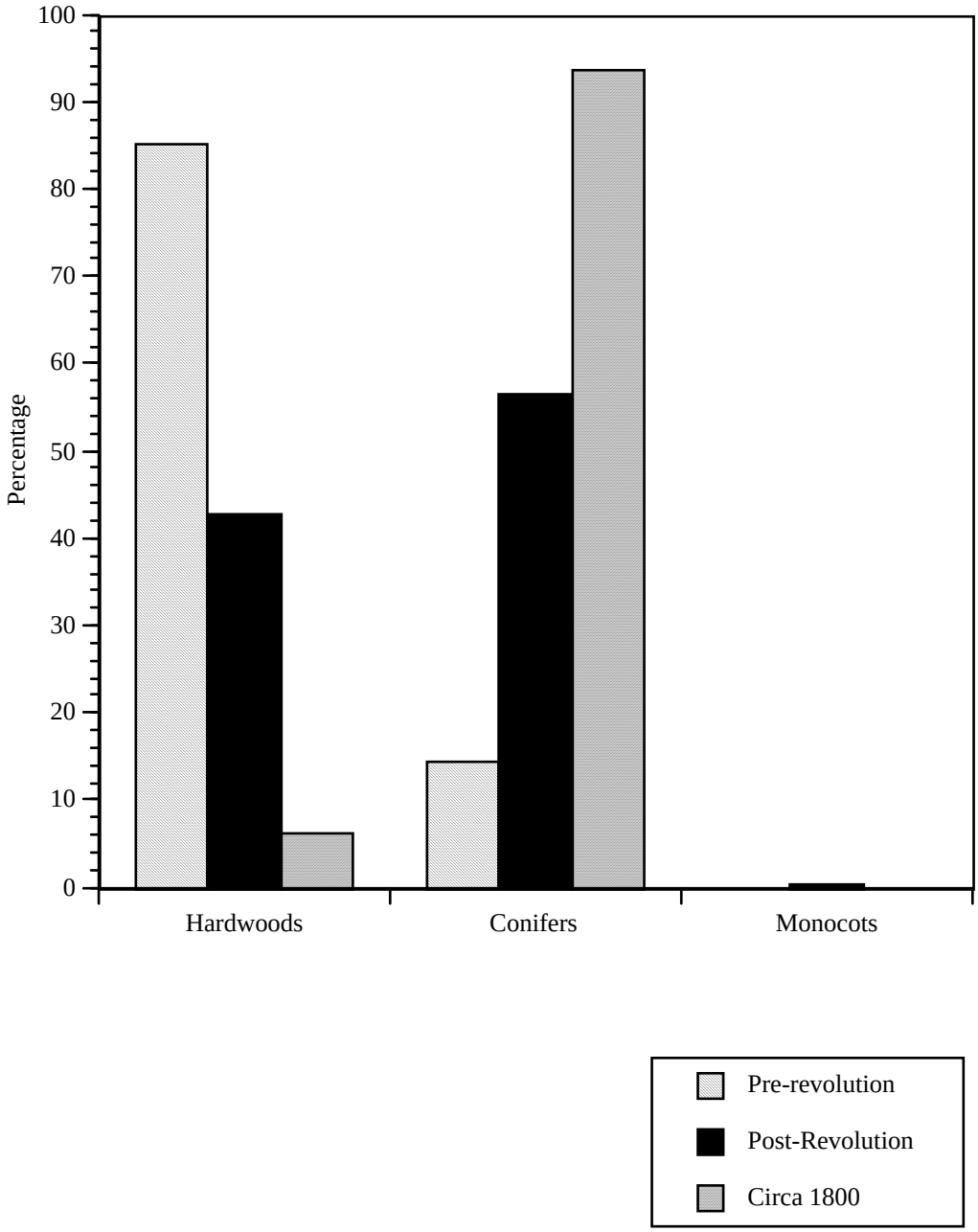

Figure 92. Relative proportions of hardwoods and softwoods.

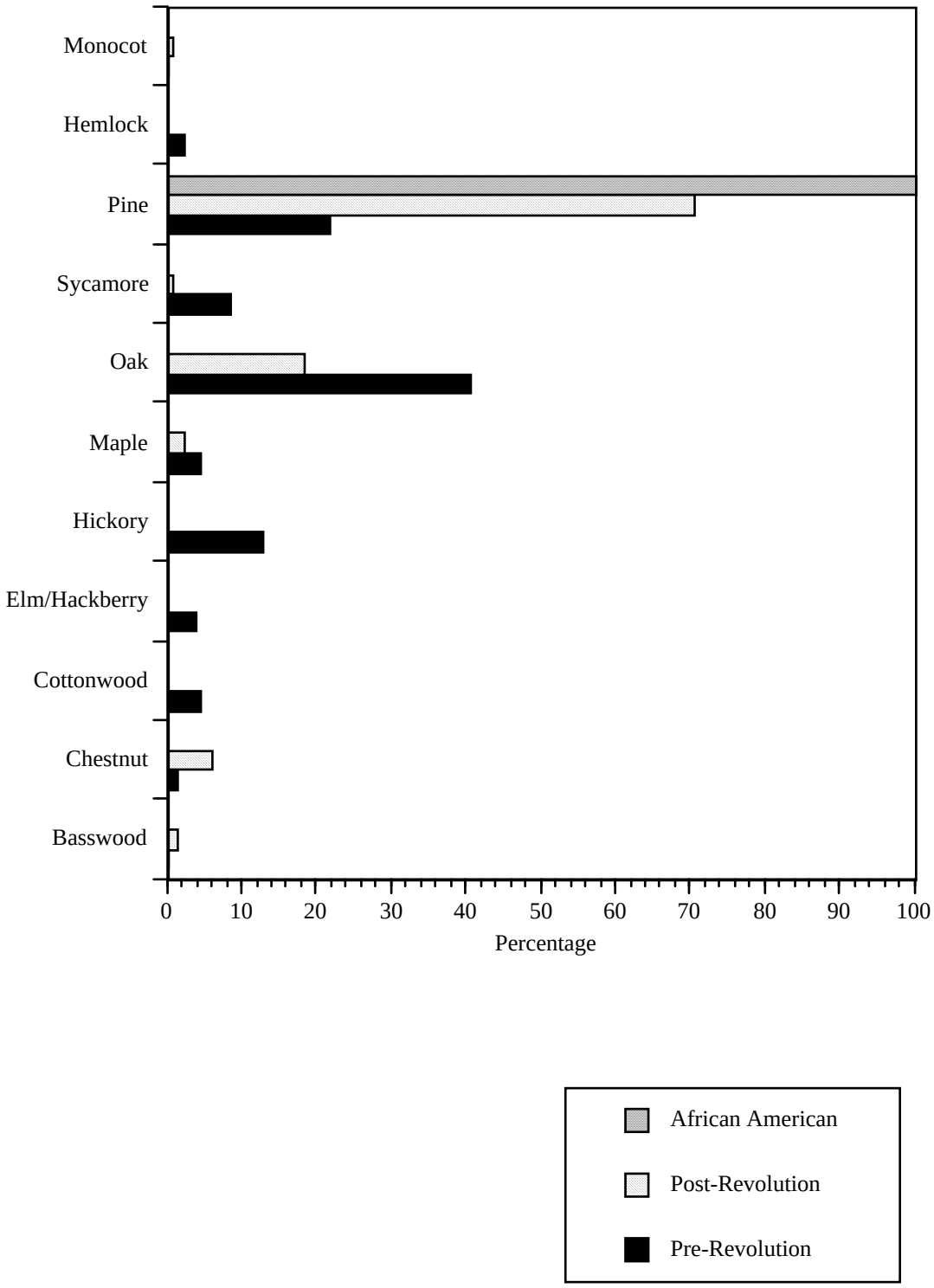

Figure 93. Relative proportions of identified wood taxa.

Table 105. Wood Diversity by Time Period

Time Period	Mid-18th Century (1 AU)	Pre-Revolution (8 AUs)	Post-Revolution (4 AUs)	c. 1800 (African American?) (1 AU)
Number of unique hardwood species	3	7	5	
Number of unique conifer species	1	2	1	1
Number of unique monocot species*			1	
Total	4	9	7	1

*Monocot not identified to either genus or species.

The temporal distribution of unique taxa (Table 105) and their proportions within those time frames (Table 104) suggest the following interpretations:

(1) The pre-Revolution assemblages reflect the anticipated mix of arboreal species for an area of ecotone between northern and southern hardwood forests. While oak, chestnut, and hickory are thought to have dominated Middle Atlantic forests during the eighteenth century, only oak and hickory appear in sizable percentage in this assemblage (Table 104). Chestnut is underrepresented (1.5 percent of specifically identified wood). Otherwise, the assemblage offers few surprises. It includes typical New England genera, such as maples and hemlocks, as well as taxa more prevalent to the south of New York, such as chestnut, elm, and sycamore. Pine is a pioneering species, which thrives in deforested areas, but it is also found dispersed throughout eastern hardwood forests. Pine is likely in areas of deadfall or other disturbance, but under normal circumstances will never approach the hardwood species in abundance. Pine is usually widely dispersed but omnipresent in eastern hardwood forests.

(2) The assemblage changes in the post-Revolution component, suggesting an abrupt shift in the local ecology. In the post-Revolution phase, the number of wood taxa drops to seven (Table 105), and pine is much more prevalent in the assemblage (Tables 103 and 104). By c. 1800, only one taxon remains—pine.

(3) During all time periods, the assemblage differs from expectations in another way. That is, despite the reports of swamps, wetlands, and the Collect Pond bordering on the eighteenth-century site, there are no strictly hydric arboreal species, such as willow. Nor are there many examples among the herbaceous plants documented in the seed assemblages (Appendix F-4). However, a number of arboreal species that either prefer or tolerate wet soils are present. Sycamore is the single noted species that needs hydric conditions to reach its maximum growth potential, though it will also survive in drier soils and it, or hybrids of sycamore and the London Plane tree, is often deliberately planted in North American cities. Cottonwood and elm also do well in moist soils, but are not strictly wetland taxa. Several varieties of oak and hickory thrive in swamps, but it is not possible to determine the exact species from the charcoal samples. It is likely that maple, sycamore, cottonwood/poplar, elm, and perhaps oak and hickory were growing in these moist zones, but it is curious that no strictly hydric species were recovered. From 40.6 percent in pre-Revolution contexts, oak drops to 18.4 percent of the assemblage in the post-Revolution component. In contrast, pine jumps from 21.8 percent to 70.6 percent of the identified wood-charcoal (Table 104). Pine is the only identified taxa in the c. 1800 African-American context.

(4) It is possible that the post-Revolution samples represent firewood. Throughout the eighteenth century, people usually procured firewood from local sources. This did not change in the Northeast, in general, until the first quarter of the nineteenth century (Jorgensen 1978). The initial expansion into the Broadway area came at a time when the area was still largely rural. Wealthy individuals lived nearby on landscaped lots, and farms surrounded built-up neighborhoods. Many

of the people on Broadway owned their homes, although some also rented rooms. It is possible that working-class people were economizing by collecting deadfall from local trees for fuels, at least as a supplement to purchased firewood. This would be especially true in common or public areas like the public lands near the Collect Pond. If much of the wood in the samples represents fuel, this provides an independent confirmation of the changing nature of the urban forest. It is likely that some proportion of the oak sample represents wood that was purchased for fuel, rather than collected, but it is unlikely that such a substantial proportion of pine would be purchased for fuel, considering its many undesirable burning characteristics. On the other hand, the high heat produced in the combustion of pine, coupled with its cheaper price relative to hardwood, may have made it a desirable fuel for the kilns. Since kilns required large quantities of wood, it is likely that their fuel was purchased. Local people may have been driven by economics to overlook the dangerous and undesirable aspects of burning pine. This wood may have been obtained at the market, through foraging, or by theft from the kilns. It has been argued that sources on Manhattan Island could not have supplied the citizens with ample fuel because the population of New York City was too dense by the end of the eighteenth century (Cheek, personal communication, 2000). In 1797, there was a "want of fire" for the poor and artisan classes because there was no money to buy firewood (Burrows and Wallace 1999:351).

9.3.5.3 Ubiquity Analysis

Ubiquity analysis extends one's understanding of these data. The ubiquity of each taxon by specific time period is presented in Table 106, and collapsed into pre-Revolution, post Revolution, and c. 1800 in Table 107 and Figure 94. The discussion is primarily based on Table 107. Initial observations on forest composition cannot be altered by ubiquity analysis; however, ubiquity can better estimate the degree of exploitation of different taxa. Of particular interest is the fact that oak and pine have approximately equal ubiquity scores in the pre- and post-Revolution time periods (Table 107).

Despite their different recovery rates (Table 104), the ubiquity of hickory and maple is significant in the pre-Revolution samples. Both of these taxa are regarded as excellent fuel woods. Sycamore, which is difficult to season (McAlpine and Applefield 1973) and has only moderate heat value (United States Department of Agriculture 1942), has 44.4 percent ubiquity in pre-Revolution samples. Other taxa have ubiquity consistent with their anticipated presence in a mixed hardwood forest. The ubiquity of chestnut is much lower than is to be expected in the chestnut-oak-hickory forest recorded in Colonial Manhattan. None of these miscellaneous taxa is regarded as a quality fuel wood.

If the majority of wood-charcoal does represent spent fuel, as is presumed in this study, several observations are strengthened by the ubiquity data. First of all, the equivalent ubiquity of pine and oak (Table 107) suggests that they were both used as fuel because the charring of fuel wood is the most common way for wood to be preserved in the archeological record (Bonhage-Freund 1997). In contrast, chestnut, which has limited value as either fuel or kindling, is recovered in small amounts (Table 104) and exhibits low ubiquity (Table 107).

The shifting abundance of oak and pine (Table 104) as a percentage of total identified wood suggests that during the pre-Revolution period pine was used in relatively small amounts, perhaps as a kindling. In the post-Revolution period, while pine and oak are equally ubiquitous, relative proportions or abundance of oak and pine are so skewed that it seems that pine was the main fuel, and oak was used whenever it could be procured.

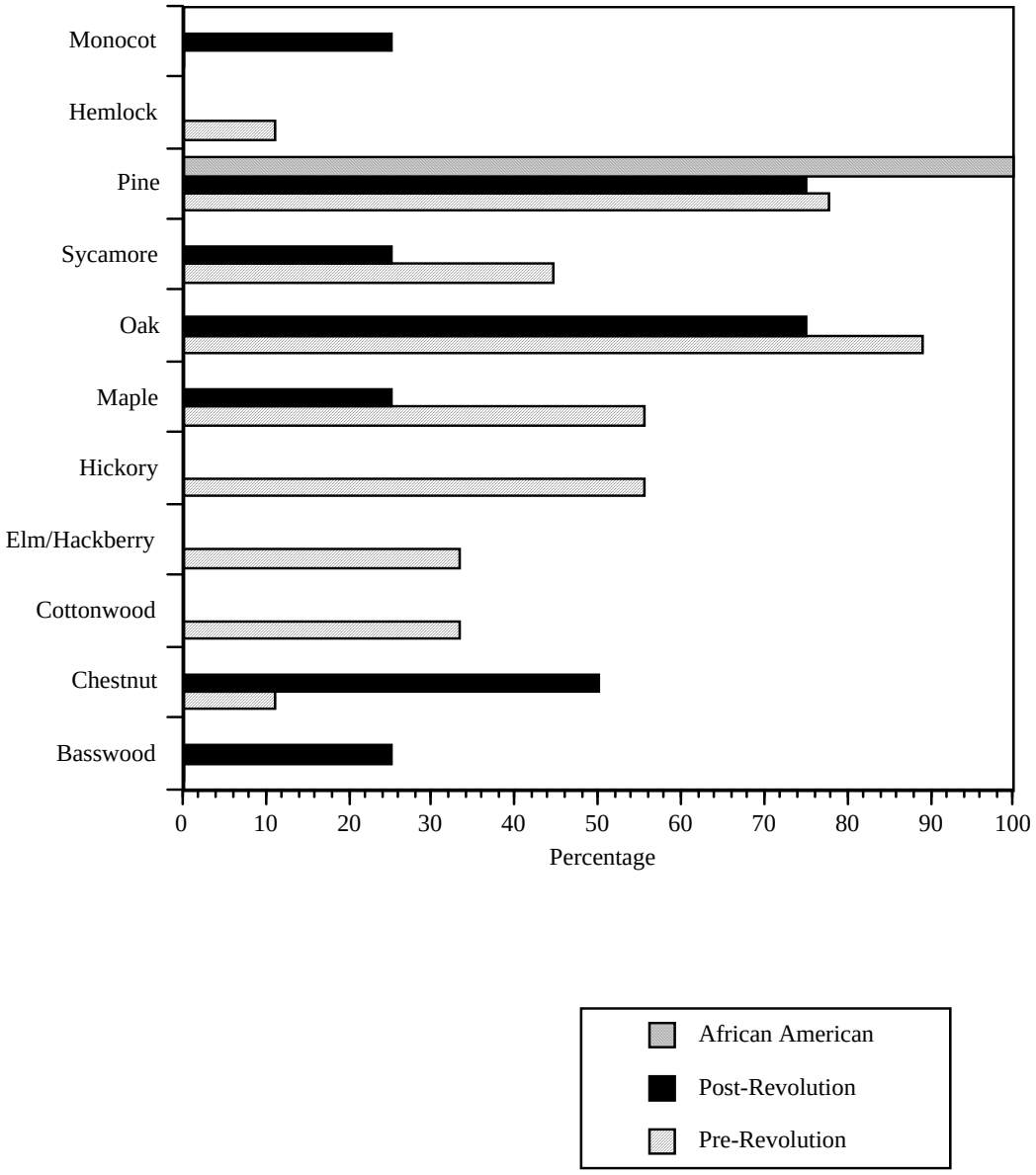

Figure 94. Wood-charcoal ubiquity.

Table 106. Ubiquity of Identified Wood-Charcoal Taxa

Charcoal Taxa	Pre-Revolution (Phase 1)								Post-Revolution (Phase 2)			
	Mid-18th-Century Yard Surface (AU521)	Historic Ground Surface (AU520)	Builders' Trench (AU16)	Puddling Box (AU2B, 3B)	Possible Structure (AU4B)	Posthole (AU5B)	Trench, Possible Fence Line (AU51)	Rectangular Pit (AU33)	Yard Surface (AU518)	Builders' Trench (AU40, 46)	Fireplace Foundation (AU27)	c.1800 Irregular Pit (AU104)
Monocot												
Basswood									*		*	
Chestnut		*			*	*			*			
Cottonwood or Poplar	*			50	*	*						
Elm or Hackberry		*			*	*		*				
Hickory	*			50	*	*		*			*	
Maple			*	50	*	*						
Sycamore	*	*			*	*	*	*	*		*	
Oak	*	*	*	50	*	*	*		*	50	*	*
Pine	*		*	100		*			*	50		
Hemlock												

Note: Columns with only one feature are noted as present (*). Columns with more than one provenience are noted as percentages of proveniences containing given taxa.

Table 107. Wood-charcoal Percent Ubiquity by Period and Overall

Charcoal Taxa	Pre-Revolution 9 AUs	Post-Revolution 4 AUs	African American 1 AU	Overall Ubiquity 14 AUs	N
Monocot		25.0		7.0	1
Basswood		25.0		7.0	2
Chestnut	11.1	50.0		21.0	10
Cottonwood/Poplar	33.3			21.0	6
Elm/Hackberry	33.3			21.0	5
Hickory	55.5			43.0	17
Maple	55.5	25.0		43.0	9
Sycamore	44.4	25.0		43.0	12
Oak	88.8	75.0		86.0	79
Pine	77.7	75.0	100.0	86.0	155
Hemlock	11.1			14.0	3

*Percentage of AUs with a taxon

These data raise the issue of socioeconomic factors in the interpretation of the assemblage. If the less economically fortunate population collected at least a portion of its firewood in local parks and abandoned fields, then the diversity measure does accurately reflect the demise of a rich hardwood forest and its replacement by pine in the post-Revolution years. The fact that low-quality fuel woods such as cottonwood/poplar, elm, and sycamore are relatively ubiquitous suggests that they were, in fact, used as fuel. It is likely that they grew locally and were not sold on the market as firewood. The high ubiquity of hickory and maple relative to their abundance during the pre-Revolution period suggests that those who could afford to purchase prime fuel wood did so. Some of the hickory, maple, and oak may have been collected, but it is likely that at least some was purchased. Whether purchased or collected, most wood would have been harvested locally, particularly during the pre-Revolution period (Jorgensen 1978). These observations can be tested by observing the assemblages of analytical units associated with industrial and domestic fuel, construction, and other contexts.

9.3.6 Feature Analysis

Analytical-unit types are assessed for the diversity, abundance, and ubiquity of wood-charcoal taxa in an attempt to detect distribution and use patterns. As discussed above, it is probable that most wood-charcoal at this site represents spent fuel. However, fuel can be for either domestic or industrial use, and there may be different preferences in particular contexts. In features containing structural post molds, it may be possible to determine which woods were preferred for construction. To address specialized uses for wood, analytical units are examined individually and by categories of related features, regardless of temporal placement. They are divided into open proveniences, industrial features, structural features, and miscellaneous pits.

Table 108, wood diversity, demonstrates that there is a range of zero to six hardwood taxa in each provenience type, and zero to two conifer taxa. Table 109, wood abundance, shows the abundance of each type of wood in each analytical unit as a percentage of all identified wood in that analytical unit. Table 110 condenses this information into categories of analytical units, which are related by function. It is this table on which the discussion is based. Wood ubiquity specifies the percentages of analytical units of each type that contained each individual taxon. This information is presented in Table 111, which complements Table 110.

Tables 110 and 111 demonstrate that oak and pine are the most important woods at the site. Oak is found in 50 to 100 percent of each class of analytical unit, except the unusual AU104. Oak comprises up to 55 percent of the assemblages from the analytical units in which it occurs, while chestnut reaches a maximum of only 8 percent of the assemblage of the analytical units in which it occurs.

Table 108. Wood Diversity

Provenience Type	Open					Industrial	Structural				Miscellaneous	
Period	Mid-18th Century	Pre-Revolution		Post-Revolution		Pre-Revolution	Pre-Revolution			Post-Revolution	Pre-Revolution	c.1800
Feature	Yard Surface (AU521)	Historic Ground Surface (AU520)	Builders' Trench (AU16)	Yard Surface (AU518)	Builders' Trench (AU40, 46)	Puddling Box (AU2B, 3B)	Possible Structure (AU4B)	Posthole (AU5B)	Trench, Possible Fence Line (AU51)	Fireplace Foundation (AU27)	Rectangular Pit (AU33)	Irreg. Pit, African American (AU104)
Unique Hardwood Species	3	4	2	4	1	4	6	6	1	3	3	
Unique Conifer Species	1		1	1	1	1	1	2	1	1		1
Monocot										1		
Total	4	4	3	5	2	5	7	8	2	5	3	1

Table 109. Relative Percentage (Abundance) of Wood-Charcoal from Each Class of Analytical Unit

Context Type	Open					Industrial	Structural				Miscellaneous	
Period	Mid-18th Century	Pre-Revolution		Post-Revolution		Pre-Revolution	Pre-Revolution			Post-Revolution	Pre-Revolution	c.1800
Feature	Yard Surface (AU521)	Historic Ground Surface (AU520)	Builders' Trench (AU16)	Yard Surface (AU518)	Builders' Trench (AU40, 46)	Puddling Box (AU2B, 3B)	Possible Structure (AU4B)	Posthole (AU5B)	Trench, Possible Fence Line (AU51)	Fireplace Foundation (AU27)	Rectangular Pit (AU33)	Irreg. Pit, African American (AU104)
Monocot										1.4		
Basswood				3.9								
Chestnut		11.8		9.8						4.3		
Cottonwood or Poplar						14.3	4.0	8.9				
Elm or Hackberry		5.9					4.0	6.7				
Hickory	52.9					28.6	4.0	2.2			36.4	
Maple			22.2			14.3	4.0	2.2		4.3	9.1	
Sycamore	5.9	47.1		2.0			4.0	2.2				
Oak	17.6	9.0	33.3	29.4	25.0	14.3	24.0	62.2	50.0	8.7	54.5	
Pine	23.5		44.4	54.9	75.0	28.6	56.0	8.9	50.0	81.2		100.0
Hemlock								6.7				
N	17.0	17.0	9.0	51.0	16.0	7.0	25.0	45.0	2.0	69.0	11.0	30.0

Table 110. Relative Abundance of Identified Wood Taxa

Contexts	Open		Industrial	Structural		Miscellaneous	
Time Period	Pre-Revolution	Post-Revolution	Pre-Revolution Puddling Box	Pre Revolution	Post-Revolution	Pre-Revolution Rectangular Pit	c. 1800 Irreg. Pit, African American?
Features	(AU16, 520, 521)	(AU40, 46, 518)	(AU2B, 3B)	(AU4B, 5B, 51)	(AU27)	(AU33)	(AU104)
Monocot					1.4		
Basswood		3.0					
Chestnut	4.7	7.5			4.3		
Cottonwood/ Poplar			14.3	6.9			
Elm/Hackberry	2.3			5.6			
Hickory	20.9		28.6	2.8			
Maple	4.7		14.3	2.8	4.3		
Sycamore	20.9	1.5		2.8			
Oak	27.9	28.4	14.3	48.6	8.7		
Pine	18.6	59.7	28.6	26.4	81.2		100.0
Hemlock				4.2			
N	43.0	67.0	7.0	72.0	69.0		30.0

Table 111. Identified Wood-Charcoal Percent Ubiquity for Each Class of Analytical Unit

Feature Context	Open			Industrial	Structural		Miscellaneous	
Period	Mid-18th Century	Pre-Revolution	Post- Revolution	Pre-Revolution	Pre-Revolution	Post-Revolution	Pre-Revolution	c. 1800
No. Proveniences (AUs)	1 (AU521)	2 (AU520, 16)	3 (AU518, 40,46)	2 (AU2B, 3B)	3 (AU4B, 5B, 51)	1 (AU27)	1 (AU33)	1 (AU104)
Basswood			33.3					
Chestnut		50.0	33.3			*		
Cottonwood/Poplar				50.0	66.7			
Elm/Hackberry		50.0			66.7			
Hickory	*			50.0	66.7		*	
Maple		50.0		50.0	66.7	*	*	
Sycamore	*	50.0	33.3		66.7			
Oak	*	100.0	66.7	50.0	100.0	*	*	
Pine	*	50.0	66.7	100.0	100.0	*		*
Hemlock					33.3			
Monocot						*		

Note: Columns with only one feature are noted as present (*). Columns with more than one provenience are noted as percentages of proveniences containing a given taxon.

Pine is present in 67 percent of the open-class features and 100 percent of the puddling boxes and structural features. It is the only identifiable taxon in the African-American feature (AU104). Pine represents 19 to 100 percent of the assemblage of analytical units in which it occurs, although pine is absent from the rectangular pit (AU33).

It is noteworthy that sycamore, a wetland species, is present in three different analytical-unit categories: pre-Revolution structural features, pre-Revolution open contexts, and post-Revolution open contexts. Open proveniences and structural proveniences have the highest variety of taxa, including basswood, cottonwood/poplar, chestnut, elm/hackberry, and sycamore. These taxa would be anticipated in a balanced mixed hardwood forest in this region. In the following section, each class of proveniences is regarded individually.

9.3.6.1 Open Proveniences

Open proveniences are those analytical units that would have been open yards, trenches, or pits at the time of deposition. Wood-charcoal might be swept, blown, or deliberately deposited into these features, and would most likely represent spent industrial or household fuel, burned trash, and/or burned yard waste. The charcoal from these features will best represent the local tree species, as well as favored species of fuel wood, which may have been purchased. Even if purchased, economic factors dictate that favored taxa would be harvested locally, if possible (Jorgensen 1978). Open proveniences from pre-Revolution contexts include a mid-eighteenth-century yard surface (AU521), an open trench (AU16), and a pre-Revolution ground surface (AU520). Post-Revolution open proveniences are comprised of two builders' trenches (AU40, AU46) and a yard surface (AU518).

There is a sharp contrast between pre- and post-Revolution open proveniences in regard to the diversity and abundance of taxa (Table 110). In pre-Revolution contexts, six hardwood species are represented. Of these, 48.8 percent are oak or hickory. Pine, the only conifer in this class of analytical units, comprises 18.6 percent. The balance is comprised of miscellaneous hardwoods including chestnut, elm/hackberry, maple, and sycamore. In the post-Revolution open analytical units, maple and chestnut are the only hardwoods, while the proportion of pine rises to 59.7.

In the pre-Revolution period, oak has 100 percent ubiquity compared to pine's 50 percent (Table 111). In the post-Revolution period, oak ubiquity drops to 67 percent and pine increases slightly to 67 percent. The pre-Revolution relative proportions of oak and pine are roughly what we would expect to see if the wood-charcoal represents a mixed eastern hardwood forest, but the post-Revolution assemblage depicts an immature pine-dominated forest. Since pine is a pioneering species, this swing toward conifer dominance might well reflect a catastrophic event, which opened up the forest to colonization by pines. However, the persistence of oak in up to 67 percent of the open analytical units suggests that oak was important, even when it became scarcer.

9.3.6.2 Industrial Contexts (Puddling Boxes)

The next group of analytical units consists of two pre-Revolution probable puddling boxes (AUs 2B and 3B), associated with the making of pottery. These would have been abandoned and eventually filled and may also be considered as a type of "open" feature. It may be significant that over two-thirds (71.4 percent) of the wood-charcoal in the puddling-box analytical unit was hardwood.

The charcoal contained in puddling boxes is most likely to be fuel remnants. Four hardwood species and pine are seen in these units (Table 110). One of these puddling boxes (AU3B) is thought to be slightly older than the other (AU2B). The earlier box contains maple and oak charcoal, while the later one contains hickory and cottonwood. They both (100 percent) contain pine (Table 111). Oak (14.3 percent), hickory (28.6 percent), and maple (14.3 percent) are quality fuels and may have been used in the pottery kilns (Table 110). Pine, while not a preferred fuel, may have been used in pottery production because it was often used to start the kiln. Cottonwood/poplar was most probably not sold as firewood, although it might have been collected locally and used as such. All of these species were likely to be available both on the market and in

the local wild lands. Lesser-quality woods, like pine and sycamore, may have been used to "stretch" the fuel budget in a variety of activities.

9.3.6.3 Structural Features

Four analytical units that are possibly associated with structures were examined. These included a possible structure (AU4B), a posthole (AU5B), a trench with posts (AU51), and the foundation of a fireplace (AU27). The fireplace foundation dates to the post-Revolution component. Nevertheless, the intention of examining structural features as a unit is to discern which woods were used in construction. Thus, temporal assignment is not considered under this heading.

Seven hardwood species and two conifers (hemlock and pine) are associated with these structural features (Table 109). Again, oak (29.1 percent) and pine (53.2 percent) dominate as a percentage of total identified wood taxa. Each of these is used widely in construction, with oak more often being used in flooring and other interior applications, and pine used in many contexts, from framing to finishing (Neelands 1974). Locally harvested chestnut (2.1 percent) was widely used for fencing in the eighteenth century, and maple is also suitable for some construction purposes. Today, both maple and sycamore are used in flooring as well as in the manufacture of furniture (Neelands 1974). Sycamore is not durable under conditions favorable to decay (Neelands 1974). Hemlock (2.8 percent) is brittle but is today sometimes used for construction timber (United States Department of Agriculture 1974). Cottonwood/poplar (4.4 percent), elm (3.5 percent), and hickory (2.8 percent) are more suited to the manufacture of furniture than building construction (Neelands 1974). While six out of nine arboreal taxa have construction potential, each of the nine generally is noted in amounts representative of eastern or northeastern hardwood forests (Table 109). Thus, the wood may represent incidental inclusions or spent fuel as well as construction material. Ubiquity analysis gives another perspective on this.

Oak and pine dominate ubiquity as well as abundance (100 percent each—4 of 4 structural features). Maple is also highly ubiquitous in structural features (75 percent). Chestnut (25 percent), cottonwood/poplar (50 percent), elm (50 percent), hemlock (25 percent), hickory (50 percent), and sycamore (50 percent) are less ubiquitous. Like diversity and abundance, ubiquity reflects the presumed local forest composition. Each of these measures seems to indicate that most of the charcoal in the structural features is derived from the local woods. Nevertheless, the 100-percent ubiquity of oak and pine suggests that they may have been used in construction. Alternatively, the abundance (relative proportions) measure does not provide much evidence of one taxon being used over another in construction contexts (Table 109). The charcoal in these analytical units may represent either fuel used in these structures or incidental inclusions. Several of these woods, including maple, oak, pine, and perhaps hickory, would be available as lumber, cordwood, or tinder on the market.

9.3.6.4 Miscellaneous Pits

One rectangular pit (AU33) dates to the pre-Revolution period, and one shallow, irregular pit (AU104) dates to c. 1800. As explained earlier, this latter feature is not included within the post-Revolution component because it is thought to be the only feature on the site created by African Americans and, thus, may have a unique bearing on the socioeconomic interpretation of the site. Both miscellaneous pits are grouped together in this discussion of patterns by feature class.

Miscellaneous pits contained three hardwood species: hickory (9.8 percent), maple (2.4 percent), oak (14.6 percent), and pine (73.2 percent). The African-American pit contained only pine and two unidentifiable pieces of hardwood. Pine clearly dominates the post-Revolution period wood assemblage. The pine in this feature may have been used by enslaved or free African Americans and may reflect economic differences in wood use between African Americans and European Americans living on the Broadway Block.

AU104 is unique in two ways. First, pine makes up 100 percent of the specifically identified wood in this feature; and second, it is the only feature thought to have been created by African Americans. It is also one of the latest contexts. Either the ethnicity of the occupants or the late occupation may account for the high percentage of pine. In short, all presumed fuel, other than that contained in AU104, is predominately

hardwood. It is likely that the wood-charcoal in each of these "miscellaneous pits" represents fuel. Hickory and maple were high-quality fuel woods, while pine was better for kindling. Pine would be less expensive to purchase or might be had for free.

9.3.6.5 Summary

Investigation of the analytical units by feature function provides no clear evidence of preference for one wood over another in any capacity. However, it is clear that chestnut was either not as abundant in the study area as it is reported to have been elsewhere in the eighteenth-century Northeast or it was deliberately avoided. In contrast, pine is the most ubiquitous wood at the site, but its abundance swings from low to high in pre- versus post-Revolution contexts. Oak, too, is ubiquitous, and the abundance of oak and other hardwoods complement the swings of pine. In each feature class that contains hardwoods, several varieties are noted, but one, usually oak, predominates. The best that can be deduced from this is that oak and pine are the preferred firewood in most applications. There is a high probability that firewood is locally procured and may be obtained through purchase, collection, or both.

9.3.7 Discussion

(1) What was the overall character and composition of the Broadway urban forest during the second part of the eighteenth century, before and after the Revolution? For example, what genera are documented? Does the charcoal assemblage provide evidence of the deforestation of Lower Manhattan during its occupation by the British in the American Revolution?

Historians contend that the British largely deforested Manhattan during their occupation of the island (Barlow 1969). Prior to the Revolution, there would have been a rich chestnut-oak-hickory hardwood forest. The canopy would have included a wide variety of species, but none of them, other than chestnut, oak, hickory, and pine, would represent a significant percentage of the total population. If the British deforested Lower Manhattan during the war, it is expected that open tracts would be ripe for invasion by pioneering species after the British retreat in 1783. Humans might even be among these species, colonizing areas where they did not need to invest much energy in the clearing of land. Instead, they would landscape, planting trees, rose bushes, and even grassy lawns, exactly where they were wanted.

This is close to the pattern seen in both the archeobotanical and historic records. Based on the premise that most wood-charcoal at this site is derived from firewood, several conclusions may be drawn from these data. A sharp contrast in composition between the pre- and post-Revolution forests is reflected in this assemblage. Hardwood overwhelmingly predominates in pre-Revolution contexts, while a single conifer, pine, predominates in post-Revolution contexts. In the overall assemblage, oak consistently overshadows all other hardwood taxa. It should also be considered that the general rule is that hardwood-charcoal is smaller and less durable than that of pine. This consideration thus magnifies these observations.

After deforestation, undeveloped or abandoned lands might revert to woodlands, at least in the short term. While pine would quickly dominate these spaces, oaks would be among the first hardwoods to recover. Oaks, chestnuts, and maples are capable of coppicing (sprouting from a stump) from substantial rootstocks. In short, because oaks were the most abundant presence in the original forest, oak species would be the first hardwoods to recover during the era of the New Republic. The other hardwood trees to recover first would be those that can volunteer from established roots.

However, it was pine that had the advantage. Once released, pine seeds disperse and germinate easily, quickly taking root in open spaces. They are early invaders of deforested lands and, as can be seen throughout the American South, quickly replace hardwood forests when given the opportunity. They grow quickly, crowding out other species and depriving their saplings of vital sunlight. This appears to be the nature of the post-Revolution forest in lower Manhattan. Oak and pine reverse in abundance.

While the evidence seems to confirm the deforestation of Manhattan during the Revolution, the actual composition of the pre-Revolution forest differs from what was anticipated. Chestnut is widely reported as a co-dominant species in the local and regional hardwood forests, but it is found in only small amounts and

a limited number of proveniences at the site. It is present throughout the occupation of the site, as should be expected of a tree which is capable of regenerating from rootstock. There are several potential explanations. First, chestnut is not considered an ideal fuel. It has a lesser heat value than other hardwoods such as oak, hickory, or maple. Thus, chestnut does not appear because it was not often used for fuel. Second, perhaps chestnut simply was not growing in the 290 Broadway area in as high a proportion as it was elsewhere in the locality. Chestnut prefers mesic but not hydric soils. It can survive in moist soils, but other species, such as certain varieties of cottonwood/poplar, elm, hickory, oak, maple, and sycamore, do very well in moist soils. These latter species would have had a competitive advantage, and chestnut simply may have been sparse in this microenvironment.

During all time periods, the assemblage differs from expectations in another way. That is, despite reports of swamps, wetlands, and the Collect Pond bordering on the eighteenth-century site, there are no strictly hydric arboreal species, such as willows. Nor are there many examples among the herbaceous plants documented in the seed assemblage. However, a number of arboreal species that either prefer or tolerate wet soils were recorded. Sycamore is the single observed species which needs hydric conditions to reach its maximum growth potential, but it will also survive in drier soils, and it, or hybrids of sycamore and the London Plane tree, is often deliberately planted in North American cities. Cottonwood and elm also do well in moist soils, but are not strictly wetland taxa. Several varieties of oak and hickory thrive in swamps, but it is not possible to determine the exact species of the charcoal samples. It is likely that sycamore, cottonwood/poplar, elm, and perhaps oak and hickory were growing in these moist zones, but it is curious that no strictly hydric species were recovered.

Thus, for the most part, the archeobotanical assemblage confirms both historical events and the observations of eighteenth-century naturalists. Where the assemblage does not meet expectations, there are plausible explanations. Further testing of a wider variety of analytical-unit classes is needed to test these hypotheses.

(2) To what extent can ecological conditions be either discovered or confirmed through the wood-charcoal assemblage?

While we have the benefit of historical descriptions of Lower Manhattan in the seventeenth century, it is the archeobotanical record that confirms or challenges this. The discussion of Research Question One indicated that the Broadway neighborhood may have been in a microenvironment that differed from the typical chestnut-oak-hickory forest cover that was common throughout the city and region. This was true both before and after the war. It is likely that there was only a small amount of chestnut in the microenvironment, and that species favoring mesic to moist soils predominated. This picture differs substantially from most records of the New York City area in this time period.

(3) Is there evidence of orchards or of landscaping with European species in the Broadway area?

The wood-charcoal assemblage completely lacked the wood of fruit trees. Even in public areas, which might be landscaped in the early Republic period, it is unlikely that fruit trees would be planted. Historical records indicate that City Hall Commons did not become City Hall Park until early in the nineteenth century. Parts of the commons were rented in the eighteenth century to entrepreneurs to set up businesses such as brick kilns. It is unlikely that any landscaping occurred during the middle to late eighteenth century. Elm and sycamore (or hybrids of sycamore and English plane tree) were sometimes used in the landscaping of eastern cities. Considering these historical facts, however, it is more likely that the sycamore identified at this site grew naturally in the wetlands near the neighborhood.

(4) Did Broadway residents have access to high-quality fuel wood? Were people exploiting local trees as firewood?

It has been presumed that most of the wood-charcoal recovered at this site is spent fuel. Considering the relatively small size of the identified wood in this sample, the pre-Revolution species diversity is substantial. Nevertheless, in nearly every context the better-quality fuel woods such as oak, hickory, and maple are more abundant and ubiquitous. Oak is present in the majority of analytical unit classes in both pre-Revolution and post-Revolution contexts, but is more abundant in pre-Revolution samples. Sycamore,

a poor fuel, seems to have occasionally been used as firewood in substantial amounts. It is no surprise to find that pine, an ideal kindling, is ubiquitous. However, its high representation in post-Revolution contexts was unanticipated. Thus, it appears that people of the Broadway neighborhood did have access to woods that are preferred for fuel. Since the taxa seen in this assemblage are typical of those we would expect to grow in the local ecosystem, it is likely that fuel wood was collected in the project locality, either by local residents for their own use or by entrepreneurs for local sale. Oak became scarcer and also more expensive. Pine was substituted as it yields high heat, but it is messy and somewhat dangerous. The amount of high-quality firewood available to the Broadway inhabitants was limited after the Revolution. The nearly 100-percent pine assemblage of the feature attributed to African Americans may indicate that there is a link between access to good-quality fuel wood and socioeconomic status. This pattern is probably more related to issues of economic status rather than race, because there is no clear preference for pine as a fuel wood noted in strictly African-American contexts studied by the authors (Wheaton et al. 1990; Raymer 1993a, 1997b, 2003, 2004).

(5) To what extent was there differential preference for particular wood types according to their intended use?

Ubiquity scores indicate that oak and pine were used for fuel. For reasons discussed above, it is believed that oak was the preferred fuel, and pine was the kindling of choice. Pine was possibly used as fuel during the post-Revolution phase out of necessity rather than by choice. The percentage of oak and pine relative to other identified species in structural features suggests that these two taxa were also preferred for construction.

It appears that oak and pine were the all-purpose woods in the Broadway neighborhood. They were also probably the most abundant species throughout the study period. The diversity, abundance, and ubiquity of all identified taxa suggest that the residents procured their wood locally and that they economized in their use of this resource.

9.4 Seeds: Analysis and Interpretation

The analysis of macro-plant remains other than wood-charcoal focuses upon seeds collected by flotation from eighteen pre-Revolution features and twenty-six post-Revolution component features. Eighteen non-privy and eight privy features (including two pits dug into privies) dated to the post-Revolution component (see data in Appendix F).

9.4.1 Overall Recovery

The recovery of subsistence remains from the Broadway features is at best moderate: forty-four of forty-six flotation contexts (Appendix F-5) yielded 21,866 uncharred seeds and other reproductive structures. In contrast, analysis of macro-plant remains from nineteen nineteenth-century features at the nearby Five Points neighborhood yielded 212,453 seeds (Raymer 2000), and fourteen features from a nineteenth-century component in Paterson, New Jersey, yielded 113,763 seeds (Raymer 1998, 1999). Evidence will be presented in this chapter indicating that the moderate recovery of macro-plant remains from the Broadway Block is an artifact of poor preservation rather than lack of deposition of macro-plant remains in the archeological features. An alternative explanation may be that these features were cleaned out on a regular basis. Sixty-nine percent of the assemblage (N=15,171) originated from eight post-Revolution privies. Just two taxa, jimsonweed and blackberry/raspberry (*Rubus* spp.), account for 96 percent (N=20,997) of the total assemblage.

Twenty-three categories of seeds were identified (Table 112), including seven economically important food plants (five fruits, one vegetable, one condiment), nine naturally occurring edible and/or medicinal herbs, two medicinal herbs, three non-economic weeds, and two weedy grasses. The species diversity of the Broadway macro-plant assemblage, like its overall numbers, is low in comparison to the neighboring Five Points macro-plant assemblage. Sixty-five seed taxa were identified from the Five Points features, including thirty-six economic plants, seventeen possible economic plants, and twelve probable yard weeds. The Five Points assemblage included four exotics, four condiments, fifteen fruits, eleven vegetables, two nuts, four

possible ornamentals, twelve edible herbs, two medicinal herbs, and ten non-economic weeds and grasses. The vast difference between the overall numbers and diversity of the Broadway and Five Points macro-plant assemblages is striking and suggests that macro-plant remains are poorly preserved in the Broadway features. Several lines of evidence point to this interpretation of relatively poor recovery at Broadway.

First, the volume of soil floated from the two projects is roughly equivalent, and both sample populations included privies (typically excellent preservation environments). Hence, the vast difference in the composition and numbers of the macro-plant assemblages is not due to differing sample volumes at the two sites. Second, the Broadway and Five Points project areas are located within a few blocks of each other, so geographic differences in plant use or availability obviously played no part. Third, the habitations of both blocks were roughly contemporary, so the differences cannot be explained by temporal shifts in plant use. The Broadway Block was inhabited from c. 1787 to 1810 by middle-class artisans and merchants. The Five Points area was inhabited by slightly lower-status middle-class artisans and merchants from c. 1800 to 1820. Occupancy of Five Points shifted from artisan owners to immigrant tenants between the 1820s and the 1840s.

Finally, the overall economic status of the inhabitants of the Broadway Block is somewhat higher than that of the artisans who occupied the Five Points area from c. 1800 to 1820, and immensely greater than that of the immigrant population living at Five Points between 1820 and 1840. According to data compiled by the authors during fifteen years of historic sites archeobotanical research in the eastern United States, the Broadway Block features, with particular emphasis on the privies, should contain both greater numbers and a greater variety of plant taxa than either the artisan or immigrant-tenant occupations at the Five Points (see inter-site analysis at the end of this chapter). Is it possible that the higher-status residents of the Broadway Block periodically cleaned out their privies? Or is preservation of macro-plant remains simply poor?

Table 112. Common Names, Scientific Names, and Economic Uses of Broadway Block Cultural Features Macro-plant Assemblage

Major Use	Common Name	Scientific Name	Edible	Edible Part	Medicinal	Ornamental	Poison	Weed
Condiment-Ornamental	Poppy	*Papaver* sp.	X	Seeds	X	X		
Fruit	Blackberry/raspberry	*Rubus* sp.	X	Fruit	X			X
Fruit	Elderberry	*Sambucus canadensis*	X	Fruit	X	X		
Fruit	Fig	*Ficus* sp.	X	Fruit	X			
Fruit	Grape	*Vitis* sp.	X	Fruit	X			
Fruit	Strawberry	*Fragaria* sp.	X	Fruit	X			
Vegetable	Tomato	*Lycopersicon esculentum*	X	Fruit				
Edible herb	Clover	*Trifolium* sp.	X	Leaf, flower, seed	X			
Edible herb	Goosefoot	*Chenopodium* sp.	X	Greens, seeds	X			X
Edible herb	Knotweed	*Polygonum* sp.	X	Greens, seeds	X	X		X
Edible herb	Mullein	*Verbascum* sp.	X	Leaves	X	X		X
Edible herb	Pennsylvania smartweed	*Polygonum pensylvanicum*	X	Greens, seeds	X			X
Edible herb	Pigweed	*Amaranthus* sp.	X	Greens, seeds	X	X		X
Edible herb	Purslane	*Portulaca oleracea*	X	Greens, seeds	X			X
Edible herb	Vervain	*Verbena* sp.	X	Seeds	X	X		X
Edible herb	Wintercress	*Barbarea* sp.	X	Greens	X			X
Medicinal-weed	Jimsonweed	*Datura stramonium*			X	X	X	X
Medicinal-weed	Wormseed	*Chenopodium ambrosoides*			X			X
Weed	Bulrush	*Scirpus* sp.						X
Weed	Flat Sedge	*Cyperus* sp.						X
Weed	Spurge	*Euphorbia* sp.						X
Weed-grass	Crabgrass	*Digitaria* sp.						X
Weed-grass	Grass family	*Gramineae*						

The entire seed assemblage is analyzed in this historic-site study. Often, only carbonized seeds are interpreted as being unquestionably associated with archeological deposits. Uncharred seeds are frequently excluded from macro-plant analyses because they are interpreted as modern intrusions into archeological deposits (Minnis 1981; Lopinot and Brussell 1982; Miller 1989). Several studies have assessed problems associated with the long-term preservation of uncharred seeds in open-air sites in mesic environments (Miksicek 1987; Miller 1989). Uncharred seeds are rarely preserved for many years in open-air, moist soils, and are poorly preserved in open-air, dry soils (Miksicek 1987). However, when suitable environmental conditions exist, fresh seeds will last for long periods of time (Miller 1989:50).

Because the Broadway Block was occupied in the recent past, the likelihood of recovering uncharred seeds from the archeological deposits is greatly increased. Extensive studies of macro-plant assemblages from nineteenth-century archeological sites conducted by the authors and others have shown that even the most fragile seeds are frequently preserved in both features and midden deposits, particularly when the sites are rapidly and deeply buried (Wheaton et al. 1990; Cummings 1993; Raymer 1993b, 1995, 1996, 1997a, 1997c, 1998, 1999; Raymer and O'Steen 1993, 1994; Cummings and Puseman 1994; O'Steen et al. 1995a, 1995b; O'Steen and Raymer 1995; Raymer et al. 1998). With this in mind, the origins and antiquity of each plant taxon are carefully assessed.

The entire Broadway Block seed assemblage is uncharred. Features with seeds included buried land surfaces, privies, indeterminate pits, puddling boxes, structural features, a fire pit, barrels buried in the ground, and an artifact concentration (Appendix F-10). All of the privies and other features were sealed shortly after abandonment and subsequently deeply buried by later building episodes. These sealed contexts provide optimal conditions for the long-term preservation of uncarbonized seeds.

The thick layer of overlying fill reduces the possibility of the insertion of modern seeds into these features after they were abandoned. Keepax (1977) and Bocek (1986), in separate studies of agents of post-depositional bioturbation, have shown that the majority of modern seeds are found in the upper 50 centimeters of a given soil column. The Broadway Block features were covered by far more than 50 centimeters of fill. The evidence suggests that the entire uncharred seed assemblage, particularly those seeds associated with the privies, dates to the time of the site's occupation and use. Privies provide excellent microenvironments for the long-term preservation of uncharred seeds. Most of the privies were lined, which would have reduced the chances of post-depositional disturbance by rodents and tree roots.

Further evidence lies with the seeds themselves. Much of the seed assemblage, with particular emphasis on the fruits and certain vegetables, originated from food remains that were obviously directly deposited in fecal material. The blackberry/raspberry, elderberry, fig, strawberry, cucurbit, and tomato seeds were ingested and later expelled by the site inhabitants. Indeed, these taxa are virtually ubiquitous in nineteenth-century privies (O'Steen and Raymer 1995).

The primary goal of the seed analysis is to determine dietary patterns of the late-eighteenth- and early-nineteenth-century inhabitants of the Broadway Block, with particular reference to the harvesting of locally available wild plants and ornamental plantings as dietary supplements and medicinal remedies, as well as evidence of home gardening. Examination of seeds from features associated with the pre-Revolution and post-Revolution occupations of the project area allows an assessment of dietary patterns and uses of outdoor space in the project area. In fact, the macro-plant assemblage offers convincing evidence of the harvesting of wild and garden/ornamental plantings for food and/or medicine and the significant presence of pioneering shrubs and herbaceous weeds in the immediate project area.

9.4.2 Assemblage Composition

This section presents a discussion of the fruit pits and seeds recovered from the Broadway Block privies, land surfaces, and other features (Appendices F-4 and F-5). The specifically identified seed taxa are divided into seven broad categories based on their presumed economic importance. These are fruits, vegetables, condiments, edible herbaceous plants, possible medicinal herbs, herbaceous weeds, and grasses. The first three categories represent definite economically important plants. Evidence will be presented that the edible herbaceous plants may also represent utilized plant remains as well. The herbaceous weeds and grasses probably represent naturally deposited yard weeds. The numbers, distribution, uses, and natural environments of each plant taxon are discussed in this section (Table 113, Appendix F-5).

Table 113. Macro-plant Remains from Broadway Block Proveniences

PH	Area	Lot	AU	Description	Vol.	Wood-charcoal	Fruit					Vegetable	Condiment	Edible Herb									Medicinal Herb		Weed			Weed-Grass			
							Blackberry/ Raspberry	Elder-berry	Fig	Grape	Straw-berry	Tomato	Poppy	Clover	Goosefoot	Knot-weed	Mullein	Pig-weed	Penn. Smart-weed	Purslane	Vervain	Winter-cress	Jimson-weed	Worm-seed	Bulrush	Flat Sedge	Spurge	Crab-grass	Grass	Unkn.	Total
1	Lot 12	12	51	Trench	18	0.39	6	1	1						1					7			2,816	4					1	3	2,840
1	Lot 12	12	521	A/B horizon and subsoil	4	0.14	1													7			259		2					1	270
1	MID	16	131	Firepit	2	0.01																	23								23
1	MID	16	111/ 120	Trench	16	0.18	23										1			11			96								131
1	NE	20	32	Post, into AU2B	2	0.06																	71						1		72
1	NE	20	2B	Puddling box, late	2	0.03														3			15								18
1	NE	20	3B	Puddling box, early	4	0.09	2																79								81
1	NE	20	5B	Posthole	4	4.53									5	3				42			57						1	66	174
1	NE	20	153	Posthole with mold	4		1						1										21								23
1	NE	20½	33	Pit, rectangular	2	0.24	1	1															325							1	328
1	NE	20½	520	Historic ground surface	6	3.05		5												27		1	40							3	76
1	NE	20½	521	A/B Interface	2	0.05																									
1	NE	20½	4B	Possible structure	4	0.16									1					1	14		142						3		161
1	SE	20½	139	Pit, irregular	8	0.01																	55								55
1	SE	20½	144	Pit, irregular	4	0.03	19							1				2					37							2	61
1	SE	22	152	Pit, rectangular	2																		12								12
1	SE	22	168	Pit, irregular	2		2																16							1	19
1	SE	20½ /22	521	A/B interface	4	0.07	2											1					434						1		438
2	Lot 12	12	21	Barrel in ground	2	0.02	1																7								8
2	Lot 12	12	25	Wall, stone	2																		6								6
2	Lot 12	12	26	Planks, wood	2	0.01																	36								36
2	Lot 12	12	29	Plankmold	2										1								1								2
2	Lot 12	12	36	Posthole	2	0.01																									
2	Lot 12	12	40	Trench, builders'	8	0.03	14																171						2		187
2	Lot 12	12	206	Pit	2																		8								8
2	Lot 12	12	518	Intermediate ground surface	10	1.60	3	1											1	1			426	1			1	1	3		438
2	Lot 12	12	519	Intermediate ground surface	12	0.08									1					5			297								303
2	Lot 12	12	11/12/ 13/46	Wall, sandstone	4	0.17		1												1			81								83
2	Lot 12	12	16/24	Trench	8	0.24	2																366								368
2	MID	15	56	Privy	8	0.13	10,704	39	257	91	6												20								11,117
2	MID	15	74	Privy	4		9		74														24								107
2	MID	15	91	Pit	4	0.01	1																103								104
2	MID	15	77a	Privy	8	0.04	3													3			66								72
2	MID	15	77b	Pit	10		3								1					4			85							1	94
2	MID	16	79	Privy	4		2																37								39
2	MID	16	108	Pit, irregular	4																		112								112
2	MID	16	58a	Privy	10	0.19	466	11								1		2		1			510			9				1	1,001
2	MID	16	58b	Privy	4		436	2												2			27								467
2	MID	16	58c	Pit into privy	4	0.10	2,229	47	21			4			2					7			12								2,322
2	MID	17	104	Artifact concentration	4	0.23	13		3														51							6	73
2	MID	17	126	Pit, irregular	2		1																22								23
4	Lot 12	12	17	Surface, brick	2	0.01																	6								6
4	Lot 12	12	27/43/ 44	Fireplace foundation	6	1.16											2						36								38
4	Lot 12	12	38	Cistern	12	0.09		1												22			22						1		46
5	MID	15	103	Circular stain	2	0.03									1								7								8
5	SE	22	138	Barrel buried in ground	8																		16								16
				TOTALS	240	13.19	13,944	109	356	91	6	4	1	1	13	4	3	5	1	144	14	1	7,053	5	2	9	1	1	13	85	21,866

9.4.2.1 Condiments

A single condiment, poppy, found in a posthole and mold located in the NE Area, documents use of this probable spice by the eighteenth-century inhabitants and also offers evidence of cultivation in the project area. Poppies (*Papaver* sp.) are one of the best-known garden flowers in the United States. About 45 species, most of which are Old World natives, are found in the Northern Hemisphere (Bailey 1949). Poppies are commonly cultivated in Europe and Asia for their capsules, which are utilized in the production of opium and opium-based drugs such as morphine. Some species are cultivated in the United States and Europe for their edible flowers and leaves (Britton and Brown 1970; Root 1980). Whole poppy seeds are commonly added to breads and cakes as a flavoring (Root 1980). Poppies were common constituents of late-eighteenth- and nineteenth-century ornamental gardens in the United States and were also cultivated in home gardens as a culinary and medicinal herb (Leighton 1987; Favretti and Favretti 1990).

Opium, or white poppy (*Papaver somniferum*), was one of the most commonly used drugs in the nineteenth century. In the form of laudanum, opium was regularly prescribed for pain relief and as a sedative. Opium and its derivatives were used as hypnotics, sedatives, topical astringents, expectorants (cough medicine), and antispasmodics. They were also used in the treatment of diarrhea, dysentery, and intestinal worms (Grieve 1931).

9.4.2.2 Fruits

Five varieties of economically important fruits were retrieved by flotation. These were blackberry/raspberry, elderberry, fig, grape, and strawberry. Sixty-six percent of the macro-plant assemblage identified during this analysis was derived from these five taxa. Ninety-six percent of the fruit seeds and pits derived from a single taxon, blackberry/raspberry. Three fruit taxa, blackberry/raspberry, elderberry, and fig, were found in the post-Revolution privies and both pre- and post-Revolution non-privy contexts. Blackberry/raspberry seeds were virtually ubiquitous in the post-Revolution privies and are well represented in other feature types from both pre- and post-Revolution non-privy contexts. Grape and strawberry seeds were restricted to the post-Revolution privies (Figure 95).

The overwhelming majority of the *Rubus* seeds recovered from the Broadway Block features derived from privy contexts (99 percent) rather than other feature types, which indicates this taxon entered the archeological record almost exclusively as an artifact of human consumption of this plant. Fig and elderberry were likewise much more common in privies. Low numbers of seeds from these taxa were found in non-privy features and natural ground-surface contexts. These seeds may have been incorporated into the archeological deposits from natural seed rain of plants growing in the project locality. The figs may also have been dried imported figs.

Although the number of blackberry/raspberry seeds found in non-privy contexts was small, this taxon was relatively ubiquitous in both pre- and post-Revolution non-privy contexts. Fifty-six percent of pre-Revolution and 39 percent of post-Revolution non-privy features contained this taxon. Other fruits (elderberry) and herbs (purslane, jimsonweed) were likewise more common in pre-Revolution contexts (Figure 95). This dichotomy suggests that naturally occurring shrubs and herbs were more common in the project area during its Phase 1 occupation.

The recovery of these five economically important fruit-producing species indicates that the Broadway Block residents relied upon seasonal fresh fruits throughout the occupational history of the site. The relatively high ubiquity of blackberries, elderberries, and figs in privy contexts indicates that these fruits were popular foods. The high ubiquity of *Rubus* and moderate presence of elderberry and fig seeds in non-privy contexts indicates that the Broadway Block residents were cultivating these plants on their lots or allowing wild shrubs to grow on their properties. All three plants are easily propagated in small spaces such as urban yards and small kitchen gardens and all three tend to escape cultivation and grow wild in cities.

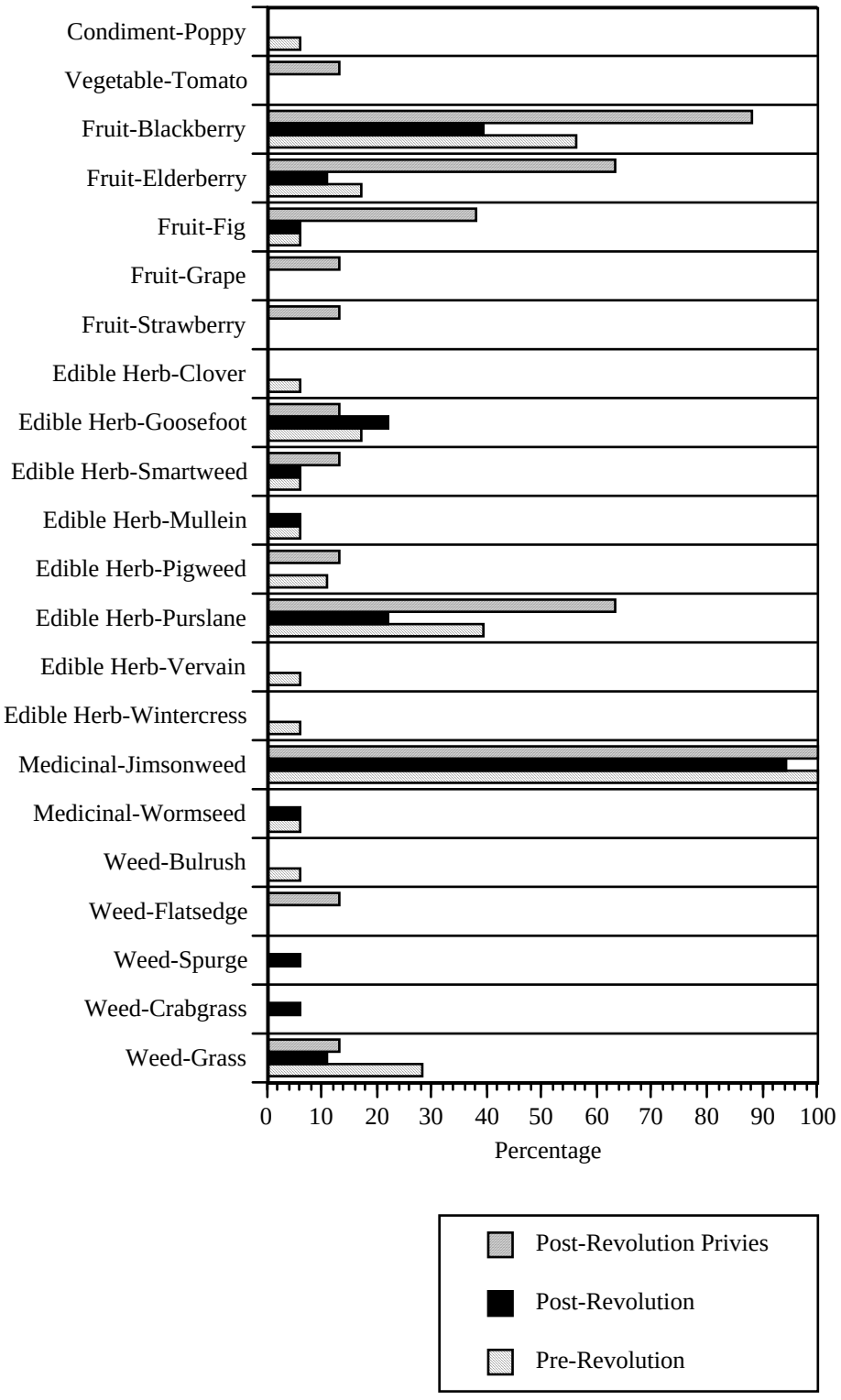

Figure 95. Ubiquity of plants with potential economic value.

Blackberry/Raspberry

Shrubs of the genus *Rubus* (refers to all *Rubus* sp., including blackberries, dewberries, raspberries, etc.) were apparently a prized fruit in nineteenth-century American households, as blackberry/raspberry seeds are virtually ubiquitous in nineteenth-century archeobotanical assemblages in the United States (Cummings 1993; Raymer 1993b, 1995; Raymer and O'Steen 1993, 1994; Cummings and Puseman 1994; O'Steen and Raymer 1995; O'Steen et al. 1995a, 1995b). Blackberries/raspberries, which are distributed throughout the eastern United States, commonly form thickets along fencerows and roadsides, within old fields, and in other disturbed habitats. The succulent berries are available for harvest from the late spring through midsummer (Bailey 1949; Radford et al. 1968). Blackberry/raspberry berries are eaten fresh, prepared as a fresh-fruit beverage, and made into jellies, jams, pies, and wine (Fernald and Kinsey 1958; Gillespie 1959; Hall 1976; Peterson 1977; Medve and Medve 1990).

Fruits of the genus *Rubus* were highly regarded as a virtual medicinal panacea throughout the nineteenth century, both by professional medical practitioners and in folk medicine. Griffith, in his influential *Medical Botany* (1847), extolled the value of blackberry root as an astringent medicine (diarrhea treatment). Teas made from dried blackberry/raspberry root bark were used to control diarrhea, as a blood purifier, and as a spring tonic. Dried blackberry roots were sold commercially in the nineteenth century. Finally, decoctions of the roots were gargled for sore throats and to cure mouth ulcers. Berry juice, which was used as a diarrhea cure and to control upset stomachs, was stored in the form of blackberry brandy and a thick syrup (Coon 1963; Krochmal and Krochmal 1973; Angier 1978; Crellin and Philpott 1989). Blackberry/raspberry seeds were highly ubiquitous in the post-Revolution privies, and less well represented in non-privy contexts. *Rubus* sp. berries may either have been collected from plants growing on the lots and/or purchased from local fruit stands.

Elderberry

Like blackberry/raspberry, elderberry seeds are found in most nineteenth-century archeobotanical assemblages in the East (Cummings 1993; Raymer 1993b, 1995, 1998, 1999; Raymer and O'Steen 1993, 1994; Cummings and Puseman 1994; O'Steen and Raymer 1995; O'Steen et al. 1995a, 1995b). Elderberries were ubiquitous in privy contexts, and sparse in non-privy features. About 20 species of elderberries (*Sambucus* sp.) occur in the temperate and subtropical regions of both hemispheres. Five species are commonly cultivated (Bailey 1949). Elderberries grow in moist soils bordering field edges or swamps. This deciduous shrub or small tree, which grows from 5 to 30 feet tall, flowers in the spring and fruits in October. Elderberry trees are found throughout North America and Europe in moist woods, roadside ditches, thickets, stream banks, and marsh edges (Coon 1963; Radford et al. 1968; Angier 1974).

Elderberries were principally grown in the nineteenth century for food, medicine, and ornamentation. Both native and imported varieties were planted as garden and yard ornamentals in the late eighteenth and nineteenth centuries (Leighton 1987; Favretti and Favretti 1990). Crellin and Philpott (1989) report that elderberry bushes were planted around American homes so that the plant would be readily available for the production of medicine. Both imported European elder (*Sambucus nigra*) and native elderberry (*S. canadensis*) were employed in nineteenth-century domestic medicine in America. Elderberry was used to treat skin conditions, as a purgative, and as a diuretic (Crellin and Philpott 1989). Its popularity apparently declined in the latter half of the nineteenth century (Griffith 1847). The dried inner bark was commonly prescribed as a purgative. Ointments made from the crushed leaves were applied to bruises and sprains, and thickened fruit juice was administered internally for coughs and colds. The dried flowers, which were once listed in the United States Pharmacopoeia, were used as a topical treatment for sunburn, to relieve itching, and to remove freckles (Coon 1963). Elderberry has been used in folk remedies as a cure-all for "abrasions, asthma, bronchitis, bruises, burns, cancer, chafing, cold, dropsy, epilepsy, fever, gout, headache, neuralgia, psoriasis, rheumatism, skin ailments, sores, sore throat, swelling, syphilis, and toothache" (Duke 1992:423).

The primary edible portions of the elderberry are its fruits and flowers. The fruits were eaten fresh, made into wine and tea, processed for jellies and jams, added to pancake and muffin batter, and used as pie filling. The flower clusters were added to pancake, waffle, and muffin batter, made into tea, battered and fried as fritters, and made into sweet-smelling wine (Fernald and Kinsey 1958; Gillespie 1959; Hall 1976; Peterson 1977; Medve and Medve 1990). Green blossoms were pickled and served in place of capers (Hedrick 1972; Bryan and Castle 1974). Elderberries may have been planted on the lots, since these weedy shrubs are easily propagated in crowded urban settings. The fruits were probably also available for purchase in New York City markets.

Fig

Like blackberry/raspberry and elderberry, fig seeds were relatively common in the privies and poorly represented in non-privy contexts. Fig seeds are almost ubiquitous in nineteenth-century contexts. They are particularly prevalent in privies (Cummings 1993; Raymer 1993b, 1995; Raymer and O'Steen 1993, 1994; Cummings and Puseman 1994; O'Steen and Raymer 1995; O'Steen et al. 1995a, 1995b). The genus *Ficus* includes trees, shrubs, and climbing vines, and consists of more than 2,000 species in tropical and subtropical countries. One species of fig, *Ficus carica*, is grown for its edible fruit, while many other varieties are cultivated for shade and as ornamentals (Bailey 1949). Figs were first cultivated in England in the sixteenth century. By the time of Elizabeth I, dried figs were kept in practically every English household to make sweet puddings (Root 1980).

European varieties of fig trees were first introduced into the New World in 1520, when the Spanish imported them (Condit 1947). Cultivated figs were first mentioned in the British colonies in Virginia in 1669; Bartram noted figs growing in the ruins of Fort Frederica, Georgia, in 1773 (Hedrick 1972). Figs are preserved in a variety of ways, including canning, candying, and as jams. Low-grade figs are sometimes distilled into alcohol (Condit 1947). Figs can be eaten raw or dried, but are more commonly used as a sweetener in desserts. According to Bryan and Castle (1974), these succulent fruits are most commonly consumed dried in the United States.

Figs had a limited reputation as a medicine in the 1800s. According to Crellin and Philpott (1989), the fruits were always more highly regarded as a nutritious food than as a medicinal remedy. During the nineteenth century, the principal medicinal value attributed to figs was as a gentle laxative. Griffith (1847:576) discussed the employment of figs in cases of "habitual constipation" and mentioned their use in poultices.

Grape

Grape seeds were recovered from a single post-Revolution privy. The poor representation of this common component of nineteenth-century urban sites, particularly those associated with well-to-do resident owners, suggests that macro-plant preservation was relatively poor within the Broadway Block features.

Wild grapes are found throughout Europe, Asia, and the Americas, bordering watercourses and within deciduous forests. Virtually every variety of Old World grape, both wild and domesticated, is derived from a single species, *Vitis vinifera.* Approximately two dozen species of grapes are native to North America. The best-known eastern varieties are the fox grape, *Vitis labrusca*, and the muscadine, *Vitis rotundifolia.* The European grape was imported into the Americas by the first colonists. Columbus introduced this variety to Haiti in 1494. Spanish missionaries introduced European grapes into California, where they flourished, in the late eighteenth and early nineteenth centuries. Numerous attempts were made to establish European grapes in the eastern United States in the seventeenth and eighteenth centuries, all of which failed due to the susceptibility of this species to phylloxera and mildew. Native fox grapes were then crossed with the European grape to produce such well-known domesticated varieties as Catawba, Concord, and Delaware grapes. Muscadines, which are native to the southeastern United States, were domesticated by European colonists and are popular as a table grape and in domestic winemaking (Ward 1941; Radford et al. 1968; Hedrick 1972; Hall 1976; Root 1980).

Domesticated grapes were grown throughout the United States and Mexico in the nineteenth century in kitchen gardens and in commercial vineyards. Grapes were consumed fresh and also made into jelly, juice, wine, raisins, and pies (Hedrick 1972; Hall 1976; Root 1980). Although grapes were chiefly prized as a fresh fruit and in the production of wine, Hedrick (1972) notes that the fruits were used in the treatment of scurvy, and Coon (1963) and Angier (1978) claim that the fruits aid the body in removing toxins from the kidneys by neutralizing uric acid. According to Crellin and Philpott (1989), the primary medicinal use of grapes involved imbibing wine as a stimulant and mixing other medicines with wine, presumably to make them more palatable. The recovery of grape seeds is likely to indicate the purchase of these fruits from local fruit stalls.

Strawberry

Strawberries, like grapes, were restricted to a single privy context. The poor recovery of strawberry seeds from late-eighteenth- and early-nineteenth-century Broadway contexts is probably related to two factors. First, strawberries were generally unavailable in early-nineteenth-century markets. Since the middle-class Broadway Block inhabitants don't appear to have planted gardens, the poor representation of this fruit is to be expected in these early-nineteenth-century contexts. Second, as has already been suggested, the poor representation of this fruit may also be an artifact of poor preservation in the project locality.

Strawberry fruits, which grow wild in old fields and along woodland borders, ripen from March to June (Radford et al. 1968; Angier 1974; Medve and Medve 1990). Strawberries have appeared throughout world history as a source of food and medicine. Root (1980) reports that wild strawberries were first grown in European gardens in the fourteenth century. They became popular dessert fruits in the seventeenth and eighteenth centuries. Early explorers reported dense strawberry patches in the meadows and woodlands of the eastern United States and Canada.

The native North American wild strawberry is regarded as having better coloring, a richer flavor, and a larger size than its European cousins (Root 1980). Strawberries were not readily available in urban markets in the United States until the mid-nineteenth century due to their perishability. Prior to this time, this berry was commonly grown in kitchen gardens for home consumption. Strawberries became common in New York City after the opening of the Erie Railroad in 1847, since the rail line enabled large quantities of the perishable fruit to be shipped quickly and cheaply to urban markets. For example, 80,000 baskets of strawberries were delivered to New York in one night in 1847. New York became the largest strawberry market in the world in the latter half of the nineteenth century (Root 1980).

Strawberries are eaten fresh and used to make jellies and jams, pies, fresh drinks, and wine (Fernald and Kinsey 1958; Medve and Medve 1990). The young leaves can be consumed fresh in salads or cooked as a spinach-like potherb (Angier 1974). Like blackberry/raspberry, strawberry was highly regarded in nineteenth-century folk medicine as a panacea, with almost every portion of the plant having a reported medicinal value (Crellin and Philpott 1989; Duke 1992). The berries were used as a mild laxative, to reduce fevers, to treat kidney stones and gout, and were once used as a cosmetic (Coon 1963; Krochmal and Krochmal 1973; Angier 1978; Crellin and Philpott 1989). Teas made from the leaves were used as a preventative for scurvy and to treat diarrhea. Infusions made from the roots were used in the treatment of urinary disorders (Coon 1963; Krochmal and Krochmal 1973). Strawberry leaves were used in Appalachia as a gout remedy and refrigerant (Krochmal et al. 1969).

Vegetables

Four seeds from a single vegetable, tomato, were found in a single post-Revolution privy. The scarcity of tomato seeds in the Broadway Block features is to be expected, since tomatoes were not commonly consumed in the United States until the mid-nineteenth century. Tomatoes may have been grown by the residents as garden crops, or purchased at local markets. The poor recovery of this taxon, which is common in early- to mid-nineteenth-century contexts in the nearby Five Points project area, argues in favor of a market purchase of this relatively rare taxon, considered exotic in late-eighteenth-century contexts.

Tomatoes were first widely consumed in the United States in the mid-nineteenth century. This member of the nightshade family is thought to have originated in South America and migrated north into Central America. Tomato cultivation became very common in the United States by the 1800s, where the fruits were used in sauces, stews, and preserved for later use by canning. Tomato seeds are commonly found in mid- to late-nineteenth-century contexts. Medicinal uses are also attributed to the tomato, which added to the "tomato mania" that existed in the mid-1800s in the United States. Nineteenth-century medical references claimed that the tomato was useful in the treatment of diarrhea, dyspepsia, and cholera. Pills were made from tomato essence that the makers claimed could restore vigor, enhance regularity, and "tone" the system (Smith 1994). The seeds of this plant are almost ubiquitous in nineteenth-century privies, which attests to the popularity of this vegetable (O'Steen and Raymer 1995).

9.4.2.3 Naturally Occurring Edible and/or Medicinal Herbaceous Plants

Ten plants are recorded as edible and/or medicinal herbs (Table 112, Figure 95). These plants provide convincing evidence of the gathering of naturally occurring plants for food and medicine. All of these herbs have a long history of use as edible wild plant foods, both by Native Americans and immigrants of European and African descent. All of these plants are recorded as historic dietary supplements. Seven of the ten have been used as potherbs, and the seeds of several can be ground for flour. In addition, all ten are recorded as medicinal herbs.

The edible weed assemblage found within the Broadway Block privies and other features is suggestive of a seasonal reliance on naturally occurring herbaceous plants as dietary supplements. The recovery of a similar array of edible herbaceous plants from both pre- and post-Revolution features suggests that these naturally occurring plants were utilized throughout the occupation of the site. Macro-plant data from the Five Points site are also indicative of the use of gathered resources during the nineteenth century.

Two possible medicinal herbs, jimsonweed and wormseed, were retrieved from multiple features. Jimsonweed was virtually ubiquitous in the post-Revolution privies and in both pre- and post-Revolution non-privy features. Jimsonweed comprised a full 32 percent of the overall seed assemblage and was second in abundance only to blackberry/raspberry. A small quantity of wormseed seeds, widely used in the eighteenth and nineteenth centuries as a remedy for intestinal worms, was found in two features.

Jimsonweed is a widely naturalized endemic weed that was imported from Europe and grows abundantly on garbage heaps (Millspaugh 1884). It is identified in nearly all nineteenth-century archeological deposits in the eastern United States. However, the Broadway Block flotation samples contain the greatest abundance and overall ubiquity of this taxon of any historic archeobotanical assemblage examined to date by the authors. The high abundance and ubiquity of this taxon argues that the site inhabitants used this plant. This naturalized weed, which has both medicinal and narcotic qualities, may have been introduced to the local ecology by African Americans who utilized the project area in the seventeenth and early eighteenth centuries as a burial ground. Jimsonweed is also found in flotation samples collected from grave-shaft fill and the sacrum area of several burials associated with the African Burial Ground (Raymer 1998).[7]

Nine plants, including clover, goosefoot, two smartweeds, mullein, pigweed, purslane, vervain, and wintercress, are recorded as edible herbs. These nine plants may document the use of naturally occurring plants in the site area as dietary supplements. On the other hand, these taxa may represent naturally occurring yard weeds. With this in mind, the documentary evidence on the historic utilization of these taxa and their condition and distribution within the archeological deposits was carefully assessed.

[7] Editor's Note: Most of the Jimson weed seeds in graves are found north of the Teller fence line rather than inside the main burial ground. This suggests a landscape that was cleared of invasive weeds inside the fence and a wasteland (where Jimson weed would thrive) outside the fence. The seeds in Phase 1and 2 features are also north of the fence line. Most seeds were probably in the soil when the graves and features were dug.

All nine herbs have a long history of use as edible wild plant foods, by both Native Americans and immigrants of European and African descent. The leaves of all nine have been consumed as potherbs, and the seeds of seven can be ground for flour (Fernald and Kinsey 1958; Gillespie 1959; Hall 1976; Peterson 1977; Cox 1985; Medve and Medve 1990). All of these plants have been used historically as gathered dietary supplements. Some varieties of goosefoot were cultivated in the nineteenth century as a medicinal herb, and pigweed was used as a bedding plant (Leighton 1987). Additionally, all of these plants are recorded as medicinal herbs (Millspaugh 1884; Krochmal et al. 1969; Krochmal and Krochmal 1973; Crellin and Philpott 1989).

The context and condition of the seeds, as well as other plants associated with the edible herbaceous weed seeds found within the privies, land surfaces, and other features, suggest that these macro-remains date to eighteenth- and nineteenth-century occupations. The condition of the seeds is suggestive of relative age, since most of the seeds appear old, some are mineralized, and some have fecal material adhering to them.

These plants may represent naturally deposited seed rain. On the other hand, they may represent remains of gathered plant foods. There is ample evidence in the historic record to indicate that both urban and rural Americans supplemented their diets to some degree with gathered greens in the eighteenth and nineteenth centuries. There was also a great deal of interest in naturally occurring medicinal remedies during this period. At a minimum, these seeds document what potentially economically useful plants were available for harvest in the urban landscape of the Broadway Block in the late eighteenth and early nineteenth centuries.

Clover

Clover, *Trifolium* sp. is a biennial or perennial herbaceous legume, which is a common constituent of disturbed habitats such as old fields, clearings, and roadsides. Fourteen species of *Trifolium* are naturally occurring in the northern United States and Canada. Clovers found growing wild in the Northeast include both native American and naturalized European varieties. Clover fruits are available for harvest from April through September (Radford et al. 1968; Britton and Brown 1970). Clover grows throughout North America and is favored forage of many types of wildlife, including grazing ungulates, birds, and bears (Angier 1974). Clover has been utilized by humans as both a food source and herbal medicinal remedy (Peterson 1977; Cox 1985). European red clover, *Trifolium pratense,* is widely planted as a livestock feed in the United States (Hedrick 1972).

Native Americans ate both raw and cooked clover. The roots were steamed or smoked while the leaves were quickly cooked and eaten (Hedrick 1972; Angier 1974). The seed-filled dried blossoms were used in Ireland to make breads used as famine foods (Hedrick 1972; Krochmal and Krochmal 1973). The entire plant can be harvested when in full bloom. Clover greens can be boiled and eaten as a protein-rich potherb. The dried flower heads make a flavorful herbal tea and can be ground for flour (Peterson 1977; Cox 1985). Cox (1985) discusses three naturalized European clover species (*Trifolium agrarium,* hop clover, *T. pratense,* red clover, *T. repens,* white clover) as both edible and medicinal herbs. He states that the dried flower heads were once used as an herbal remedy for whooping cough and as an astringent medicine for skin sores.

Krochmal and Krochmal (1973) list red clover as a treatment for coughs and sores. Clovers have long been employed as an expectorant and an ointment for ulcers (Coon 1963). Shaker communities marketed clovers in the nineteenth century as remedies for "cancerous ulcers, corns, and burns" (Crellin and Philpott 1989:161). The Parke-Davis Company sold preparations of red clover in the 1890s as a sedative, as an external treatment for skin ulcers, and as a treatment for whooping cough (Crellin and Philpott 1989).

Goosefoot

Two species of *Chenopodium*, goosefoot (*Chenopodium album*) and wormseed (*C. ambrosoides*) were recognized in the macro-plant assemblage. Goosefoot was commonly consumed as a potherb in the past. Wormseed, on the other hand, is not edible. Wormseed oil was widely used in nineteenth-century America as an herbal remedy for intestinal worm infestations. The distribution of goosefoot, an edible herbaceous

weed, is discussed in this section. Wormseed will be discussed separately under the rubric of potential medicinal herbs.

Goosefoot (*Chenopodium album*), also known as lambsquarters, has long been valued as a nutritious wild plant food. This annual herbaceous plant, which grows in disturbed habitats, is a common weed around human habitations throughout the continental United States (Radford et al. 1968; Britton and Brown 1970). A single plant can produce up to 100,000 seeds. Goosefoot seeds were found in 74 percent of the sampled features. Goosefoot probably grew in waste areas in the Five Points locality during the nineteenth century.

Young goosefoot leaves are cooked as a spinach-like potherb, eaten raw in salads, or added to soups, and the seeds can be ground for flour or consumed as a cereal (Fernald and Kinsey 1958; Gillespie 1959; Hedrick 1972; Hall 1976; Peterson 1977; Cox 1985; Medve and Medve 1990). Goosefoot greens and seeds have been used historically as a gathered dietary supplement. European-American pioneers reportedly added goosefoot flour to breads, cookies, muffins, and pancakes (Duke 1992). Goosefoot seeds were mixed with wheat to extend the crop in times of famine in Europe (Krochmal and Krochmal 1973). Several species of *Chenopodium* were cultivated in the nineteenth century as medicinal herbs and garden ornamentals (Leighton 1987; Favretti and Favretti 1990; Coffey 1993). Lambsquarters (*Chenopodium album*) was not recorded in the literature reviewed for this report as a medicinal herb (Millspaugh 1884; Grieve 1931; Justice 1939; Massey 1942; Coon 1963; Krochmal et al. 1969; Krochmal and Krochmal 1973; Angier 1978; Cox 1985; Crellin and Philpott 1989; Foster and Duke 1990; Duke 1992).

Jimsonweed

Jimsonweed, *Datura stramonium,* is a widely naturalized, extremely poisonous weed that was planted in nineteenth-century gardens as an ornamental flower and is recorded as a narcotic, medicinal herb (Leighton 1987; Crellin and Philpott 1989). Although this plant may represent an ornamental or medicinal herb that was deliberately planted by the inhabitants, it is just as likely that it represents a naturally occurring weed that grew wild in the yard lots.

Jimsonweed is recorded as a medicinal herb that, although extremely poisonous, was used as an antispasmodic, topical treatment for skin conditions, antiasthmatic, and sedative (Krochmal et al. 1969; Krochmal and Krochmal 1973; Crellin and Philpott 1989). All parts of the plant are to some degree toxic, especially the seeds. The most common use of this herbaceous weed was as a treatment for the spasmodic coughing associated with asthma. The plant was burned and the asthma sufferer inhaled the smoke. The plant juices, flowers, leaves, and roots were also made into salves and poultices that were variously used as topical treatments for sores, boils, pimples, swellings, and skin ulcers (Krochmal and Krochmal 1973; Crellin and Philpott 1989). Crellin and Philpott (1989) reiterate the value of this plant as an inhalant for asthma patients and state that jimsonweed cigarettes are available today in some parts of the world.

Mullein

Three naturalized species of mullein, *Verbascum thapsis, V. phlomoides,* and *V. lychnitis,* are common field weeds in the northeastern United States. These biennial herbs are available for harvest between June and September (Britton and Brown 1970). Common mullein, *Verbascum thapsis,* is a perennial herb that was introduced into the Northeast in the seventeenth century. This perennial herb, which was grown in colonial gardens, became a widely distributed field weed by the eighteenth century (Hedrick 1972; Crellin and Philpott 1989). Josselyn (1865) noted in 1676 that common mullein had escaped cultivation in New England and was growing wild in fields and meadows. The leaves of common mullein were once dried to make tea (Peterson 1977). Mullein was a popular medicinal remedy in the eighteenth and nineteenth centuries. This taxon was used as a cough remedy, to make poultices, as a topical astringent, to treat hemorrhages and bladder problems, and as a medicine for rheumatism. The medicinal value of mullein is discussed in most nineteenth-century medical texts (Crellin and Philpott 1989).

Pigweed

Pigweed is an annual herbaceous plant that sometimes grows over eight feet tall. Pigweed fruits are available for harvest from June until first frost. This plant is a common weed in old fields, pastures, and other disturbed habitats (Radford et al. 1968; Britton and Brown 1970; Medve and Medve 1990). The young leaves of pigweed can be eaten raw or cooked as a spinach-like potherb. Dried leaves are added to soups. The husked seeds are ground into flour, which is used to make porridge, muffins, and hotcakes (Gillespie 1959; Angier 1974; Hall 1976; Cox 1985). Duke (1992) reports that pigweed flowers can be boiled and eaten, and that the seeds of some species can be roasted and popped like miniature popcorn. Pigweeds (*Amaranthus hybridus, A. caudatus, A. hypochnodriacus, A. tricolor*) were grown as garden ornamentals from the late eighteenth through the nineteenth centuries (Leighton 1987; Favretti and Favretti 1990).

Pigweed, particularly *Amaranthus hybridus* and *A. retroflexus,* has a minor reputation as a medicinal plant, largely because of its mildly astringent qualities (Coon 1963). It was apparently not highly regarded by the medical profession as it is not even mentioned in Crellin and Philpott's (1989) exhaustive monograph on medicinal herbs. Pigweed was once used to quell internal bleeding, dysentery, and diarrhea (Coon 1963; Krochmal and Krochmal 1973; Angier 1978; Coffey 1993). Pigweed was believed to reduce excessive menstrual flows and internal hemorrhaging. It was also administered as a treatment for stomach ulcers (Krochmal and Krochmal 1973; Angier 1978).

Purslane

Purslane seeds were common at Broadway, particularly in privies. These weedy annuals were identified in 64 percent of the sampled features. Purslane, *Portulaca oleracea,* is an annual herbaceous weed that was introduced to the United States from southern Europe. This plant, which fruits from May to October, is a widely distributed weed that grows in lawns, cultivated fields, along roadsides, and within virtually every disturbed habitat throughout the United States (Radford et al. 1968; Cox 1985). Purslane seeds are virtually ubiquitous in historical archeological contexts in the eastern United States.

Like goosefoot and pigweed, both the greens and seeds of purslane are edible. The young shoots and leaves, which can be gathered throughout the summer and regenerate rapidly after picking, are added to raw salads, cooked as a green vegetable, and added to soups and stews as a thickener. Pickling can preserve the stems. The seeds can be ground for flour, which is mixed with wheat flour to add flavor to baked goods (Gillespie 1959; Hall 1976; Cox 1985). In the past, purslane was cultivated in Yemen and Brazil; consumed as a potherb in Burma; added to soups and pickled in Italy and France; and consumed as a salad green in England (Hedrick 1972). Indeed, the French have developed an upright variety that is cultivated as a potherb (Bailey 1949).

Purslane has a minor reputation as a medicinal herb in the United States, particularly in the seventeenth and eighteenth centuries. Favretti and Favretti (1990) list this plant as a culinary and medicinal herb that was grown in American gardens from 1600 until 1776. It is not mentioned as an American garden plant in the nineteenth century (Leighton 1987; Favretti and Favretti 1990). Purslane was used in the sixteenth century to relieve indigestion and as an appetite stimulant. Astringent properties were also attributed to it, making it a useful remedy for hemorrhoids, heavy menstruation, and bloody fluxes. The Puritans reputedly consumed purslane in the seventeenth century as a scurvy preventative (Crellin and Philpott 1989).

The evidence suggests that purslane was not highly valued by nineteenth-century European Americans, either as a potherb or an herbal medicine. According to Hedrick (1972) and Crellin and Philpott (1989), this herb was more popular in Europe than it was in America. Cobbett, in his *American Gardener* (1846), disdained purslane as a noxious weed that was eaten as a famine food by Frenchmen and pigs when nothing else was available. Crellin and Philpott (1989) found little evidence that purslane was a popular medicine in nineteenth-century America; however, it was accepted as a treatment for diarrhea and as a preventative for scurvy. Parke-Davis, a pharmaceutical firm, sold a liquid form in the 1890s, which the company touted as a diuretic and refrigerant (Crellin and Philpott 1989).

Smartweeds

The smartweeds, *Polygonum* sp., which are available for harvest in the summer, are common herbaceous weeds of disturbed habitats throughout the United States and Canada (Radford et al. 1968; Britton and Brown 1970). Britton and Brown, in their *Illustrated Flora of the Northern United States and Canada* (1970), discuss fourteen species of *Polygonum.* One smartweed (*Polygonum pensylvanicum*) was specifically identified in the Broadway Block plant assemblage. Pennsylvania smartweed, *Polygonum pensylvanicum,* is a native American annual herb that is common throughout the eastern United States in alluvial settings and disturbed areas (Radford et al. 1968; Britton and Brown 1970).

The seeds and greens of these herbaceous plants have long been utilized as a gathered dietary supplement in the United States, with the roots, seeds, and bulbs all being used for food. The smartweeds are most highly prized for their seeds, which are ground into flour for baking or parched and eaten as a cereal. The leaves and shoots are eaten fresh in salads and cooked as a potherb. The rootstalks of some species are valued as a potato substitute (Gillespie 1959; Angier 1974). Gillespie (1959) states that some varieties of smartweed were also used as a pepper substitute.

The smartweeds, particularly *Polygonum hydropiper* and *P. aviculare,* have a reputation in folk medicine as astringents, diuretics, and tonics. The smartweeds were best known in nineteenth-century America for their supposed diuretic and astringent qualities (Crellin and Philpott 1989). Smartweed was apparently not a very popular herbal medicine among nineteenth-century medical professionals since it was generally only briefly mentioned in medical treatises, and Griffith (1847) stated that this taxon was rarely prescribed as a medicinal remedy.

Vervain

Eight species of the *Verbena* genus are found in the northern United States and Canada (Britton and Brown 1970). This taxon, which is distributed throughout the United States, is an endemic weed of dry fields, wet meadows, and damp thickets (Radford et al. 1968; Britton and Brown 1970; Cox 1985; Medve and Medve 1990). One native American species, *Verbena hastata,* has edible seeds that can be ground into flour (Fernald and Kinsey 1958; Peterson 1977). The seeds are available for harvest from June to September (Britton and Brown 1970). Two naturalized (*Verbena brasiliensis, V. officianalis*) and one native (*V. hastata*) species of vervain were once used as medicines. Vervain was a popular medicine in the sixteenth century in England. This taxon had a minor reputation in eighteenth-century America as an emetic and expectorant (Crellin and Philpott 1989). According to Rafinesque (1828–1830), vervain was a good substitute for boneset, a popular medicinal herb of nineteenth-century America. Boneset was touted as a virtual cure-all that could be used as a quinine substitute, cough medicine, tonic, laxative, emetic, stimulant, febrifuge (fever medication), and topical astringent (Krochmal et al. 1969; Krochmal and Krochmal 1973; Crellin and Philpott 1989).

Wintercress

Three species of the wintercress (*Barbarea* sp.) are found in temperate zones of the northern United States and Canada (Britton and Brown 1970). One of these plants, *Barbarea vulgaris,* is a naturalized European native that escaped cultivation and is now a common weed in the eastern United States. These annual and perennial herbs are found in fields and waste places from Labrador southward to Virginia. The leaves of the winter rosette and spring flower buds of one species of *Barbarea,* yellow rocket (*Barbarea vulgaris*), are harvested and consumed as a potherb and eaten raw in salads (Peterson 1977; Medve and Medve 1990). Yellow rocket, which was once cultivated in gardens in England and Scotland, was introduced to the United States by European colonists (Gillespie 1959; Hedrick 1972). Fernald and Kinsey (1958) discuss another species of cress, *Barbarea verna* (Belle Isle Cress) that was once cultivated in America and sold in local markets. The vitamin C-rich leaves of wintercress, which is also known as scurvy grass, are available for harvest throughout the winter (Medve and Medve 1990). Wintercress was commonly used as a cure for scurvy in eighteenth-century America. This taxon was not commonly mentioned in nineteenth-century medical texts (Crellin and Philpott 1989).

Wormseed

Wormseed, *Chenopodium ambrosoides,* was identified in two contexts. Wormseed probably grew in waste areas in the project locality during the nineteenth century. This taxon is not edible. However, two species of *Chenopodium* (*Chenopodium ambrosoides* and *C. botrys*), both of which are known as wormseed, or Jerusalem oak, were highly regarded in the eighteenth and nineteenth centuries as medicinal herbs, particularly as a worm preventative.

Chenopodium ambrosoides was imported from South America, while *Chenopodium botrys* was brought to the Americas from Europe (Coon 1963; Hedrick 1972; Krochmal and Krochmal 1973; Crellin and Philpott 1989; Coffey 1993). Oil derived from the seeds of these plants was made into a tonic that was used to treat intestinal worms in humans as well as animals (Krochmal and Krochmal 1973). Cotton Mather avowed in 1724 that wormseed was an excellent worm killer. He also recommended this taxon as a cure for stomach pains and a poor appetite (Coffey 1993). Other eighteenth-century medicinal references indicated *Chenopodium* sp. for the treatment of coughs, asthma, as an antispasmodic, and for headaches (Crellin and Philpott 1989).

By the nineteenth century, wormseed's reputation as a treatment for intestinal worms, particularly roundworms, was firmly established. In the early 1800s, African Americans commonly used this plant for this purpose. F. P. Porcher, in an 1847 reference, reported that wormseed was routinely administered as a worm treatment on southern plantations (Crellin and Philpott 1989). Wormseed was cultivated in the United States until the twentieth century for the production of chenopodium oil, which was commercially marketed as a worm remedy (Crellin and Philpott 1989; Coffey 1993). In addition to its reported efficacy against round worms, wormseed was also widely used in the South in the early twentieth century as a treatment for hookworms (Crellin and Philpott 1989).

9.4.2.4 Non-Economic Weeds and Grasses

Thirteen seeds from three probable non-economic herbaceous weeds (bulrush, flat sedge, spurge) and 14 seeds from at least two grass family taxa (crabgrass, grass family) were found in the Broadway features. One of the specifically identified grasses (crabgrass) is a weedy species with no recorded economic value. Although all three weed taxa (bulrush, flat sedge, spurge) have documented uses as edible, ornamental, and/or medicinal plants, the low numbers and distribution of these plants are more suggestive of naturally growing yard weeds. Two of the five taxa were restricted to historic ground surfaces. Only one grass grain was found in a privy context. The rest were found in structural features and indeterminate pits. The flat sedge seeds were found in a single privy. All of the herbaceous weeds and grasses are adventive weeds that favor disturbed habitats and that grow abundantly around human habitations and in agricultural fields (Kay and Lees 1913; Radford et al. 1968; Cox 1985).

Sedge Family

Two sedge-family taxa were recovered from the Broadway Block. These include bulrush (*Scirpus* sp.) and flat sedge (*Cyperus* sp.). Both of these taxa are regarded as noxious weeds in the United States. Neither of these weedy species is recorded as a medicinal herb, and only two sedge-family species—great bulrush (*Scirpus validus* or *S. acutus*) and chufa (*Cyperus esculentus*)—are recorded as edible (Millspaugh 1884; Grieve 1931; Justice 1939; Massey 1942; Coon 1963; Krochmal et al. 1969; Krochmal and Krochmal 1973; Angier 1978; Cox 1985; Crellin and Philpott 1989; Foster and Duke 1990; Duke 1992). Hence, it is likely that these seeds represent naturally occurring weeds rather than remnants of economic plants.

Thirty-one genera of bulrush are recorded by Britton and Brown (1970) as growing in the Northeast. These annual and perennial herbaceous plants frequent wet habitats such as ditches and marshes. Flat sedge (*Cyperus* sp.) is a large genus made up of several dozen species that are common weeds throughout the United States. Both-sedge family genera fruit throughout the summer and early fall and grow in disturbed habitats and ditches. Most members of the sedge family are regarded as endemic weeds with no economic value.

Two sedge-family taxa, bulrush (*Scirpus validus* or *S. acutus*) and chufa (*Cyperus esculentus*), are recorded as food plants. The tubers of chufa (*Cyperus esculentus*), which are cultivated in many parts of the world and have a long history of use as food, can be eaten raw, boiled as a vegetable, or dried and ground into flour. The dried tubers have also been ground and used as a coffee substitute (Hall 1976; Peterson 1977). Great bulrush (*Scirpus validus* or *S. acutus*), which grows in marshy locations throughout the United States, produces edible pollen, shoots, seeds, and rootstocks. The rootstock, which was highly regarded by Native Americans as a source of starch and sugar, can be ground for flour or used as a potato substitute. The seeds and pollen can be used for flour, and the shoots can be cooked as a potherb (Hall 1976; Peterson 1977; Medve and Medve 1990). Bulrush roots can also be chewed to help alleviate thirst (Saunders 1934).

Spurge

The spurges, *Euphorbia* sp., are a large family of annual and perennial herbaceous herbs and shrubs. Spurge fruits are available for harvest in the spring and summer months (Kay and Lees 1913; Radford et al. 1968; Cox 1985). This genus is distributed throughout the United States; Cox (1985) records six species as natives of the northeastern United States. Radford et al. (1968) discuss twenty species that are found in the southern states. Several varieties of spurge are documented by Favretti and Favretti (1990) and Leighton (1987) as late-eighteenth- and nineteenth-century ornamental flowers (*Euphorbia lathyrus, E. marginata, E. corollata,* and *E. variegata*). Three of these ornamentals have escaped cultivation (*Euphorbia lathyrus, E. marginata,* and *E. corollata*), and two, *Euphorbia lathyrus* and *E. corollata,* are widely naturalized weeds in the eastern United States. Spurges are a widely distributed naturally occurring weed that is commonly associated with disturbed habitats such as yards, roadsides, and farm fields (Kay and Lees 1913; Radford et al. 1968; Cox 1985). The recovery of spurge from yard features, combined with its low numbers and restricted spatial occurrence, is more suggestive of a naturally deposited yard weed than a deliberately planted ornamental.

Some species of *Euphorbia* were utilized as medicinal home remedies in the nineteenth century. Two varieties of spurge, *Euphorbia corollata* (flowering spurge) and *E. maculata* (spotted spurge), are recorded as medicinal herbs that were utilized in the first half of the nineteenth century as a laxative and emetic (Krochmal and Krochmal 1973; Crellin and Philpott 1989). Spurge was prescribed in the same fashion as milkweed (*Asclepias* sp.). Parke-Davis marketed a preparation of spurge as a laxative in 1900. According to Crellin and Philpott (1989), spurge was less popular than other laxatives, and was primarily resorted to as a last resort after other laxatives had proven ineffective.

Grasses

Two grass taxa were recognized, including crabgrass and an unknown grass. Crabgrass is a common annual weed of sandy soils that is frequently found in lawns, gardens, and old fields (Kay and Lees 1913). Crabgrass is a common constituent of urban nineteenth-century archeobotanical assemblages. These grass taxa probably represent yard weeds that grew naturally on the lots.

9.4.3 Medicinal Plant Use at the Broadway Block

With one exception, tomato, all of the potentially economically important plant taxa found in the Broadway Block features were used in the eighteenth and nineteenth centuries as medicinal remedies. All of these plants have been touted at one time or another as cure-alls for ailments ranging from intestinal worms to cancer. Many of these plants were commonly administered as diuretics, laxatives, and cough medicines, and to reduce fevers. Given the problems with endemic disease that New Yorkers suffered throughout the eighteenth and nineteenth centuries and the low economic status of many of the inhabitants of the project area, it is likely that herbal folk remedies were popular among the residents throughout the site's occupation. The recovery of 17 possible medicinal plants may document the use of herbal folk remedies by both the artisan and working-class occupants of the project area.

All of these plant taxa were used in the eighteenth and nineteenth centuries by both professional medical practitioners and laymen as herbal remedies. It then follows that any or all of these plants may have been

used at one time or another as medicinal remedies by the nineteenth-century inhabitants of the Broadway Block neighborhood.

The possible medicinal use of the macro-plant remains found in the Broadway features was assessed through an examination of botanical and historical references regarding the medical use of the recovered plant taxa. The literature review found that seventeen plant species were used at one time or another in the eighteenth and/or nineteenth centuries as medicinal remedies. While the use of many of the plants was rather limited, others such as raspberry/blackberry (*Rubus* sp.), elderberry (*Sambucus canadensis*), poppy (*Papaver* sp.), jimsonweed (*Datura stramonium*), mullein (*Verbascum* sp.), and wormseed (*Chenopodium ambrosoides*) were commonly used in the nineteenth century as home remedies and prescribed by medical professionals (Millspaugh 1884; Grieve 1931; Justice 1939; Massey 1942; Coon 1963; Krochmal et al. 1969; Krochmal and Krochmal 1973; Angier 1978; Cox 1985; Crellin and Philpott 1989; Foster and Duke 1990; Duke 1992).

The review of references on domestic herbal medicines provided interesting insights into the types of ailments from which nineteenth-century Americans commonly suffered. Nineteenth-century Americans appeared to have had frequent intestinal ailments such as diarrhea and dysentery. Almost every plant species presented in this report was hailed as a potential cure for digestive ailments. There was also an overarching interest expressed in treatments for upper-respiratory illnesses, which appear to have been common. Finally, intestinal worms must have been endemic in urban populations as many plants are extolled as preventatives and treatments for worms. Archeological examinations of fecal samples from nineteenth-century privies commonly find an abundance of intestinal parasites.

Some of these plants, particularly the naturally occurring herbs, may have been collected by the inhabitants and prepared as home remedies. Other plants may have been purchased at markets and used as home preparations or acquired from doctors and herbalists. Drug companies such as Parke-Davis commercially marketed many of these plants in the late nineteenth century. Wormseed, *Chenopodium ambrosoides*, a popular nineteenth-century vermifuge, provides an example of an herbal remedy that was widely marketed in the latter half of the 1800s. This intestinal worm remedy was cultivated in the United States until the twentieth century for the production of chenopodium oil, which was commercially marketed throughout the United States (Crellin and Philpott 1989; Coffey 1993).

While the recovery of these plants from the Broadway Block features does not provide conclusive proof of their medicinal use by the inhabitants, it does provide evidence for the types of plants that were available for utilization as home remedies by the occupants of this neighborhood in the late eighteenth and nineteenth centuries. The potential medicinal plants consisted of six probable cultivated and/or domesticated plants and eleven naturally occurring annual or perennial herbaceous plants.

9.4.4 Inter-Site Comparisons of Floral Assemblages from Nineteenth-Century Privies

9.4.4.1 Introduction

Figures 96 through 98 and Appendices F-6 to F-8 tabulate the number of economic plant taxa recovered from post-Revolution privies at 290 Broadway (Figure 96) and privies from seven other nineteenth-century contexts (Figures 98 and 99). These graphs organize the plant data by presumed economic importance of each taxon. Individual plant taxa found in each privy from the Broadway Block are tabulated in Appendix F-6. The data are utilized to compare and contrast dietary richness of the occupants of the Broadway Block with the nineteenth-century diet of high- and low-income individuals (Appendices F-7 and F-8) from other urban settings. Privy data and data from other deeply buried shaft features are exclusively utilized because these features generally provide an excellent preservation environment. Also, plant remains found in the privies provide direct evidence of diet (see methods section for explanation of this analysis technique).

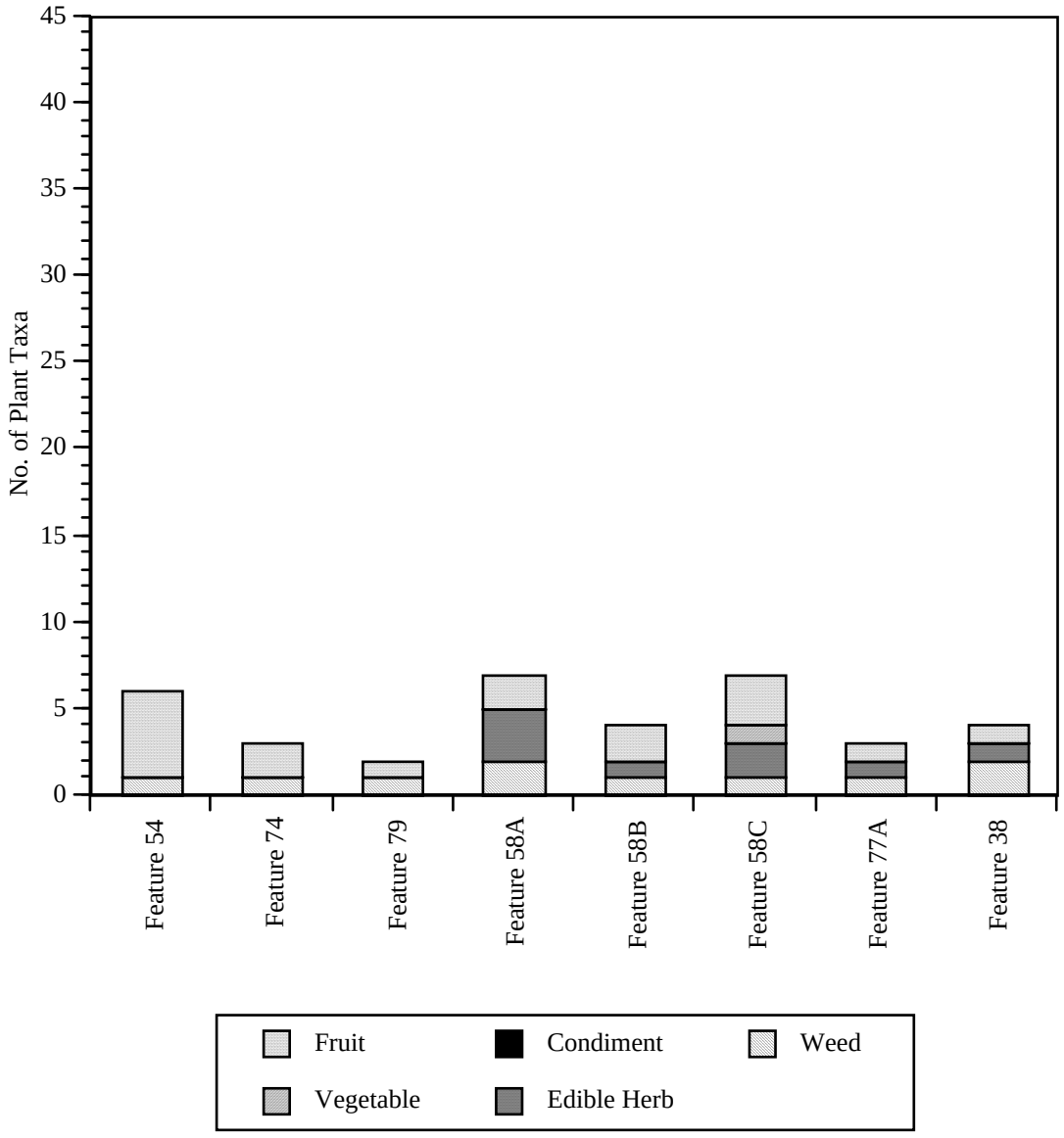

Figure 96. Floral assemblages from Broadway Block privies.

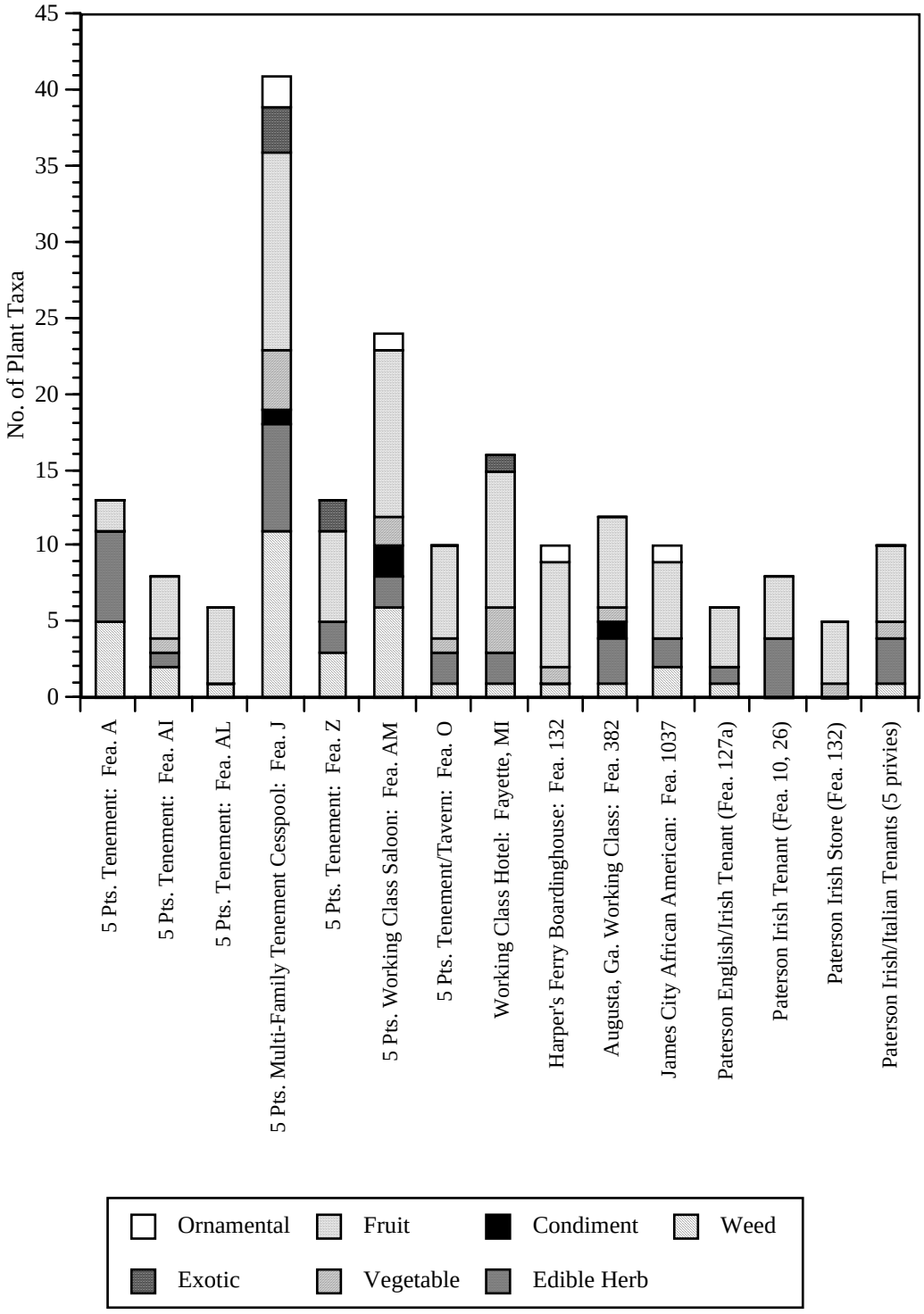

Figure 97. Floral assemblages from tenement and working-class privies.

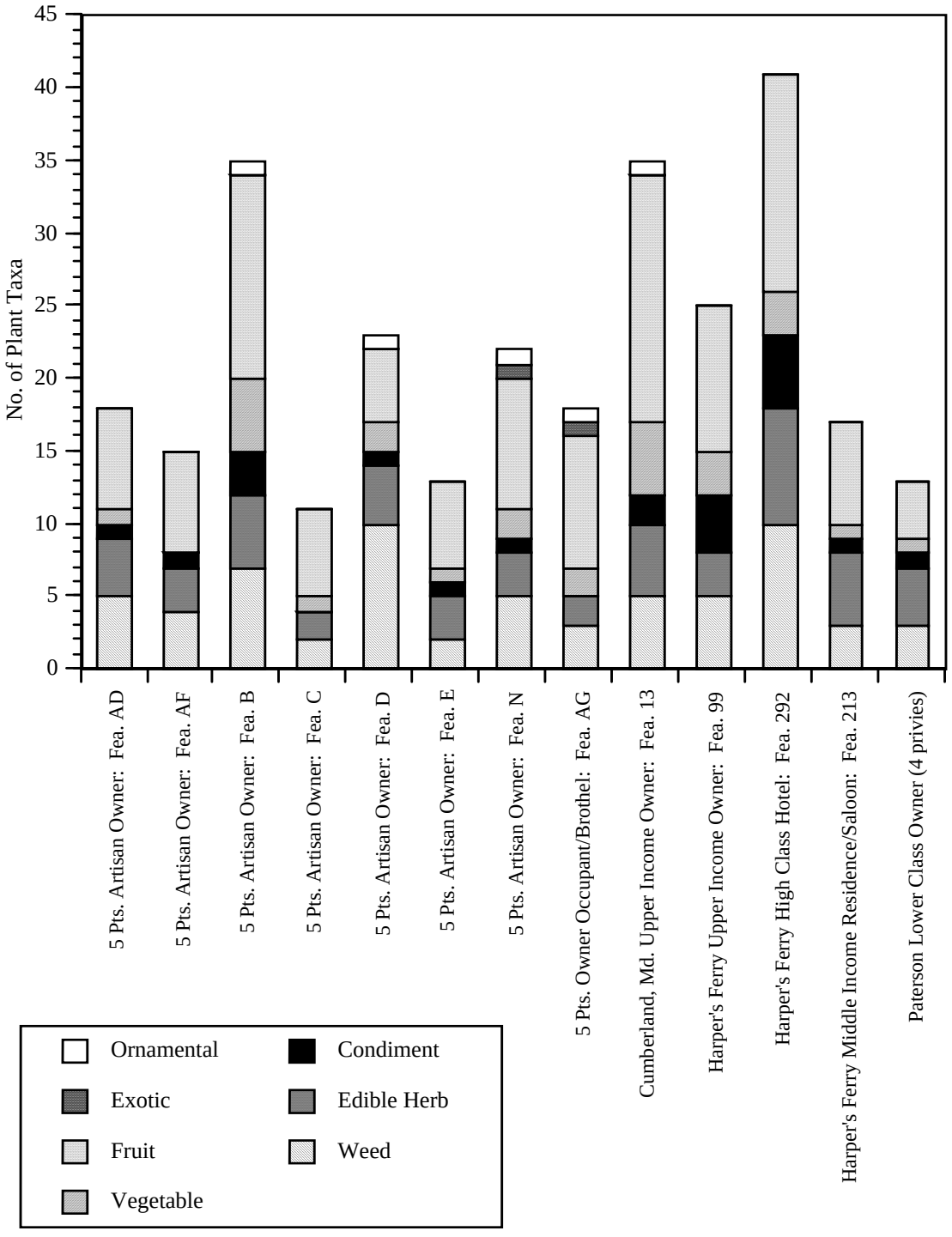

Figure 98. Floral assemblage from lower-, middle-, and upper-income owner-occupant and commercial privies.

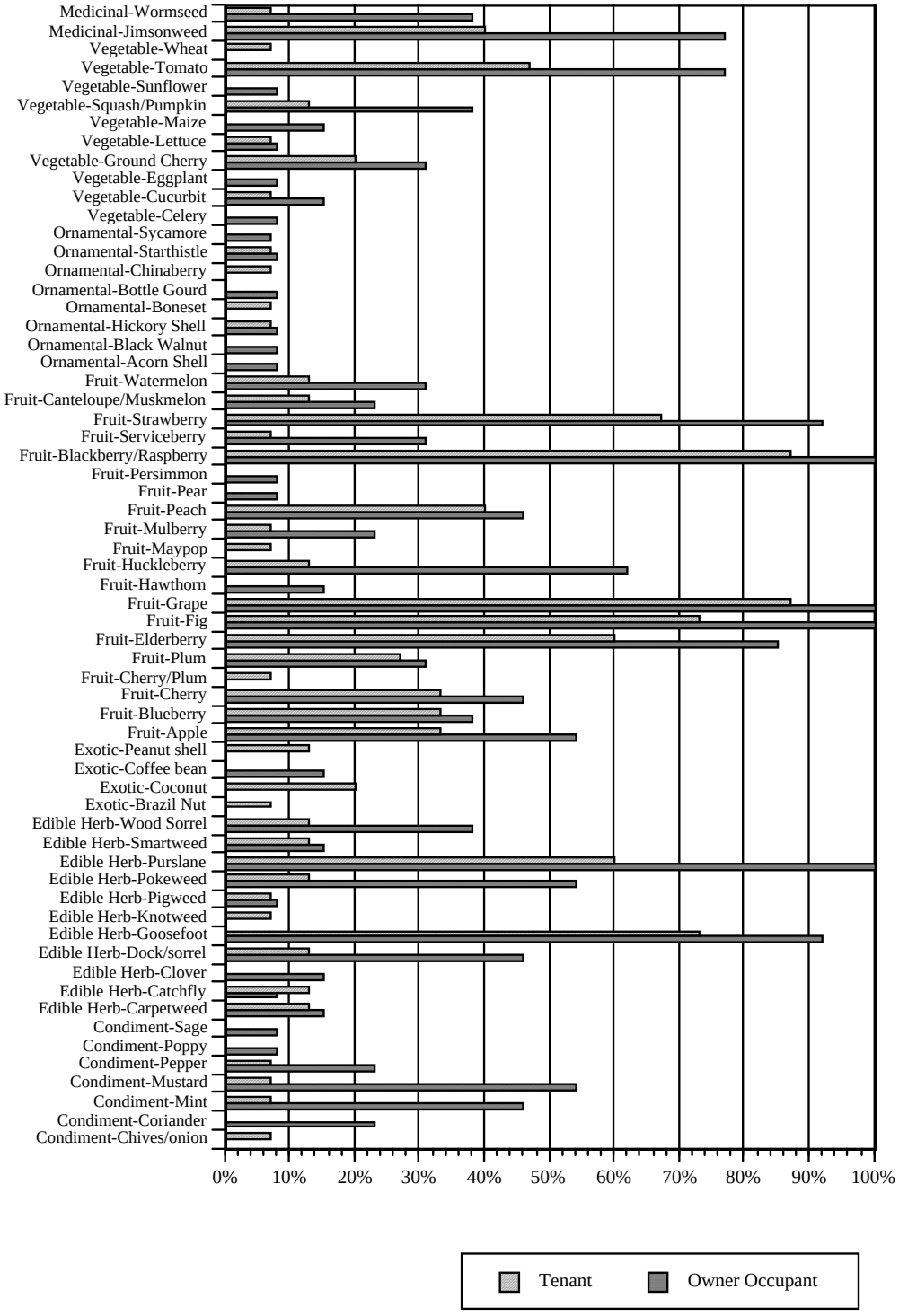

Figure 99. Ubiquity of macro-plant remains from thirteen owner-occupant and fifteen tenant privies.

Macro-plant remains included in Figures 97 and 98 derive from (1) seven tenement privies and eight owner-occupant artisan privies in the Five Points area of New York City (Raymer 1998); (2) nine tenant privies and four owner-occupant privies from Paterson, New Jersey (Raymer 1999); (3) a privy associated with a late-nineteenth-century working-class hotel in Fayette, Michigan (Landon 1995); (4) a privy associated with a high-status artisan's household in Cumberland, Maryland (Cheek et al. 1994); (5) three privies from middle- to upper-middle-income contexts and one from a middle- to low-income context from Harpers Ferry, West Virginia (Cummings 1993; Cummings and Puseman 1994); (6) a privy associated with probable European-American working-class occupation in Augusta, Georgia (Raymer 1993a); and (7) an African-American privy from James City, North Carolina (Wheaton et al. 1990).

Figure 97 illustrates the number of economic plant taxa found in privies of six multi-family immigrant tenements in New York City (Five Points); eight privies from immigrant-tenant housing in Paterson, New Jersey; two associated with working-class and African-American housing in the Southeast; two working-class commercial establishments (New York, Paterson); a boardinghouse (Harpers Ferry); and a working-class hotel (Fayette). Figure 98 illustrates plant taxa numbers associated with privies of eight lower-middle-class owner-occupants (New York and Paterson); a high-class brothel (New York); two upper-middle-class owner-occupants (Cumberland, Harpers Ferry); one high-class hotel (Harpers Ferry); and one middle-class saloon (Harpers Ferry). The Broadway Block macro-plant remains illustrated in Figure 96 derive from seven privies and a privy/well associated with middle-class residential occupation of the block and dating between 1787 and 1807.

Figure 99 evaluates similarities and differences in diet and plant use through ubiquity analysis by comparing lower- to upper-middle-class owner-occupants with working and immigrant tenants. Figure 99 and Appendix F-9 illustrate the percentage-presence of each identified economic plant taxon found in the thirteen owner-occupant and fifteen tenant/working-class privies in the Five Points area of New York City; Paterson, New Jersey; Fayette, Michigan; Cumberland, Maryland; Harpers Ferry, West Virginia; Augusta, Georgia; and James City, North Carolina. In this figure, the occurrence of each plant type is expressed as a percentage of the total number of proveniences in which a particular taxon is present. Ubiquity analysis ascribes equal weight to the physical presence of a given taxon, regardless of the abundance of that plant type in a particular feature or context. This statistic offers a way to assess the relative importance of various plant species and gives an indication of how common each plant type is in a given site, time period, or other larger context. Data presented in Appendices F-7 and F-8 were utilized to prepare Figure 99.

9.4.4.2 Privy Contexts

Broadway Block, New York City

The Broadway Block macro-plant remains were collected from eight privy contexts (Features 38, 56, 74, 79, 58a, 58b, 58c, 77a) that include two pits dug into privies (Figure 96). These features are associated with residential occupation of Blocks 12, 15, and 16 of the project locality that dated from 1787 to 1807. According to Cheek (1999; this Volume 4.4), domestic occupation of the project locality probably did not begin until the late 1780s or 1790s, and deposition of archeological material probably terminated prior to 1807. Most of these residents were middle-class artisans, merchants, and small businessmen who owned their own homes and often sublet portions of their residences to boarders and apprentices.

The earliest known occupant of the project area was an upholsterer who settled on Lot 12 in 1794. A distiller and grocer, Michael Miller, moved onto Lot 12 in 1804. Lot 15 was first residentially occupied in 1796, when Wiert Valentine, a cartman, purchased the lot and built his home there. Valentine occupied Lot 15 with his family until 1809. The Lot 16 property was developed by a merchant, John Freeland, whose family resided at this address from one to three years with a female slave and at least one boarder. Freeland appears to have either taken in boarders throughout his tenure as owner or moved out of his house within a year and rented the property to tenants. Freeland sold the property to John Bacon in 1803, who built and maintained two rental houses on the property. Bacon probably filled in the lot and raised it to the street level prior to building the houses. African-American renters, including a butcher, tenanted one of Bacon's

buildings while Caucasian artisans occupied the other. Neither of these households is a likely source of the deposits on Lot 16 since the lot was probably filled before they arrived. Lot 17 may have been occupied by African-American families such as the Williams's who were confectioners, as well as by individual male boarders during the first years of the 1800s.

It is likely that residential occupation of the Broadway Block closely resembles that of the first phase of occupancy within Block 160 in the Five Points locality. The Five Points area was first occupied between 1800 and 1820 by artisans who lived on their properties with their families and workers and operated their businesses out of their homes.

Five Points Area, New York City

The results of the analysis of fifteen shaft features found during the 1991–1992 Phase III data-recovery excavation of the nineteenth-century components at Block 160 of the Five Points site in New York City are illustrated in Figures 97 and 98 (Raymer 1998). Three periods of occupancy are evidenced within the nineteenth-century Five Points neighborhood. The project area was initially occupied c. 1800 to 1820 by artisans who built their homes on lots purchased when the neighborhood was first developed. These artisans operated their businesses on their properties and lived on the premises with their families and workers. Population densities within Block 160 were low during the first quarter of the nineteenth century; only 175 individuals resided in the area at the time of the 1810 census. Seven privies, Features AD, AF, B, C, D, E, and N, are associated with the early-nineteenth-century artisans who built their homes and places of business on Block 160.

By the early 1820s, the Five Points neighborhood was undergoing significant changes. Working-class immigrant-tenants, many of whom came to the United States from Poland and Germany, were gradually replacing the relatively wealthy artisans and merchants who initially settled in the area. Feature AG, a stone-lined privy, is associated with a brothel located at 10-12 Orange Street from c. 1830 to 1843. The prostitutes who occupied 10-12 Orange and their "guests" apparently lived a lavish lifestyle, dining on expensive meat cuts, consuming coffee and fine wines, and using elegant china and glassware.

By the 1840s, most of the original owner-occupants of the Five Points neighborhood had moved away, and their residences were either subdivided into apartments or torn down and replaced by multi-story tenements occupied by immigrant tenants and their families. During the 1850s and 1860s, the majority of the immigrant occupants of the project area were of Irish extraction. Seven features were associated with the mid-nineteenth-century immigrant-tenant occupation (Features A, AI, AL, J, Z, AM, and O). A stone-lined cesspool, Feature J, was associated with an integrated septic system servicing a multi-family Irish tenement that was constructed about 1840 and occupied by the Irish until the 1860s. The Feature J cesspool served as the sump for fecal material and household trash for approximately thirty households (totaling almost 100 individuals) that occupied a five-story brick tenement.

Feature A, a school sink (multi-seat privy with running water to wash waste into sump), was constructed in the 1860s. Feature AM, a stone-lined icehouse, served as a storage facility for Conlon's Eating House, a working-class restaurant and saloon that was in operation from c. 1840 to 1857. Feature O, a stone-lined privy, served an immigrant working-class tavern and tenement in the 1860s. The other features were either single privies (Features AI, Al, and O) or a cistern (Feature Z) associated with renter occupations in the project area.

Paterson, New Jersey

Thirteen privies found during the John Milner Associates Phase III data-recovery excavation of nineteenth-century components at Blocks 863 and 866, Paterson, New Jersey, are illustrated in Figures 97 and 98 (Raymer 1999). These features range in age from c. 1830 to 1920. Three periods of occupation were defined during the excavations: early nineteenth century (1830–1850), mid-nineteenth century (1850–1870), and late nineteenth/early twentieth century (1870–1920). Three shaft privies (Features 91, 127A, and 31) dated to the early-nineteenth-century occupation. Five privies (Features 68, 10, 26, 132, and 80) belonging to the mid-nineteenth-century occupation were sampled for flotation. The late-nineteenth-century archeobotanical

remains were derived from five privies (Features 111B, 36, 61, 120, and 83). These five features dated between 1870 and 1886. Nine privies (Features 127A, 10, 26, 132, 80, 36, 61, 120, and 83) were associated with housing utilized by tenants and four (Features 91, 31, 68, and 111B) were located at owner-occupied residences.

Fayette, Michigan

A late-nineteenth-century privy (Figure 97) was identified during 1991 archeological excavations in the historic iron-smelting town of Fayette, Michigan (Landon 1995). This privy was associated with the town's working-class hotel. Fayette was established by the Jackson Iron Company in 1867 for its iron-smelting operations. The company constructed worker housing, stores, and a hotel in addition to the iron-smelting plant. The town was occupied from 1867 until the 1890s, when the company closed the smelting facility. The site is now a state historic park.

Cumberland, Maryland

A late-nineteenth-century privy (Feature 13) was identified during the John Milner Associates excavation of four house lots in Cumberland, Maryland, that were occupied from 1813 to the 1890s by both resident-owners and tenants (Figure 98). Cumberland is a small rural town that grew up in the Maryland interior in the late eighteenth and nineteenth centuries to service surrounding farms. Feature 13 was associated with a family of high-status owner-occupants who lived and worked in the project area in the 1870s. The owners of the lot on which this privy was located were prosperous artisans who also took in boarders during the latter part of the nineteenth century (Cheek et al. 1994).

Harpers Ferry, West Virginia

Four privies were associated with excavations at the Harpers Ferry National Historic Park in West Virginia (Cummings 1993; Cummings and Puseman 1994). Three of these privies (Features 99, 292, and 213) appear to have been associated with middle- to upper-income occupations (Figure 98), while the fourth (Feature 132) was associated with low-income occupants of a boardinghouse (Figure 97). One privy (Feature 99) was associated with the high-status master armorer's house, which was occupied by the same individual from 1884 to 1920. A second privy (Feature 292) was associated with a hotel that had a wealthy clientele. This feature was in use from the 1830s through the 1840s. A third high-status Harpers Ferry privy (Feature 213) was associated with a middle-income residence and attached saloon. The boardinghouse privy (Feature 132), which was in use from 1890 until 1900, was probably used by relatively low-income and low-status tenants.

Augusta, Georgia, and James City, North Carolina

A privy (Feature 382) was identified and excavated during data recovery operations at the Augusta Riverfront Site in Augusta, Georgia (Figure 97). This privy was in use from c. 1860 to 1880 and was apparently associated with working-class housing located along one edge of the excavated area (Raymer 1993a). The seventh privy feature used in this comparative analysis (Feature 1037) was associated with the African-American freedman's community of James City, North Carolina (Figure 97). This privy was in use from approximately 1890 until 1900 (Wheaton et al. 1990).

9.4.4.3 Analysis and Discussion

Middle-Class Owner-Occupant Versus Working-Class Tenant

Examination of the presence/absence and ubiquity of recovered taxa from the thirteen artisan and lower- to upper-middle-class owner-occupied contexts and fifteen working-class or poor immigrant and African-American tenant features illustrated in Figures 97–99 reveals striking similarities and differences in the macro-plant remains from these features.

First, the higher-status privy floral assemblages contain a greater variety of plant taxa than the lower-status privies (Figures 97 and 98). With four exceptions (Features J and AM from Five Points, Fayette, and Augusta), all (73 percent) of the working-class contexts contained eleven or fewer taxa. Forty-seven percent of the privies contained fewer than nine taxa. Also, 73 percent of the tenant privies contained three or fewer classes (out of a possible six; see captions to Figures 97–99) of plant remains. Thirty-three percent contained three or fewer plant classes (Figure 97). In contrast, 85 percent of the upper-class owner contexts contained ten or more taxa (Figure 98). Fifty-four percent of the owner privies had fourteen or more taxa, and 31 percent had twenty or more taxa. Unlike the tenant privies, 85 percent of the owner privies contained five or more classes of plant remains. No owner privies had fewer than three plant classes.

Four of the working-class tenant contexts (Five Points [Features J and AM], Fayette, and Augusta) superficially resemble the owner-occupant features. Two of these working-class features were associated with commercial establishments (Feature AM, a saloon; Fayette, Michigan, a hotel) that included restaurants. Privies associated with restaurants would be likely to contain a greater variety of economic plant taxa since meals were prepared on these premises for a large number of patrons. The Augusta, Georgia, privy contained eleven economic taxa, and Feature J, a tenement cesspool in the Five Points neighborhood, contained thirty economic taxa. The richness and variety of Feature J requires explanation.

At first glance, the macro-plant assemblage found in Feature J, a cesspool associated with a mid-nineteenth-century septic system servicing an Irish tenement located at Five Points, suggests that some poor immigrants had the same access to plant foods as the more affluent artisans who occupied Five Points in the first quarter of the nineteenth century. The macro-plant assemblage found in this Irish immigrant tenement cesspool was surprising since previous studies conducted by the author and others (Wheaton et al. 1990; Cummings 1993; Raymer 1993a, 1995, 1996, 1997a, 1997c, 1998, 1999; Raymer and O'Steen 1993, 1994; Cummings and Puseman 1994; O'Steen and Raymer 1995; O'Steen et al. 1995a, 1995b; Raymer et al. 1997) comparing macro-plant assemblages from middle- to upper-income households to those from poor working-class residences found a much lower diversity of economic plants associated with working-class contexts.

Although the variety of economic plants associated with the Irish immigrant tenement is greater than that of the well-to-do artisans, there is a significant difference between these occupations (Raymer 1998). First, the overall density (numbers of seeds) of plant remains is greater in Five Points artisan contexts associated with single-family occupations. Many more people were living on the Five Points lots during the 1840s to 1860s tenement occupation and utilizing the Feature J sanitary facilities. When one considers that the cesspool serviced over thirty households comprised of more than 100 individuals, as opposed to the artisan residential privies that were used by single families with a few adult tenants and/or workers, the disparity in the density of economic plants found in the features becomes even more significant, especially in light of the similar flotation volumes from these contexts.

Given the disparity in densities, it is apparent that fruits, condiments, and other expensive plant foods were more common in the Five Points artisans' diet than they were in the diet of the mid-nineteenth-century Irish tenants whose household waste flowed into the Feature J cesspool. The recovery of presumably expensive exotics, fruits, and vegetables from working-class contexts in Five Points shows that recent immigrants desired and consumed "high-status" foodstuffs in New York. However, the greater density of fruits and other economic plants associated with artisan contexts at Five Points indicates that affluent property owners in nineteenth-century New York had greater access to and consumed more fruits and other expensive plant foods than poor immigrants. Whereas these plants were probably an everyday table food in early-nineteenth-century artisan households in Five Points, they probably represented an occasionally consumed special treat in mid-nineteenth-century immigrant laborer households. This pattern is also evident in rural centers such as Harpers Ferry, West Virginia (Features 132, 99, 292, and 213 in Figures 97 and 98).

Second, examination of the number (Figures 97 and 98) and ubiquity (Figure 99) of economic plants associated with working-class and owner privies presented in Figures 97 through 99 indicates both disparities and similarities between middle- and upper-class owner-occupant and working-class tenant diet and plant use. Plants that had a definite economic importance were more common in the higher-status

residential and commercial privies (Figure 98). The greater diversity of macro-plant remains in high-status contexts indicates that the relatively wealthy residents living in dwellings associated with these privies had greater access to a more varied diet. Examination of macro-plant ubiquity presented in Figure 99 highlights this point. The ubiquity of virtually every definitely economically important plant taxon (condiments, vegetables, and fruits) is greater in owner-occupant contexts. This is particularly true of condiments and vegetables. While the percentage presence of many of the fruits in owner and tenant privies is more similar, the percentage of owner contexts is greater for all of the recovered fruit taxa. However, high ubiquities of certain fruits in tenement/renter contexts (elderberry, fig, grape, peach, blackberry/raspberry, strawberry) indicate that these plant foods were popular with and accessible to both rich and poor alike.

Similarities in the plant assemblages from both poor and rich people's privies suggest that some of the same foods that were consumed in large quantities by well-to-do European-American owners were also desired by working-class immigrant tenants and African Americans. This examination of the richness and ubiquity of floral assemblages from owner and renter privies indicates that although high-status households had greater access to a wide variety of plant foods, many of the same plant taxa appear in significant quantities in nineteenth-century privies irrespective of geographic region, status, or ethnicity.

Comparison of Broadway Block Plant Use and Preservation with Other Nineteenth-Century Occupations

The Broadway Block privies were associated with relatively high-status middle-class housing that was occupied by artisans and merchants from the early 1790s to about 1810. On the basis of data presented in Figure 96, the macro-plant assemblages recovered from these privies should be diverse and more ubiquitous than macro-plant assemblages found in working-class privies (Figures 97–99). Examination of Table 113 and Figure 96 shows that this is not the case.

Macro-plant assemblages recovered from eight Broadway Block privies are neither diverse nor abundant. The number of economic taxa found in these privies ranged from a low of one to a high of six (Figure 96). Moreover, these privies all contained three or fewer classes of plant remains. In contrast, lower- to upper-middle-class macro-plant assemblages illustrated in Figure 98 exhibited a greater variety of economically useful plant taxa. Indeed, the majority of the working-class privies illustrated in Figure 97 exhibited a greater number of taxa than the Broadway Block privies.

The ubiquity of macro-plant remains found in the Broadway Block privies (Figure 95) is also significantly lower than that of other owner-occupant privies examined in this study (Figure 99). Thirteen plant taxa were identified (blackberry/raspberry, elderberry, fig, grape, strawberry, tomato, goosefoot, knotweed, pigweed, purslane, jimsonweed, flat sedge, and grass). Of these, eight taxa were identified in only one feature each (grape, strawberry, tomato, goosefoot, knotweed, pigweed, flat sedge, and grass). Four of these taxa (grape, strawberry, tomato, and goosefoot) are virtually ubiquitous in both the thirteen owner-occupant and the fifteen renter contexts illustrated in Figure 99. Blackberry/raspberry, elderberry, and fig are slightly better represented in the Broadway Block privies, with respective ubiquities of 88, 57, and 43 percent. However, these ubiquities are still significantly lower than those of other owner contexts (Figure 99).

Blackberry/raspberry and jimsonweed are both found in 100 percent of the Broadway Block privies. The ubiquity of blackberry/raspberry is the same in the Broadway Block and other owner-occupant privies. However, the ubiquity of jimsonweed at the Broadway Block lots is significantly greater than that of either the other owner-occupant (Figure 98) or tenant (Figure 97) privies.

The low numbers, variety, and ubiquity of macro-plant remains found in the Broadway Block privies relative to other owner-occupant and tenant privies supports our suggestion that macro-plant preservation may be below average in the Broadway Block project locality. Another possible explanation is that the relatively well-to-do Broadway residents regularly cleaned out their privies.

Jimsonweed was found in both pre- and post-Revolution non-privy contexts and the post-Revolution privies. However, ninety percent of the jimsonweed seeds were found in non-privy contexts. The

exceptionally high ubiquity of jimsonweed in the Broadway Block non-privy contexts indicates that this taxon was a common yard weed growing on the lots. Its poor representation in privy contexts suggests the middle-class residents of the project area may not have utilized it to any great extent in the early nineteenth century.

9.5 Discussion

9.5.1 Research-Question Review

Key research questions relevant to the macro-plant analysis of the Broadway neighborhood are articulated in the introduction to this chapter. In this section, these research problems are addressed in terms of the historic and ecological settings and archeobotanical analysis.

(1) What was the overall character and composition of the urban forest, and did it remain stable during the study period?

The pre-Revolution charcoal samples show a wide variety of wood taxa including both hardwoods and conifers, but hardwood dominates the assemblage at roughly 86 percent compared to 14 percent conifer. In the post-Revolution period, hardwoods make up just 43 percent of the assemblage, compared to 57 percent conifers, all of which appear to be pine. Resin, a by-product of pine, is six times more common in the post-Revolution assemblage than the pre-Revolution assemblage. Pre-Revolution hardwood-charcoals include cottonwood/poplar and elm/hackberry as well as oak, hickory, and chestnut. Cottonwood/poplar and elm/hackberry drop out of the assemblage in the post-Revolution time period. Hemlock, a conifer that often forms the understory of eastern deciduous forests, is found in the pre-Revolution assemblage, but not the post-Revolutionary assemblage. These data reflect historical observations. Prior to the Revolution, the primary forest type in the mesic to xeric areas of Manhattan would have been a rich oak-hickory-dominated hardwood forest, containing small numbers of a wide variety of species. Only oak, hickory, chestnut, and pine would represent a significant percentage of the total population of such a forest. After the British retreat in 1783, denuded land would be ripe for invasion by pioneering species. Humans were included among these species, moving to areas where they did not need to clear the land to build their estates. Instead, they would "landscape," planting trees, kitchen gardens, ornamentals, and even grassy lawns.

Undeveloped lands, abandoned lands, or lands occupied by people too poor to tend them would revert to forest, at least in the short term. Oak trees would be among the first to recover due to their sheer abundance and also their ability to coppice. However, it was pine that had the advantage. Pine seeds disperse and germinate easily and quickly take root in open spaces, out-competing other tree species. They quickly replace hardwood forests when given the opportunity. This appears to be the nature of the Broadway Block forest in lower Manhattan. Hardwoods and conifers, in particular oaks and pines, reverse in abundance between the pre-Revolution and post-1787 occupations of the African Burial Ground by Europeans. The single possible African feature dates to the later occupation and contains only pine.

(2) Did the overall local ecology remain constant over time?

Local ecology is comprised of both physical and biological properties. Local ecology in regard to this site should be considered at two levels, the immediate area and an extended local area, which encompasses all of Manhattan. Wood-charcoal recovered at this site probably includes wood harvested for firewood in the extended local area as well as harvested or otherwise collected from the immediate vicinity. The charcoal assemblage indicates that by the earliest time period included in this study, any orchards planted by the Dutch were gone and the dominant tree cover was typical eastern deciduous forest. By the post-Revolutionary period, the wood-charcoal shows that hardwoods had diminished, and conifers, specifically pine, had increased. This points to a change from hydric and mesic to more xeric soils. Open spaces are drier than a sheltered forest floor. This increased aridity is due to solar radiation. Some swampland was filled by humans between the pre-Revolution and post-Revolution component time periods. However, swampy areas of the African Burial Ground, and probably near rivers and ponds, persisted throughout the study period in areas proximate to the site. This conclusion is based on the persistent but minor

representation of hydric tree species in the wood-charcoal assemblage. Both seed and charcoal remains indicate that open spaces existed in the forests during the period of this study. These were invaded by both native and exotic species, thus indicating a change in the local ecology. Most, if not all, of this ecological change was induced by human activity. More-detailed evidence of the character of the local ecology follows.

There is no archeological evidence of the wood of orchard trees. This suggests that these trees were either selectively avoided as a source of fuel, or that they were not present in the site area. Since orchard-grown trees are routinely pruned, and those with diminishing yields are often selectively removed, archeological charcoal of orchard species is expected if these orchards or their descendants existed during the study period. While negative evidence could mean that this wood was not considered appropriate for fuel, the fact that pine, a poor-quality fuel, is so ubiquitous suggests that there is another reason for the absence of fruitwood. The African Burial Ground area may have been too swampy to support orchards. Alternatively, Dutch orchards may have been destroyed even before the Revolution. Hardwoods were abundant during the pre-Revolution period, but there was also a significant amount of pine that could represent forest regeneration on orchard sites. Thus, modification of the environment between the Dutch settlements and the pre-Revolution period at this site is likely, but not certain. The seed assemblage shows that the original forest cover had been opened up to pioneering species. These species include herbaceous plants, shrubs, pine, and human beings. Abundant fig and jimsonweed provide tangible evidence of the naturalization of exotic species into the local ecosystem, probably supplanting native species. Humans also created artificial habitats in the form of parks and gardens, and land clearing and landfill. The filling in of swamplands would permanently alter the local ecosystem, creating new habitats and precluding the return of the original forest. Supporting this are the facts that bullrush, the only aquatic plant identified, dates to the pre-Revolution period, while the dry-field habitat seeds of spurge and crabgrass are found only in the post-Revolution component. The identification of numerous pioneering post-Revolution fruit-bearing shrubs and herbaceous plants in the seed assemblage indicates landscape disturbance in the project area that was ideal for pioneering and successional species.

Over the course of settlement and occupation of the Broadway site, local and extended local sources of firewood would have diminished. This is seen from historical records of the purchasing of coal and wood. These same records point to firewood prices becoming prohibitive, and wood being stolen by the poor. These phenomena are related to supply and demand. If local sources had been abundant, firewood would have been affordable. Thus, it is likely that all of Manhattan had either lost its major forest cover or that pioneering species, of low fuel quality, had overtaken the spaces formerly covered by eastern deciduous forests. It is with caution that these claims are made since the potteries may have deliberately selected pine for reasons peculiar to their industry. However, the potteries were present in both the pre- and post-Revolutionary period and yet we see a clear distinction in the assemblage of each time period.

We conclude that human and natural forces interacted throughout the study period to continuously modify the immediate local ecology. In addition, changes in firewood composition suggest that the extended local ecology was also in a period of flux. Either forests were disappearing and not being replaced, or pine was invading areas formerly supporting hardwood forests.

(3) Does the macro-plant assemblage provide evidence of home gardening and/or ornamental plantings on lots?

The relatively poor representation of ornamental shrubs and garden species in non-privy contexts suggests that the residents were not heavily reliant on gardening. It is more likely that these economically important plants were either purchased at market or collected from wild stands near the project area.

(4) What is the evidence for urban foraging?

There is evidence of urban foraging in both the wood-charcoal and seed assemblages. The high ubiquity and abundance of pine in the post-Revolution occupation and the low diversity of wood-charcoal in that time period compared to the climax forest represented in the pre-Revolution occupation points to the local collection of firewood. Over time, wood was probably harvested from the extended local area and sold on the open market. While oak and other hardwoods may have been purchased, the ubiquity of less-desirable

woods that grow locally also supports the proposition that firewood was collected locally. In particular, the use of low-quality tree species for wood indicates that citizens used what was available at no cost.

The macro-plant analysis concluded that most of the uncharred seeds date to the time of the site's occupation and use. Seven definite economically important food plants, one condiment, nine possibly utilized edible herbaceous plants, and two medicinal herbs were identified. In addition, all of the edible plants could have provided the residents with locally procured herbal remedies since all of these taxa were utilized in eighteenth- and nineteenth-century America as medicines. The recovery of large numbers of fruits is suggestive of a significant reliance on seasonal fruits. The identification of eleven edible and/or medicinal herbs in both post-Revolution privies and both pre- and post-Revolution non-privies offers evidence of a significant reliance upon naturally occurring gathered resources. The overwhelming abundance of jimsonweed indicates this poisonous plant was used for medicine and perhaps was propagated by the inhabitants. Finally, the identification of numerous pioneering fruit-bearing shrubs and herbaceous plants indicates a level of disturbance in the project area that was ideal for such pioneering and successional species. This in turn indicates the availability of a suite of economically useful taxa.

In summary, there was ample opportunity to harvest wild species throughout the eighteenth century in lower Manhattan. Macro-plant remains from this site suggest that people practiced local foraging. Historical records support this interpretation.

(5) Does the macro-plant assemblage offer evidence of ethnic and/or class differences in diet and plant use?

Due to the homogeneity of the inhabitants of the Broadway Block, it was not possible to examine intra-site differences in ethnic and class diet and plant use.

(6) How does the macro-plant assemblage from the Broadway Block compare to other macro-plant assemblages from other nineteenth-century urban sites?

Macro-plant remains found in the Broadway Block features are neither abundant nor ubiquitous in relation to other nineteenth-century urban sites. The diversity of macro-plant remains found in eight Broadway privies is also low. These characteristics are indicative of poor preservation of archeobotanical remains in the project locality and/or the frequent cleaning of the privies (a practice not evident in the adjoining Five Points Block) to remove fecal waste and other trash deposits.

9.5.2 Conclusions

The Broadway Block wood analysis suggests that the urban forest of Lower Manhattan in New York City underwent a major transformation during and after the Revolution. The local woodland changed from a diverse forest, reflecting its position between two major areas of ecotone, to a species-poor successional forest dominated by pine.

Unlike most people who moved to the hinterlands, this site's occupants were working-class people who economized on firewood. The City Hall Commons, which was developed into a park in the nineteenth century, was still largely undeveloped in the latter part of the eighteenth century. Parcels were rented for the construction of kilns and an almshouse was constructed, but there was no landscaping. This study demonstrates that local residents probably collected branchwood or even harvested trees from these common grounds.

The amount of wood and number of analytical units considered in this study was relatively small. Although it would be useful to follow this investigation with the analysis of additional samples from similar proveniences and time periods, the loss of all samples to the 9/11 event makes it impossible.

Foraging is not normally associated with city life in the eighteenth century, but evidence of this practice is revealed by this research. These data indicate that citizens of all socioeconomic classes exploited local plants for fuel, food, and medicine. As in rural foraging, human subsistence practices affected the character of the local ecology. As population density increased and cultural backgrounds and customs changed over time, wild plant resources diminished, and so did foraging. By the second quarter of the nineteenth century, the city's inhabitants became increasingly dependent on the marketplace for their subsistence.

10.0 ANALYSIS AND INTERPRETATION OF THE 290 BROADWAY FAUNAL ASSEMBLAGE

by Marie-Lorraine Pipes

The African Burial Ground site yielded a large and complex faunal assemblage, totaling 42,316 bone fragments. This impressive collection was recovered from deposits across the site and ranged in date from the earliest use of the site in historic times as a burial ground until the twentieth century. The most significant deposits were those dating to the eighteenth and early nineteenth centuries. Therefore, the faunal analysis focused on the bone recovered from the Phase 1, pre-1788, and Phase 2, 1788–1810, periods. The first part of this chapter provides a general introduction to zooarcheology and discusses the potential insights that might be gained from the analysis of the faunal deposits recovered from the Phase 1 and 2 periods. The second part proceeds with a description of each faunal deposit by phase, area, and analytical unit. The third and final part provides summaries and conclusions of the data.

10.1 Introduction

The study of animal or faunal remains recovered from archeological sites is known as zooarcheology. Zooarcheologists analyze and interpret animal remains. They consider the faunal data in addressing a wide range of issues that have to do with animals, the environment in which they lived, and their varied relationships with humans. People have relied on animals for many kinds of resources, including meat, milk, eggs, fur, feathers, leather, wool, and labor to name but a few. The location, time period, environment, associated culture, and economy are important factors that will determine the composition of faunal deposits in terms of the range of species represented and the kinds of resources being consumed and exploited. When these factors are known, it is possible to set up a list of expectations. It also becomes possible to understand how people managed and consumed the animals upon which they relied.

The analysis of faunal remains is accomplished by encoding a variety of data that allow for different types of issues to be considered and examined. Analysis begins with the identification of each bone by species and skeletal element. Each bone is then examined for evidence of modifications. Bone modifications can be the result of human activities as well as natural agents. Typical bone modifications caused by humans include butchering marks and burning, while those caused by natural agents include weathering from heat, cold, and water, and animal gnawing.

Bone quantification is an issue often discussed by zooarcheologists. The most typical quantification measures used are the Number of Identified Specimens (NISP) and the Minimum Number of Individuals (MNI). The NISP is a basic unit of quantification based on identified skeletal elements attributed to a class or species. The MNI is derived from NISP and represents an adjusted count. NISP forms the building block upon which all other quantifications are based (Grayson 1984). However, NISP by itself is inadequate to be applied to complex deposits because it doesn't convey any understanding of the type of bone refuse being quantified. MNI, on the other hand, is too specific to be used as the sole unit of measure.

For this project, the two basic quantification units of measure were the Total Number of Bone Fragments (TNF), whether or not identifiable by class or species, and the Minimum Number of Bone Units (MNU). The first unit of measure, TNF, serves as both a curation tool and a fragmentation indicator. Calculating the ratio of TNF/MNU addresses whether or not the bone was redeposited, disturbed, or affected by post-depositional factors. The second unit of measure, MNU, was developed by the author for her Master's Thesis (Pipes 1995). This method was based on an idea presented in the *Oxon Hill Manor Archeological Site Mitigation Project* report (O'Steen and Eigen 1986:2:556). The researchers showed that by adding a descriptive to NISP it became possible to distinguish the kinds of bone refuse being quantified. People may eat an entire fish, chicken, or rabbit at a meal, but they do not eat a full-grown pig, sheep, or cow. These animals are consumed in small units of meat. The MNU is based on NISP but adds an adjective to each line of data entry that distinguishes the kind of bone refuse being quantified. These descriptors include Minimum Number of Individuals, Minimum Number of Elements, Minimum Number of Butcher Cuts,

Minimum Number of Articulated Elements, Minimum Number of Articulated Butcher Cuts, and Minimum Number of Teeth. Technically speaking, each of these measures is a sub-quantification of NISP.

The bone from each provenience was sorted by class, species, or size-range category, by skeletal element, and by bone modification. All of the bone fragments were counted. However, when mends between fragments and/or proveniences occurred, the fragment count was adjusted to reflect the actual number of discrete skeletal elements. For example, 23 fragments of a sheep mandible mending together would be given a TNF count of 23 and an MNU count if 1. The Minimum Number of Units also requires an explanation since not all units are the same. Minimum Number of Units is broken into Individuals, Elements, Cuts, and Articulated Cuts. For example, the sheep mandible cited above would be a skeletal element (MNE). However, if there were a sheep astragalus, calcaneus, and distal tibia that articulated, these would also receive an MNU value of 1. In this case, the descriptor would be an Articulation (MNAC [Minimum Number of Articulated Butcher Cuts]). The tables that follow simply provide MNU counts. They do not break down the MNU so that each type is reflected. This information is discussed in the text and is contained in the database.

Size descriptions used when discussing unidentified mammal bone included small, medium, and large. Small mammal describes animals the size of small dog species down to mice. Medium mammal was used for animals the size of sheep, pig, and deer. Large mammal was used to describe animals the size of cattle and horses.

The descriptions that follow classify deposits as being composed of household refuse, dietary refuse, processed food waste, butchering waste, trimming waste, craft-related/commercial waste, and intrusive materials. These terms are applied based on the species, the range of skeletal elements, and the types of modifications found within a given deposit.

Household refuse includes dietary and processed food waste. Dietary refuse is indicated when the species present are known to have been used as food resources such as cattle, duck, and cod, and the skeletal elements are those associated with meat-bearing elements such as longbones and ribs. Often, skeletal elements discarded during meal preparation or after consumption will exhibit butcher marks and/or knife marks, but not always. The lack of butcher marks on meat-bearing skeletal elements does not mean that these are not diet related.

Processed food waste is used to describe bone materials left over after cleaning animals such as fish, birds, and small mammals that may have been obtained whole, as well as large-mammal skeletal elements associated with organs such as the head and tongue. The preparation of dishes that required a minimal amount of processing was typical prior to modern times.

Butchering waste consists of skeletal elements discarded during the reduction of a carcass into large units of meat after an animal has been slaughtered. A high frequency of foot elements from large domesticated mammal species is generally a good indicator of butchering waste. There are exceptions to this rule. A few examples include calfs' feet that were often processed for gelatin and sheep's feet sometimes left attached to a leg of lamb. Skulls can also be indicators of butchering waste. However, they often bear butcher marks resulting from the removal of the brain, tongue, and facial muscles that identify them as processing waste. In the discussion that follows, cattle and sheep foot elements are classified as butchering waste. Two subcategories are included under butchering waste: trimming waste and craft-related/commercial waste.

Trimming waste is applied to deposits where there is no clear indication of on-site slaughtering or butchering, but a few elements present are normally associated with those activities. For example, sheep's foot elements have no nutritional or exploitative value for home consumption. Occasionally, sheep foot elements are recovered in deposits limited in content to dietary refuse. In such cases, it is likely that a purchased leg of lamb or mutton had the foot attached, which was trimmed prior to cooking. Large concentrations of foot elements can be indicators of craft-related/commercial refuse from tanneries. Cattle hides were left with the feet attached and transported to tanners in this fashion. The discarded material appears as a dense deposit of foot bones including metapodials, phalanges, and cuboids.

Intrusive materials include all commensal species, such as horse, cat, dog, mouse, and rat.

Other terms to consider are those lumped under bone modifications, including butcher marks, gnaw marks, evidence of burning, and weathering. The term bone modification is used to indicate that something was done to alter the original appearance of a skeletal element, either by intent or by accident. Butchering marks are the visible alteration of bones during the reduction of a carcass or large meat cut, using tools such as cleavers, axes, and knives. Cleavers leave smooth edges, whereas axes or choppers tend to leave more ragged marks. Knives tend to leave striations and nicks on the surface or edges of bones. Slicing a roast will often leave parallel cut marks in the surface of a bone. The most common kinds of butchering marks visible on meat cuts were chop, hack, and cleaver marks. Towards the end of the eighteenth century, saw marks increased in frequency.

Butchering marks occur when an animal is slaughtered and the carcass reduced into consumable units of meat. The carcasses of large animal species such as cattle, pig, and sheep are cut into large units of meat. From these large units of meat, known as secondary butcher cuts, consumable units of meat are produced. Consumable units of meat are known as primary meat cuts and include familiar cuts such as steaks, chops, roasts, hams, and stew meats. They also include less-familiar cuts such as tongue, brains, other organ meats, and feet. During the eighteenth century, New York City butchers slaughtered livestock at slaughterhouses located near the Collect Pond. The hides were stripped from the carcasses. Cattle hides usually retained the heads and feet. Butchers would bring secondary meat cuts to their market stalls from which customers would make their selections (Gillispie 1959). In the eighteenth century, smaller animals such as rabbits, fowl, and fish were obtained from vendors. The vendors dressed them and may have also removed certain parts such as heads and feet. But these types of animals might also have been sold whole or obtained by other means, so bone modifications observed on their skeletal elements may have occurred either at the market or at home.

Gnaw marks are often observed on bones. They may have been made by many different species such as humans, rodents, dogs, etc. Usually they result after bone has been discarded but before it is buried. The presence of high frequencies of rodent gnaw marks, such as those made by scavengers, is a good indication of a rodent infestation existing at the time of deposition, which can be used to infer the state of filth or cleanliness of a site.

Burning is another type of bone modification caused by humans. Burning refuse was a common disposal method in the city. During the eighteenth century, garbage removal was a problem for everyone. Cartmen were often hired to carry trash away, but not on a daily basis. Most people dumped trash and refuse in backyard areas. Burning trash was a solution to the accumulation of trash. Concentrations of burned bone, especially calcined, suggest that burning refuse was one of the ways people disposed of garbage at a site.

Natural agents can also cause bone modifications. Dogs, cats, and rodents commonly scavenge refuse. The teeth marks they leave on bones are identifiable. The presence or absence of gnaw marks can be used to infer whether refuse was buried quickly or left exposed. Trash left lying exposed is easily scavenged. Burying it makes it more difficult to get to. Exposure to the elements is another common factor affecting the appearance of bone. Bone that appears cracked, porous, leached, or mineralized has been exposed to a variety of conditions. Bone left on the ground surface disappears within a short period of time due to exposure to heat, water, and cold. Bone buried in a garden within the topsoil will be affected by plant roots, which leave marks on the bone and cause it to deteriorate as well. Deeply buried bone has the best chance of survival.

Weathering is a term that includes exposure to the elements as well as exposure to other materials. Evidence of exposure is another indicator of the cleanliness of a site. When bone is left exposed to the elements, it tends to get leached by the sun and rain. Bone that is deposited on the surface or buried in a shallow pit is subject to root action that leaves marks on the surface. Exposure to other elements is typically seen as stain marks. Stains are often seen on bone that came into contact with materials such as corrosive metals and organic waste commonly found in privies and other convenient dumping areas.

One last important feature encoded during a faunal analysis is the determination of the age at death of an animal or of a specific skeletal element based on the rates of epiphyseal fusion of longbones and tooth eruptions. All animals can be aged when the right bones are present. However, when dealing with historic sites, the most important animals for which to determine age at death are those upon which the occupants relied the most. Those species are the large domestic mammals: cattle, pig, and sheep. The ages at which each of these species was slaughtered differs according to what each species offered in terms of resources and the age at which those benefits were no longer met or the age at which they were met.

For example, during the eighteenth century, cattle were raised for labor, milk, and meat. Dairy herds were composed of females and one or two males. Dairy breeds were usually shorthorn cattle or polled cattle. Dairy cattle were culled by sex. Most of the males were slaughtered early. Cows and breeding bulls were kept until they could no longer be bred which could be upwards of ten years. Cattle used for labor tended to be male and female longhorn cattle. The herds were not culled by sex, only by age, which was usually before the age of ten years.

Pigs were raised for meat. They were usually slaughtered around the age of a year, that is, before maturity but after they reached maximum growth. It is unusual to find a pig older than two years at death and even rarer to find one more than three years at death. During colonial times, roasted piglet was a popular dish. Finding neonatal pig bones is common on sites dating to the eighteenth century.

Sheep were raised for wool, milk, and meat. In New York City, sheep were raised primarily for meat, and sheep's bones tend to represent young animals. Outside of the city, sheep were raised for wool and milk and were older when slaughtered. Both lamb and mutton were commonly eaten in New York City.

The aging of birds is also informative. The birds sold at market were usually fully mature. High frequencies of immature birds are usually an indication that birds were kept by the residents of a given lot.

Once the faunal material has been analyzed and a database created, it becomes possible to generate profiles of deposits and from these to determine patterns and differences between them. The data will show what animals were exploited, how they were exploited, their relative importance within the deposits, the ages at which they were killed, post-depositional events, and many other characteristics. The issues upon which a study is focused depend in large part on what is known about a site—its location, setting, dates of occupation, and the kinds of deposits present. These factors provide the context within which to formulate the questions relevant to a particular site. The African Burial Ground site was a rural area during the Phase 1 period and was located beyond the limits of the city wall; during the Phase 2 period, the site had been incorporated into the city, forming the northernmost expansion of the city limits. The setting changed dramatically from one period to the next.

The Phase 1 issues focus on how large concentrations of animal bones came to be deposited at the site while the area served as a burial ground and who created the bone dumps found there. To understand the processes that led to the formation of the bone deposits, several things need to be considered, including the site's context, the distribution of deposits, the kinds of deposits from which bone was recovered, and the kinds of bone refuse contained within the deposits. During the Phase 1 period, prior to the development of the site as an urban block, the project area was located outside the city limits. This location served as a burial ground for African Americans for most of the eighteenth century. Besides being used as a burial ground at this time, however, the site was clearly used by other people for other things. The archeologists found large faunal deposits, primarily concentrated in Lot 12 and in the NE Area, along with smaller deposits located in the MID and SE Areas.

During the eighteenth century, the African Burial Ground was located next to the Collect Pond, outside the palisade wall that marked the northernmost boundary of the city. Though it was a rural area at this time, the Collect Pond was the location of several types of craft-related/commercial industries that were considered to be offensive to city residents (Neville 1994). Of particular interest to this study were the tanneries and slaughterhouses. During the eighteenth century, slaughterhouses and tanneries were frequently within a short distance of each other. Hides were typically delivered from the slaughterhouse to the tannery with heads and feet attached (Serjeantson 1989; MacGregor 1989). Hauling hides or butchered

animals a great distance was unappealing to tanners and butchers (DeVoe 1862), so these industries were located close to either the slaughterhouses or a main road. It is highly likely that these industries were responsible for a large part of the material dumped at the site during the eighteenth century.

Other contributors to the site probably included cartmen, private individuals, and visitors to the African Burial Ground. During the eighteenth century, refuse removal was accomplished by dumping waste in rivers and streams, in convenient holes such as privies and wells, and by carting material out of the city proper and dumping it in areas that no one would complain about. Cartmen were hired to clean out privies and to cart trash away. They would have gone out of the city to dump the refuse. Private individuals may have also used the site as a dump. Historically, it is well documented that the Collect Pond was being used by people to wash clothing and other materials and as a place to dispose of waste. Historic documents record the deteriorating state of the Collect Pond over the course of the eighteenth century (Neville 1994). Finally, visitors to the African Burial Ground itself may have also brought food with them, either to eat or as offerings, and discarded their trash in the vicinity.

To suggest associations with potential contributors, it is necessary to distinguish bone deposits by types. This is especially true at this site because it has large deposits that predate the residential occupation. The two basic distinctions will be between craft-related/commercial and household refuse. Craft-related/commercial bone consists of slaughtering/butchering waste. This type of refuse is identified by concentrations of heads and feet. Household refuse consists of dietary and processing waste. Dietary refuse is identified by concentrations of the skeletal elements of animal species associated with meat-bearing parts. Processing waste is identified by skeletal elements typically trimmed before eating, such as the skulls and fins of fish, feet and skulls of birds, and the mandibles of large domestic mammals.

For the Phase 2 period, the two main issues to be addressed using the faunal deposits are identifying what foods people were eating and what evidence there may be to determine how people acquired their foods. During Phase 2, 1788–1810, the block was subdivided and houses were built on the lots. Several households resided on the site and deposited refuse in backyard features and areas. When the lots were raised to the new street level early in the nineteenth century, features and deposits were sealed over. Bone was recovered in Lot 12 and in the MID Area. Potential associations with households include the following: Lot 12, Cottle, an upholsterer, Simmons, and Miller, a grocer and distiller; Lot 14, unknown; Lot 15, Valentine and Meyer, cartmen, and Ramsey; Lot 16, Freeland, a merchant, Day, Brower, and Haviland; and Lot 17, Williams, Sanay, and Primus. It may be that some of the associations are incorrect and that other occupants of these lots generated the deposits. For several of the residents associated with the deposits, it is unknown what their trades were.

What were the typical animal foods people consumed during the late eighteenth and early nineteenth centuries in New York? Based on previous excavations in the city, it is known that city residents had a varied diet that included mammal, bird, fish, reptile, and crustacean species (DeVoe 1862; Greenfield 1989; Rothschild 1990; Rothschild and Balkwill 1993; Pipes 1994). During the eighteenth century, primary reliance was placed on domesticated species such as cattle, pig, sheep, and chicken. Wild mammal species such as deer have been found, but always in low frequencies. Bird species have been recovered from many sites and typically include chicken, turkey, duck, goose, and pigeon. Chicken is usually the most abundant. Fish species have been found in great abundance at sites. A wide range of fish species is typical. Turtles and crustacean species have been recovered in low frequencies comprised of a limited range of species.

How did people get the foods they ate in New York during the late eighteenth and early nineteenth centuries? During this time, the residents would have had a number of options for obtaining animal foods. Regulated markets had been an integral part of the city's commercial landscape since its early days as a Dutch colony. At the time period under discussion, the city had several markets, most of which were located along the East River, one of which was located on Broadway (DeVoe 1862; Rothschild 1990). Butchers had stalls in the markets where they cut up meat to the satisfaction of their customers. People could purchase meat, poultry, fish, and a variety of other animals at the market. In addition, people could also raise domesticated species in their backyards, including a variety of poultry, rabbits, and pigs. Furthermore, foods were available from street vendors and from leisure pastimes such as hunting and fishing.

Given the time period and location of the site, it was expected that the features and backyard areas would contain a preponderance of household refuse materials and possibly evidence of on-site butchering. On the basis of data from other sites, it was also expected that a great reliance on domesticated species would be observed as well as a wide range of other species in low frequencies.

The data on which the analysis was based is in Appendix G. Besides a printout of the database, there is a discussion of methodology and terms used. None of the faunal material potentially associated with burials is discussed here.

10.2 Analysis of the Deposits

Table 114 summarizes the bone counts for each of the six phases and the unassociated bone recovered at the site. The remainder of the discussion is limited to the faunal deposits recovered from the first two phases. Table 114 indicates that the largest concentrations of bone were recovered from Phase 1 and 2. The data descriptions that follow proceed systematically in describing each analytical unit (AU) by phase and area. Each deposit is described by species and skeletal element, age-at-death indicators, and bone modifications. All of the information is based on the Minimum Number of Units (MNU) counts. When a deposit contained five or fewer MNU, no attempt was made to classify the bone in terms of refuse type.

Table 114. Summary of all Faunal Remains by Phase, Area, Total Number of Bone Fragments (TNF), and Minimum Number of Bone Units (MNU)

Phase	Area		TNF	MNU
1.Pre–1788	LOT 12		3,405	548
	MID		340	88
	NE		4,701	959
	SE		2,196	71
		Subtotal	10,642	1,666
2.1788–1810	LOT 12		11,440	2,232
	MID		6,831	1,260
		Subtotal	18,271	3,492
3. 19th C.	LOT 12		4,516	975
	NE		289	51
	SE		1	1
		Subtotal	4,806	1,027
4. 19th C.	LOT 12		1,081	202
	NE		26	9
	RA*		2	2
		Subtotal	1,109	213
5. 20th C.	LOT 12		78	35
	MID		1,354	288
	NE		23	1
	SE		4	-
		Subtotal	1,459	324
6. 20th C.	LOT 12		478	123
	MID		1,167	415
	NE		147	33
	SE		222	51
	Unassociated		28	14
		Subtotal	2,042	636
Unassigned	LOT 12		261	71
	MID		221	20
	RA*		407	81
	Unassociated		3,098	887
		Subtotal	3,987	1,059
		Total MNU	42,316	8,417

*RA = Republican Alley

10.2.1 Phase 1

Bone deposits from Phase 1 were recovered in the following areas: Lot 12, MID, NE, and SE. They were concentrated mainly in the western (Lot 12) and eastern (NE) portions of the block, though small bone deposits were found in the middle of the block as well (Table 115). In the discussion that follows, the AUs are discussed by area and in numerical order. No descriptions were provided for bone deposits recovered from AU509 (disturbed contexts), AU511 (spot finds), or burial-related features.

Table 115. Summary of Phase 1 Faunal by Area, Total Number of Bone Fragments (TNF), and Minimum Number of Bone Units (MNU)[1]

		Lot 12		MID		NE		SE	
Class Species		TNF	MNU	TNF	MNU	TNF	MNU	TNF	MNU
Mammal									
Cat		-	-	-	-	3	2	-	-
Cattle		440	174	41	19	1,169	556	417	59
Dog		10	5	-	-	2	2	-	-
Horse		3	1	1	1	4	1	-	-
Mouse		2	2	-	-	-	-	-	-
Pig		46	33	6	6	51	31	5	3
Rabbit		1	1	-	-	-	-	-	-
Rat		1	1	-	-	9	2	-	-
Sheep		153	107	33	33	147	91	26	4
Small mammal		11	6	6	-	5	5	-	-
Medium mammal		1,642	60	106	20	1,458	84	9	-
Large mammal		758	17	129	1	1,514	23	1,722	-
	Subtotal	3,067	407	322	80	4,362	797	2,179	66
Bird									
Chicken		14	13	-	-	15	15	-	-
Duck		6	5	1	1	-	-	-	-
Goose		2	1	-	-	24	16	-	-
Pigeon		1	1	-	-	1	1	-	-
Turkey		-	-	-	-	3	2	-	-
Unidentified bird		90	13	1	1	95	14	-	-
	Subtotal	113	33	2	2	138	48	-	-
Fish									
Cod		2	2	-	-	-	-	-	-
Porgy		1	1	-	-	-	-	-	-
Sheepshead		3	3	-	-	-	-	-	-
Sturgeon		1	1	-	-	-	-	-	-
Tautog		1	1	-	-	34	9	-	-
Unidentified fish		104	74	3	-	147	98	-	-
	Subtotal	112	82	3	-	181	107	-	-
Reptile									
Map turtle		1	1	-	-	-	-	-	-
Snapping turtle		-	-	1	1	-	-	-	-
Unidentified snake		1	1	1	1	-	-	-	-
Unidentified turtle		11	4	-	-	-	-	-	-
	Subtotal	13	6	2	2	-	-	-	-
Crustacean									
Crab		-	-	-	-	1	1	-	-
	Subtotal	-	-	-	-	1	1	-	-
Unidentified bone		19	-	7	-	7	-	-	-
	Subtotal	19	-	7	-	7	-	-	-
Total Bone		3,324	528	336	84	4,689	953	2,179	66

[1] Excluding the totals from AUs 511, B37, B/59, B58, B137 and B410

10.2.1.1 Lot 12

Lot 12 was one of the two areas from Phase 1 that yielded large concentrations of bone (528 MNU). As indicated in Table 115, most of the bone was mammal, though there were also small amounts of bird, fish, and reptile. The deposits were composed of highly fragmented bone. Bone was recovered from eight deposits consisting of five basic types of features, including trenches (AUs 15, 16, 24, 51), two pits (AUs 19 and 22), a concentration of artifacts (AU37), and the A/B transition zone (AU521).

AU15

AU15, a trench, contained 13 MNU (Table 116). The deposit was composed of mammal, bird, and fish. Mammal species included cattle, pig, and sheep. Cattle were the most frequent species. Skeletal elements included fragments of a horn-core base, a molar, a metapodial, and a butchered rib. Pig was the least common of the three large mammal species. One meat cut was present, a picnic ham. Sheep was the second most frequent species identified. It consisted of a fragmented molar and cervical vertebra as well as a butchered innominate from a lamb. Unidentified large-mammal fragments included a section of a vertebra and a rib fragment. Bird species were limited to chicken, represented by a wing element. An unidentified bird wing element was present, which may also have been chicken. Finally, two fragments of a fish skull were found. Bone modifications included chop and cleaver marks. In addition, a few unidentified mammal fragments were calcined and charred. This deposit was small and consisted primarily of dietary refuse. The cow skull and foot bone indicated the presence of a small amount of butchering waste as well.

AU16

AU16, a trench, yielded a small faunal deposit (13 MNU), most of which was mammal with the exception of a goose wing element (Table 116). As was the case in AU15, large mammals predominated with cattle being the most common and pig the least. Cattle remains consisted of a calf mandible as well as beef meat cuts from the loin, shoulder, and chuck. The mandible did not exhibit butcher marks, but because almost everything else in this deposit was dietary refuse, it is likely that this element resulted from the removal of the tongue. Except for a veal shank, most of the cuts were beef and were composed of stew cuts, though one roast was also represented. These meat cuts were sawed, chopped, and cleaved. One bone bore slice marks. Pig was represented by one butchered loin chop. Sheep consisted of a fragmented thoracic vertebra and lower forearm as well as a toe bone. In addition, there were two medium mammal ribs. Besides butcher marks, three bones were calcined and charred. This deposit was composed of dietary refuse and small amounts of processed food waste and butchering refuse.

AU19

AU19, a pit, contained a small faunal deposit (12 MNU) (Table 116). Most of this bone was mammal, though a few bird and reptile bones were present. Mammal consisted of mouse, cattle, and sheep. Mouse was indicated by a single incisor. Cattle were represented by a molar, a chopped lumbar vertebra, and a rib section. The molar was aged at ½ year plus. Sheep consisted of two stew cuts, one from the neck and the other from the hind shank. Other unidentified medium and large mammal included rib and longbone fragments. Bird included chicken and duck, both of which were represented by wing and leg elements. Other unidentified bird consisted of longbone fragments. Finally, there was a fragmented carapace from an unidentified turtle. Most meat cuts were chopped. Two fragments of bone were charred and calcined. This deposit consisted mainly of dietary refuse and a small amount of processed food waste represented by the cattle tooth and turtle carapace.

AU22

AU22, a stained area in the ground, yielded a single medium mammal rib fragment (1 MNU) (Table 116).

AU24

AU24, a trench, contained a larger faunal deposit than those already discussed (29 MNU) (Table 116). This bone was derived predominantly from mammal and small amounts of bird and fish. Mammal species included dog, cattle, pig, and sheep. Dog consisted of a disarticulated partial dog skeleton. Skeletal elements included a rib, an ulna, and femur. Cattle were represented by processed food waste and dietary refuse. Processing waste included a butchered calf mandible and tooth. Dietary refuse consisted of two cuts from the fore and hind shanks. One bone was cleaved. Pig included a tooth and metapodial elements from the fore and hind feet. The tooth was aged at ½ year plus. One bone was chopped; another showed slice marks. Sheep was the most abundant species. It was composed of processed food waste, dietary refuse, and butchering waste. Processed food waste consisted of three butchered mandibles and a number of loose teeth. The mandibles were not aged, although based on loose teeth there was at least one individual aged around two years at death. Dietary refuse included butchered cuts from the neck, shank, and shoulder. One phalange indicated butchering waste. Other unidentified medium- and large-mammal bone included fragments of skull, vertebra, rib, and longbone. Bird species were limited to chicken, represented by a leg bone. Sheepshead was the only fish species, which was identified by a skull bone. In addition, there was one unidentified fish vertebra. Unlike previously discussed AUs, this one showed rodent gnaw marks on a fair number of chicken, pig, sheep, and medium-mammal elements. One element was charred; two others were calcined. All of the dog elements were stained, as were a few pieces of cattle and pig. This deposit was composed mainly of dietary refuse and processing waste along with a small amount of butchering waste.

AU37

AU37, a feature described as a concentration of artifacts, contained a highly fragmented faunal deposit (36 MNU) (Table 116). This was composed mostly of mammal and fish, though there was a small amount of bird. Mammal species included cattle and sheep, both of which were composed of processed food waste and dietary refuse. Cattle processing waste consisted of a mandible aged at 2¾ years plus and dietary refuse of four meat cuts from the chuck, short rib, and hind shank. The cuts were sawed and chopped. Processed food waste from sheep consisted of a butchered mandible and dietary refuse of two stew cuts from the foreshank. One of the shanks came from an adult. Other unidentified medium- and large-mammal skeletal material included fragments of rib, costal rib, vertebra, and longbone. In addition, there was part of a crushed large mammal skull, probably a cow. Butcher marks included chop and saw marks. Bird was represented by a small amount of eggshell and a partial rib. Fish was unidentified to the species level and was composed mainly of skull elements and a scale. No gnaw marks were present, and only two fragments were calcined. The deposit was composed of processed food waste and dietary refuse.

AU51

AU51, a trench, yielded a large but highly fragmented bone deposit (299 MNU) (Table 116). The deposit was composed of mammal, bird, fish, and reptile species. Mammal species included rat, horse, cattle, pig, and sheep. Rat and horse were present in low frequencies. Rat consisted of an incisor. Horse was indicated by a partial skull aged at 3½ years plus. Cattle were the most abundant of all species. They were represented by processing waste, dietary refuse, and butchering waste. Processing waste consisted of head elements, including skull, horn core, teeth, and mandible. There was a minimum of four skulls represented, two exhibiting chop marks and a third with cut marks on the surface of the bone. One of these skulls was bisected. Two skulls were aged; one was a neonate while another was 2¼ years plus at death. There was a horn core too fragmentary to classify by type or age. There were five mandibles, four of which were too fragmented to age while the fifth mandible was aged at ½ year. This specimen exhibited cut marks on the bone surface. Dietary refuse consisted of a variety of cuts that included stew meats, roasts, and steaks. Beef cuts included the neck, chuck, short rib, arm, foreshank, loin, sirloin, rump, round, and hindshank. Veal cuts included the foreshank and leg. Cuts were chopped and cleaved. Butchering waste was represented by a minimum of five feet. Most of these came from immature individuals. One foot came from a neonate, two from a juvenile, and one from a mature individual. Six bones exhibited canine gnaw marks.

Pig was the least abundant large domesticated mammal species. It was represented by processing waste and dietary refuse. Processing waste consisted of a skull fragment, loose teeth, and three mandibles, one of which was clearly butchered. One mandible was aged at ½ year, another at 1½ years plus. Dietary refuse included hams and stew meats from the Boston butt, picnic ham, trotter, butt ham, shank ham, and hock. Cuts were cleaved and chopped. Six bones had canine gnaw marks.

Sheep was the second most frequent species. It was composed of processing waste and dietary refuse. Processing waste consisted of head elements and included a skull fragment, two hyoids, a mandible, and loose teeth. The mandible was aged at ½ year. It is possible that some of these elements may have belonged to the same individual. One of the hyoids, however, was charred. Dietary refuse included a variety of meat cuts. There were roasts, stew cuts, and chops from the neck, chuck, foreshank, loin, rack, butt-end leg, and shank-end leg. The meat cuts appear to have come from immature individuals. They were chopped and cleaved. Six bones were either charred or calcined. Three bones exhibited canine gnaw marks, and another had rodent gnaw marks. Other unidentified medium- and large-mammal bone consisted of skull, rib, vertebra, and longbone fragments. A small number had canine or rodent gnaw marks. A fair number of the vertebra and rib fragments were calcined. Small-mammal bone consisted of skull, rib, and longbone fragments.

Bird species included chicken, duck, and pigeon. Chicken consisted of breast, wing, leg, and foot elements. Duck and pigeon were each represented by breastbones. Unidentified bird was abundant. It was composed mostly of longbone fragments as well as sternum fragments. A few pieces were calcined. Fish species included bluefish, sheepshead, and tautog, all of which were identified by skull elements. Unidentified fish bone was composed of skull elements, vertebrae, scales, and spines. Reptile included an unidentified snake vertebra, unidentified turtle carapace fragments, and a coracoid from a map turtle.

This large deposit contained a wide variety of classes and species. It was composed of a high frequency of food processing waste and dietary refuse and a low frequency of butchering waste.

AU521

AU521, the transitional zone underlying the historic ground surface, yielded a large, but highly fragmented, faunal deposit (125 MNU) (Table 116). It was composed of mammal, bird, and fish. Mammal predominated, and species included mouse, rabbit, cattle, pig, and sheep. Mouse and rabbit were each represented by a single element. Mouse consisted of a mandible and rabbit of a distal radius. Cattle were the second most abundant species, represented by processing waste and dietary refuse. Processing waste was represented by a few loose teeth. The teeth appear to be related and to have belonged to one individual, a neonate. Dietary refuse included both veal and beef meat cuts. Veal cuts came from the foreshank and leg. Beef cuts included steaks and roasts from the rib, short rib, arm, foreshank, and loin. Cuts were sawed, chopped, and cleaved.

Pig was the least frequent large domesticated mammal species, represented by dietary refuse. Meat cuts included two hams from the Boston butt and a trotter. The hams came from juveniles. One foot element was rodent-gnawed. Sheep was the most frequent species. It was composed of processing waste, dietary refuse, and either trimming waste or butchering waste. Processing waste consisted of head elements including four mandibles and loose teeth. Two mandibles were aged at 2 years plus and another at minus ½ year. The one unaged mandible was chopped. Dietary refuse consisted of one chuck roast and several stew cuts from the neck, loin, chuck, foreshank, butt-end leg, and hindshank. Most of the cuts came from mature animals; a few came from juveniles. Trimming waste or butchering waste was indicated by a minimum of three forefeet and two hind feet, three of which were butchered. Cuts were chopped and cleaved, while a few had slice marks on the surface of the bone. One bone was calcined. Five bones were gnawed. Other unidentified medium- and large-mammal bones included fragments of skull, mandible, vertebra, rib, and longbone. Small mammal included a vertebra and rib. Five bones were rodent- or canine-gnawed. Several bones were calcined.

Bird species included chicken and duck. Chicken was represented by the breast, wing, leg, and foot, while duck was represented by the leg. Unidentified bird consisted of longbone and sternum fragments. One chicken bone was burned. Fish species included cod and porgy, a minimum of one individual each. Unidentified fish was composed of skull elements, vertebrae, and fish scales.

The deposit was composed of a high frequency of processed food waste and dietary refuse and a very low frequency of butchering or trimming waste.

Table 116. Summary of Phase 1, Lot 12 Area, Faunal Remains by Analytical Unit and Minimum Number of Bone Units (MNU)

Class/Species		AU15	AU16	AU19	AU22	AU24	AU37	AU51	AU521
Mammal									
Cattle		4	6	3	-	4	6	125	26
Dog		-	-	-	-	5	-	-	-
Horse		-	-	-	-	-	-	1	-
Mouse		-	-	1	-	-	-	-	1
Pig		1	1	-	-	5	-	22	4
Rat		-	-	-	-	-	-	1	-
Rabbit		-	-	-	-	-	-	-	1
Sheep		3	3	2	-	10	4	49	36
Small mammal		-	-	-	-	-	-	5	1
Medium mammal		-	1	1	1	2	6	23	26
Large mammal		2	1	-	-	-	1	9	4
	Subtotal	10	12	7	1	26	17	235	99
Bird									
Chicken		1	-	1	-	1	1	4	5
Duck		-	-	2	-	-	-	2	1
Goose		-	1	-	-	-	-	-	-
Pigeon		-	-	-	-	-	-	1	-
Unidentified bird		1	-	1	-	-	1	8	2
	Subtotal	2	1	4	-	1	2	15	8
Fish									
Cod		-	-	-	-	-	-	-	2
Porgy		-	-	-	-	-	-	-	1
Sheepshead		-	-	-	-	1	-	2	-
Sturgeon		-	-	-	-	-	-	1	-
Tautog		-	-	-	-	-	-	1	-
Unidentified fish		1	-	-	-	1	17	40	15
	Subtotal	1	-	-	-	2	17	44	18
Reptile									
Map turtle		-	-	-	-	-	-	1	-
Unidentified snake		-	-	-	-	-	-	1	-
Unidentified turtle		-	-	1	-	-	-	3	-
	Subtotal	-	-	1	-	-	-	5	-
	TOTAL MNU	13	13	12	1	29	36	299	125

10.2.1.2 MID Area

The MID Area contained a fair amount of bone, most of which was mammal (85 MNU) (Table 115). Besides mammal there were low frequencies of bird, fish, and reptile. Three deposits were present. Almost all the bone came from a pit (AU141) (Table 117), while the other two deposits included AU520, a historic ground surface, and AU521, the transitional zone underlying it.

AU141

AU141, a pit located in Lot 17, yielded the largest collection in the area (69 MNU) (Table 117). It was composed of mammal, fish, and reptile. Mammal species included cattle, pigs, and sheep. Cattle were the second most abundant species. It consisted mostly of foot elements and one thoracic vertebra. There was a minimum of one foot from an individual aged at 1½ years plus. One phalange exhibited slice marks. The thoracic vertebra was cleaved. Pig was the least common species. It was composed mainly of stew meats from the foot and a foreshank element representing a picnic ham. Of the three feet, two were from juveniles and one from a neonate. Slice marks were present on one element. Sheep was the most abundant species. It was composed of dietary refuse and butchering waste. Dietary refuse included a stew cut from the foreshank. Butchering waste consisted of two hacked sacral vertebrae, twenty-two caudal vertebrae, representing a minimum of three tails, and a minimum of two feet. The foot was represented by six disarticulated phalanges. One foot came from a lamb; the other from an older individual. No bone modifications were observed. Other unidentified medium- and large-mammal skeletal elements included fragments of caudal and sacral vertebrae, rib, and longbone. The vertebrae may be sheep. Fish was unidentified by either species or skeletal element. Turtle was represented by two carapace fragments, one of which was identified as snapping turtle. Nineteen bone fragments were calcined. This deposit was composed primarily of butchering waste and small amounts of dietary refuse and food processing waste.

AU520

AU520, a historic ground surface, yielded bone only in Lot 14. It was a small deposit composed of mammal and fish (3 MNU) (Table 117). Mammal species included pig and horse. Pig consisted of a neonate femur shaft with slice marks on the surface. Horse was represented by a single molar that showed signs of weathering. Other unidentified mammal fragments included a rib and longbone fragment. One unidentified fish skull element was present as well.

AU521

AU521, a transitional zone underlying the historic ground surface, yielded a small, highly fragmented bone deposit (12 MNU) (Table 117). It was composed of mammal and bird. Mammal species were limited to cattle. Cattle consisted of processed food waste, dietary refuse, and butchering waste. Processing waste comprised of a molar aged at 2¼ years plus and dietary refuse of an acetabulum fragment. Butchering waste predominated and was represented by foot elements. The foot predominated and was composed of phalanges and metapodials. A minimum of three feet was present from at least two different individuals. One foot was aged at minus 2½ years, the other at 2 years plus. The third foot was butchered so that it was not possible to age it. Other unidentified mammal remains consisted of fragments of a caudal vertebra and a rib. Duck was the only bird species identified, represented by a stained shoulder element.

Table 117. Summary of Phase 1, MID Area, Faunal Remains by Lot, Analytical Unit, and Minimum Number of Bone Units (MNU).

Class/Species		Lot 14 AU520	Lot 15 AU521	Lot 16 AU521	Lot 17 AU141	Lot 17 AU521
Mammal						
Cattle		-	-	8	11	-
Horse		1	-	-	-	-
Pig		1	-	-	5	-
Sheep		-	-	-	33	-
Medium mammal		1	-	1	18	-
Large mammal		-	-	-	-	1
	Subtotal	3	-	9	67	1
Bird						
Duck		-	-	1	-	-
Unidentified bird		-	-	1	-	-
	Subtotal	-	-	2	-	-
Reptile						
Snapping turtle		-	-	-	1	-
Unidentified turtle		-	-	-	1	-
	Subtotal	-	-	-	2	-
	Total MNU	3	-	11	69	1

10.2.1.3 NE Area

The NE Area yielded large deposits of bone (953 MNU) (Table 115). Several features can be grouped by type, including puddling boxes (AUs 2B and 3B), pits (AUs 33, 34, 154, and 155), and a historic ground surface and the transitional zone underlying it (AUs 520 and 521). Other unique features included a burned feature (AU1B), a posthole (AU32), and a possible structure (AU4B). Most of the bone was found in AUs 154 and 520. In the discussion that follows, AUs 520 and 521 have been combined.

AU1B

AU1B, a burned feature, yielded very fragmented bone (29 MNU) (Table 118). It was composed of mammal, bird, and fish. Mammal species included rat, cattle, pig, and sheep. Rat consisted of a tibiotarsus from the hind leg. Cattle elements predominated and were composed of processing waste and craft-related/commercial refuse. Processed waste included two premolars aged at minus 2¾ years. Craft-related/commercial refuse consisted of one phalange, five metacarpals, nine metatarsals, and two unidentified metapodials. Based on these elements, there was a minimum of five individuals. Three metacarpals were chopped and six metatarsals exhibited cut marks on the surface of the bone. Two metapodials were gnawed, another two had flaking cortexes, and seven others were stained. Two age groups were represented. Five metapodials were aged at 2 years plus while two others were aged at less than 2½ years. Pig was represented by a single element, a distal metapodial aged at minus 2 years representing a trotter. Sheep also consisted of a single element, a stained calcaneus fragment representing stew meat from the hind shank. Other unidentified mammal included skull, vertebrae, rib, and longbone fragments. Thirteen fragments were burned. Bird species were limited to chicken. There was one chicken rib. Fish was infrequent and consisted of a vertebra, a fish scale, and a skull element. The deposit was composed primarily of craft-related/commercial refuse and small amounts of dietary refuse and processed food waste.

AU2B

AU2B, a late puddling box, yielded a small, fragmented deposit of bone (15 MNU) (Table 118). This was composed of mammal, bird, and crustacean. Mammal species included rat, cattle, and pig. A femur represented an immature rat individual. Cattle were the most frequent species. It was composed of dietary refuse and processing waste consisting of two rib shafts and fragments of a thoracic vertebra and molar. The ribs were chopped. Pig consisted of the upper forearm from a neonate pig. Other unidentified mammal included skull, vertebra, rib, and longbone fragments from medium and large mammals. Three bone fragments were burned. Chicken was the only bird species identified. Two sternums and a clavicle indicated a minimum of two individuals. One crab claw was also recovered from this deposit. Most of the material recovered consisted of dietary refuse and a small amount of processing waste.

AU3B

AU3B, an early puddling box, yielded a slightly larger bone deposit than AU2B (19 MNU) (Table 118). Most of the bone was mammal. However, a small amount of bird was also recovered. Mammal species included cat, cattle, pig, and sheep. Cat was represented by a single metatarsal from an immature individual. Cattle were the most frequent species. Cattle remains were composed of processing waste and dietary refuse. Processed food waste consisted of a molar. Dietary refuse was represented by a rib steak, two rump roasts, and a stew cut from the foreshank. The rib steak was chopped while one of the rump roasts was sawed. Pig consisted of processing waste in the form of two molars and an incisor, and two meat cuts, including the hock and trotter. Sheep was the least frequent of the large-mammal species. It consisted of a loin chop and a stew cut from the shank. The vertebra was calcined. Other unidentified mammal bone was composed of skull, vertebra, rib, and longbone fragments. Twelve fragments were either charred or calcined. The box contained a mix of dietary refuse and processing waste.

AU4B

AU4B, a structure, yielded a small amount of very fragmented bone, most of which was mammal (20 MNU) (Table 118). Mammal species included cattle and sheep. Cattle were composed of a mix of dietary refuse, processed food waste, and craft-related/commercial refuse. Dietary refuse consisted of a steak from the rib, a rump roast, and three stew meats from the hind shank. All cuts were chopped. Processed food waste consisted of a skull fragment. Because of the location of this deposit, the foot elements recovered were assumed to be part of the craft-related materials found in other deposits in the area. There were four metapodials and a hoof. Two metapodials were chopped. All of the bones came from mature individuals. Sheep consisted of a maxilla fragment, representing processed food waste. Other unidentified mammal included vertebra, rib, and longbone fragments. One unidentified bird longbone fragment was also present. There were four bone fragments in the deposit that were calcined. The deposit contained a mix of household refuse and craft-related/commercial refuse.

AU32

AU32, a posthole, yielded a small deposit consisting of mammal bone (10 MNU) (Table 118). Mammal species included cattle and sheep. Cattle were the most abundant species. Cattle remains were composed of dietary refuse and butchering waste. Butcher cuts included three chopped thoracic vertebrae, a proximal rib, a tibia fragment, and a kneecap. Butchering waste was indicated by a chopped proximal metatarsal. Sheep was represented by a single element, a thoracic vertebra fragment. Other unidentified mammal included vertebra and longbone fragments. Four fragments were calcined. This deposit was composed primarily of dietary refuse.

AU33

AU33, a pit, contained four fragments of unidentified mammal bone (0 MNU) (Table 118).

AU34

AU34, a pit, contained a very small bone deposit that included mammal and bird (3 MNU) (Table 118). Cattle were the only identified species. Cattle remains consisted of a sirloin steak and a hindshank. The steakbone was sawed, whereas the hindshank was chopped. Bird was unidentified by species. It was represented by a longbone fragment.

AU154

AU154, a linear pit, yielded a large, highly fragmented faunal deposit (182 MNU). It was composed of mammal, bird, and fish (Table 118). Mammal species included horse, cattle, pig, and sheep. Horse consisted of a single element, a metacarpal aged at 1 year plus. Cattle were the most abundant of all species. Cattle remains consisted primarily of butchering waste like that found in AUs 155, 1B, and 520, Lot 20½. Most cattle skeletal elements consisted of foot elements, including metacarpals, metatarsals, and phalanges. The exceptions were fragments of a lumbar vertebra, a rib, and three carpals. Based on foot bones, there was a minimum of thirty-one individuals representing two age groups. The most prevalent group was aged at 2 years plus. A smaller group was aged at minus 2½ years. No butcher marks were observed on the metapodials. However, a number of proximal phalanges were chopped and bore slice marks.

Pig was present in low frequency. It was composed of dietary refuse consisting of a picnic ham and two trotters. One foot element was calcined. Sheep was also present in low frequency. It was represented by dietary refuse consisting of cuts from the neck, loin, rack, and butt end of the leg. All of these bones were calcined. Other unidentified mammal bone included fragments of vertebra, skull, rib, and longbone, most of which were calcined. Bird was present in low frequency. It was unidentified by species. Skeletal elements included the pelvis, sternum, and wing, all of which were calcined. Fish was not identified to the species level. It consisted of a single vertebra. The deposit contained a large amount of craft-related/commercial refuse and a small amount of dietary refuse.

AU155

AU155, a linear pit, contained a small fragmentary deposit (18 MNU) (Table 118). It was composed of mammal species including cattle and sheep. Cattle predominated. With the exception of a rib fragment and one phalange, all of the skeletal elements were metacarpals and metatarsals. Eight forefeet and hind feet were present, indicating a minimum of four individuals. Two metatarsals were chopped and others bore cut marks on the surface of the bone. One metatarsal was rodent-gnawed. A number of metapodials were in a poor state of preservation, suffering from flaking cortex. A few other metapodials were stained. Sheep consisted of one disarticulated foot from a lamb. The bulk of this deposit was craft-related/commercial refuse and a small amount of butchering waste.

AU520/521

AU520/521, was a historic ground surface that yielded a large bone collection (657 MNU) (Table 118). The deposit contained mammal, bird, and fish. Mammal was composed of cat, dog, cattle, pig, and sheep. Cat was represented by a hind-foot element. Dog consisted of a molar and a slightly weathered metatarsal.

Cattle was the most abundant species and consisted of processing waste, dietary refuse, and craft-related/commercial refuse. Most body parts were represented in low frequencies; however, the foot was present in high frequency. Processing waste consisted of a skull fragment, an incisor, and three molars. Dietary refuse was composed of veal and beef cuts. Beef cuts included stews, roasts, and steaks from the neck, rib, chuck, arm, foreshank, rump, and hindshank. Cuts were chopped, and some exhibited slice marks. Craft-related/commercial refuse was composed of feet and a minimum of one tail. Foot elements included metacarpals, metatarsals, unidentified metapodials, and proximal, middle, and distal phalanges. The data indicated there was a minimum of seventeen individuals. Many of the metapodials were butchered at the distal end, splitting the toe off the foot. Both the proximal and distal ends of the butchered metapodials were represented. Aging of foot elements pointed to two groups, individuals aged less than

2½ years and individuals aged 2 years plus. The tail consisted of four fragmented caudal vertebrae. Four bones were charred.

Veal consisted of stew meats from the foreshank. Two neonate proximal metatarsals were also present and may have resulted from the extraction of bone marrow. Cuts were chopped.

Pig was the least frequent of the large domesticated mammals. It was composed of processed food waste and dietary refuse. Processed waste was indicated by a mandible fragment, an incisor, a premolar, and three molars. Dietary refuse was composed of a limited variety of meat cuts. These included hams, roasts, and stew meats from the Boston butt, picnic ham, loin, shank ham, and ham hock. Two of the hams were chopped. Aged specimens indicated the presence of mature and juvenile individuals.

Sheep was the second most abundant species. It was composed of processed food waste, dietary refuse, and butchering waste. One head consisting of a skull, two mandibles, two hyoids, and seven molars indicated processed food waste. This skull was aged at minus 1½ years. Dietary refuse was composed of a range of meat cuts that included stew meats, chops, roasts, and stew meats from the neck, rack, foreshank, butt-end leg, shank-end leg, and hindshank. Most of these cuts came from mature animals. Cuts were chopped. Two bones were calcined. Butchering waste or trimming waste consisted of elements from the foot and tail. Based on the data, the feet represent a minimum of two individuals. All cuts exhibiting butcher marks were chopping. One individual was a neonate. Other unidentified mammal bone included skull, vertebra, rib, and longbone fragments.

Bird was present in low frequencies. Identified species included chicken, goose, pigeon, and turkey. Chicken was second in frequency after goose. With the exception of a breastbone, all other elements came from either the distal end of the wing or foot. Two bones were gnawed. Goose was the most abundant bird species. Goose consisted of breast and upper-wing elements for the most part, though one foot was also present. Pigeon was the least frequent species. It was represented by a single thighbone. Turkey was also poorly represented, consisting of two breastbones. Other unidentified bird remains were composed of longbone fragments, a rib, and two bones from the breast. Four bone fragments were calcined.

Fish species were limited to tautog. This species was represented by a minimum of one individual. Other unidentified fish elements included a fair number of vertebrae and scales as well as a small number of unidentified skull bones. This deposit was a mix of refuse types. The most abundant type was craft-related/commercial waste as indicated by the large deposit of cattle metapodials. The second most common type of refuse was dietary refuse, followed in lower frequencies by processed food waste and butchering waste.

Table 118. Summary of Phase 1, NE Area, Faunal Remains by Lot, Analytical Unit, and Minimum Number of Bone Units (MNU)

Class/ Species		Lot 20 AU2B	Lot 20 AU3B	Lot 20 AU32	Lot 20 AU34	Lot 20 AU520	Lot 20 AU521	Lot 20.5 AU1B	Lot 20.5 AU4B	Lot 20.5 AU33	Lot 20.5 AU154	Lot 20.5 AU155	Lot 20.5 AU520	Lot 20.5 AU521
Mammal														
Cat		-	1	-	-	1	-	-	-	-	-	-	-	-
Cattle		4	6	7	2	9	3	19	13	-	156	17	318	2
Dog		-	-	-	-	1	-	-	-	-	-	-	1	-
Horse		-	-	-	-	-	-	-	-	-	1	-	-	-
Pig		1	5	-	-	4	1	1	-	-	4	-	15	-
Rat		1	-	-	-	-	-	1	-	-	-	-	-	-
Sheep		-	2	1	-	14	-	1	1	-	4	1	67	-
Small mammal		-	-	-	-	-	-	-	-	-	-	-	5	-
Medium mammal		5	3	-	-	3	-	3	2	-	11	-	57	-
Large mammal		-	1	2	-	5	1	-	3	-	1	-	10	-
	Subtotal	11	18	10	2	37	5	25	19	-	177	18	473	2
Bird														
Chicken		3	-	-	-	-	1	1	-	-	-	-	10	-
Goose		-	-	-	-	-	-	-	-	-	-	-	16	-
Pigeon		-	-	-	-	-	-	-	-	-	-	-	1	-
Turkey		-	-	-	-	-	-	-	-	-	-	-	2	-
Unidentified bird		-	1	-	1	1	-	-	1	-	4	-	6	-
	Subtotal	3	1	-	1	1	1	1	1	-	4	-	35	-
Fish														
Tautog		-	-	-	-	-	-	-	-	-	-	-	9	-
Unidentified fish		-	-	-	-	3	-	3	-	-	1	-	90	1
	Subtotal	-	-	-	-	3	-	3	-	-	1	-	99	1
Crustacean														
Crab		1	-	-	-	-	-	-	-	-	-	-	-	-
	Subtotal	1	-	-	-	-	-	-	-	-	-	-	-	-
	Total MNU	15	19	10	3	41	6	29	20	-	182	18	607	3

10.2.1.4 SE Area

The SE Area yielded few bone deposits. Though there was a lot of bone, little of it was identifiable by species or skeletal element (66 MNU) (Table 115). The bone was in a serious state of decomposition for which reason there was a high rate of fragmentation. The deposits in this area included four pits (AUs 139, 144, 167, and 168), two postholes (AUs 161 and 166), a shallow trench (AU163), and the transitional zone underlying the historic ground surface (AU521).

AU139

AU139, an irregular pit, yielded a small, very fragmented bone deposit consisting almost exclusively of a distal humerus from cattle (1 MNU) (Table 119). This bone was aged at minus 4 years and showed signs of weathering.

AU144

AU144, an irregular pit, contained a small, highly fragmented bone deposit (4 MNU) (Table 119). It was composed of only mammal bone. Identified mammal species included cattle and pig. Cattle remains consisted of a partial horn core that showed signs of weathering. Pig was represented by a premolar aged at 1 year plus and two Boston butt hams. The hams were chopped. Other mammal remains included medium- and large-mammal skull fragments. Three bones were calcined.

AU161

AU161, a posthole, was very small, consisting of 1 MNU (Table 119). This bone was a sheep distal humerus exhibiting signs of heat exposure and weathering.

AU163

AU163, a shallow trench, yielded a small, fragmentary bone deposit (9 MNU) (Table 119). It contained only mammal species, including sheep and cattle. Cattle remains consisted of butchering waste composed of several horn-core fragments and foot elements. There was a minimum of one horn core and two feet. The horn core was unaged and no breed was identified. Foot elements included metatarsals and phalanges. The metatarsals were unaged proximal fragments. There were two proximal and one middle phalanges. The latter was aged at 1½ years plus. Sheep consisted of three fragmented molars. Other bone included medium- and large-mammal longbone fragments. A few fragments were calcined, while some showed signs of weathering. The cattle bone may be craft-related/commercial refuse.

AU166

AU166, a posthole, consisted of 1 MNU (Table 119). Cattle was the only identified species. It consisted of a proximal phalange from cattle aged at 1½ years plus.

AU167

AU167, an irregular-shaped pit, yielded an extremely fragmented bone deposit consisting of cattle and medium- and large-mammal remains (49 MNU) (Table 119). This pit primarily contained a partially articulated bovine skeleton as well as some cattle bone not related to the skeleton. Throughout this report, fragment counts are rarely discussed except when noting the frequencies of burned or gnawed bone. However, in this case the discrepancy between unidentified and identified bone was so great it needs to be mentioned. There were 1,765 TNF, most of which were assigned to large mammal though it is almost certain that most of this material originated from the cattle skeleton. The skeleton represents an individual that was aged at 3½ years or more at death. The bone is in a poor state of preservation contributed to severe fragmentation. In addition to the partial skeleton, a small number of bones from other cattle were present. These included one mandible aged at 2¾ years, a lower leg, two ribs exhibiting slice marks, and two front feet.

AU168

AU168, a pit, consisted of 1 MNU (Table 119). This bone was a cattle molar aged at 2¼ years plus.

AU521

AU521, the transitional zone underlying the historic ground surface that was located in Lot 20½, was a very small deposit (0 MNU) (Table 119). The bone consisted of three medium- and large-mammal bone fragments not identifiable to skeletal element.

Table 119. Summary of Phase 1, SE Area Faunal Remains by Lot, Analytical Unit, and Minimum Number of Bone Units (MNU)

Class/Species		Lot 20.5 AU139	Lot 20.5 AU144	Lot 22 AU161	Lot 20.5 AU163	Lot 20.5 AU521	Lot 22 AU166	Lot 20.5 AU167	Lot 22 AU168
Mammal									
Cattle		1	1	-	6	-	1	49	1
Pig		-	3	-	-	-	-	-	-
Rat		-	-	-	-	-	-	-	-
Sheep		-	-	1	3	-	-	-	-
	Total MNU	1	4	1	9	-	1	49	1

10.2.2 Phase 2

Phase 2 yielded the greatest amount of bone. This material was recovered from Lot 12 and the MID Area, with the greatest concentration in Lot 12 (Table 114). Both areas contained large amounts of bone and were similar in having species from each of the five classes. Table 120 summarizes the bone counts for Phase 2 by area, lot, and analytical unit or feature. The analytical units are described individually within lots grouped by feature or deposit type. AUs 509 and 511 were not described.

Table 120. Summary of Phase 2 Species by Area, Total Number of Bone Fragments (TNF), and Minimum Number of Bone Units (MNU)[1]

Class/ Species		Lot 12 TNF	Lot 12 MNU	MID TNF	MID MNU
Mammal					
Cat		51	33	35	25
Cattle		1,265	425	891	261
Dog		24	17	5	4
Horse		15	11	45	11
Mouse		2	2	-	-
Pig		435	225	196	69
Rat		18	12	8	6
Sheep		664	384	413	114
Sheep/goat		9	7	10	1
Squirrel		1	1	-	-
Small mammal		102	52	80	48
Medium mammal		4,539	115	2,004	94
Large mammal		1,992	56	1,108	26
	Subtotal	9,117	1,340	4,795	659
Bird					
Chicken		66	53	181	105
Duck		29	21	9	9
Goose		24	12	3	2
Pheasant		-	-	2	2
Pigeon		3	3	9	7
Turkey		5	4	-	-
Unidentified bird		516	95	253	58
	Subtotal	643	188	457	183
Fish					
Bluefish		-	-	2	2
Cod		9	9	31	18
Drum		1	1	-	-
Sheepshead		26	22	7	6
Snapper		1	1	18	10
Striped bass		-	-	5	1
Tautog		1	1	5	5
Unidentified fish		1,050	512	816	326
	Subtotal	1,088	546	884	368
Reptile					
Snapping turtle		9	6	8	4
Unidentified snake		2	1	-	-
Unidentified turtle		36	23	8	3
	Subtotal	47	30	16	7
Crustacean					
Crab		8	8	8	4
	Subtotal	8	8	8	4
Unidentified bone		111	0	156	0
	Subtotal	111	0	156	0
	Total Bone	11,014	2,112	6,316	1,221

[1]Excluding the totals from analytical units 509 and 511

10.2.2.1 Lot 12

Lot 12 yielded a much larger faunal assemblage than the MID Area (Table 120). It was composed of a high frequency of mammal and fish and lower frequencies of bird, reptile, and crustacean. There were 18 features and deposits from which bone was recovered. These analytical units included walls (AUs 11, 12, 14, 25, and 46), a concentration of cobbles (AU18), planks (AU26), a builders' trench (AU40), a wood post (AU47), a posthole (AU31), a barrel (AU21), a plank (AU29), pits (AUs 193 and 206), a trench (AU16a), a series of deposits overlying the ground surface (AU518), and the ground surface itself (AU519). Of these, only six features yielded faunal deposits of 50 MNU or more. Some were so small and fragmented, they could only be tabulated by fragments. The largest concentrations were found in AUs 518 and 519.

AU11

AU11, a wall, yielded a single bird longbone fragment (0 MNU) (Table 121).

AU12

AU12, a wall, yielded a small faunal deposit, most of which was mammal, though a small amount of fish was present also (MNU 17) (Table 121). Mammal species included cattle, pig, and sheep. Cattle were the second most frequent species. Cattle remains were composed of processed food waste, consisting of a skull fragment from an immature individual, a butchered mandible, and a molar from a neonate. It is possible that all three elements were related. There was one pig bone, a proximal humerus with rodent gnaw marks. Sheep was the most frequent species. It consisted of processed food waste that was represented by four mandibles and a molar, and dietary refuse represented by a chopped rib. One of the mandibles was aged at ½ year and two others at 2 years plus. The remaining mandible was too fragmentary to age. The three aged mandibles exhibited cut marks on their surfaces. Other unidentified medium mammal included fragments of a hyoid and ribs. Unidentified fish consisted of a skull fragment. Besides cut marks, other bone modifications included rodent gnaw marks and copper-alloy staining. This deposit was composed mainly of processing waste.

AU14

AU14, a wall, yielded a small bone deposit (3 MNU) (Table 121). Identified species included cattle and chicken. Cattle were represented by a molar aged at ½ year plus and chicken by a femur shaft. Large mammal consisted of a longbone fragment. One piece of medium-mammal bone was calcined. Fish was present in addition to bird and mammal, consisting of a chopped vertebra.

AU16a

AU16a, a trench, contained a large bone deposit (104 MNU) (Table 121). This deposit consisted of bird, mammal, fish, and reptile remains, most of which were stained. Mammal species included cat, dog, sheep, pig, and cattle. Cat elements came from the forelimb and indicated a single individual. Dog was represented by a radius that appeared to have cut marks upon its surface and a metapodial. Cattle was the most frequent species, represented by dietary refuse, processing waste, and butchering waste. Processing waste included two butchered mandibles. One mandible was aged at ½ year, the other at 2¼ years plus. Dietary refuse included a wide variety of meat cuts from the neck, arm, foreshank, chuck, round, sirloin, and hindshank. Butchering waste consisted of two calf metapodials and one older adult's metacarpal. Pig was poorly represented. It consisted of a skull fragment and two toe bones. One foot element was aged at minus 2 years. Sheep was the second most abundant species. It was composed of a small amount of processing waste, dietary refuse, and butchering refuse. Processing waste included an incisor and a molar, both aged at minus 1¾ years. Dietary refuse included cuts from the chuck, loin, foreshank, butt-end leg, and shank-end leg. Many of the cuts appeared to be from juvenile individuals. Butchering waste consisted of two metacarpals. Most of the meat cuts were chopped and cleaved. Medium- and large-mammal bone consisted of a large amount of rib, longbone, and unidentified fragments. Several of these fragments were calcined. A small number of bones bore canine and rodent gnaw marks. Bird species included chicken and duck. Chicken was represented by a wing element, while duck was represented by wing and leg elements.

Unidentified bird consisted of longbone fragments. There was a small amount of fish and reptile. Fish included cod, and most of the fish consisted of vertebrae. Turtle was represented by a carapace fragment. The deposit was composed primarily of dietary refuse and small amounts of processing and butchering waste.

AU18

AU18, a concentration of cobbles, consisted of a large-sized faunal deposit, most of which was stained (196 MNU) (Table 121). The deposit was composed of mammal, bird, and fish. Almost all of the bone was stained. Mammal species included cattle, pig, and sheep. Cattle were represented by processing waste and dietary refuse. Processing waste consisted of two crania, a mandible, and a molar. One cranium was aged at 2¼ years plus, the mandible was aged at 3 years plus, and the molar at ½ year plus. The mandible was cleaved. Dietary refuse included a loin steak, a sirloin steak, and part of a stew cut from the hindshank. The lumbar vertebra was rodent-gnawed. Pig was the least common mammal species, composed of a processed cut represented by a tooth aged at minus ¾ year and dietary refuse represented by a Boston-butt ham. The ham was cleaved and rodent-gnawed. Sheep was the most common of the three mammal species. It was represented by processed food waste, dietary refuse, and butchering waste. Processing waste included a skull fragment with cut marks, four hyoids, and teeth. Aging information obtained from the teeth indicated the presence of a neonate and an adult. Dietary refuse consisted of chops, roasts, and stew meats from the loin, foreshank, butt-end, and shank-end of the leg. One cut was canine-gnawed. Butchering waste was represented by foot elements. None of these exhibited butcher marks, but all were calcined. Other unidentified medium- and large-mammal bones included skull, vertebra, rib, and longbone fragments. A fair number of these were calcined. Small-mammal elements consisted of fragments from a skull, ribs, and a tibia. Bird species included chicken, turkey, and duck. Chicken elements represented the breast, leg, foot, and eggshell. Eggshell was present in minute quantities of less than 1 gram. One element was calcined. Turkey was indicated by a single phalange. Duck consisted of an articulated lower wing that had canine gnaw marks. Unidentified bird included skull, wing, innominate, and longbone fragments, one of which was charred. The largest class of animals present was fish. Fish was unidentified to the species level and almost completely represented by scales. A few skull elements and vertebra were present. This deposit was primarily dietary refuse with small amounts of processing waste and butchering waste.

AU21

AU21, a barrel, yielded three fragments of medium-mammal bone (MNU 0) (Table 121). Two longbone fragments were bloodstained. No other modifications were present.

AU25

AU25, a wall, yielded a fair-sized bone deposit (50 MNU) (Table 121). The deposit was composed of mammal, bird, fish, and reptile. Identified mammal species included horse, cattle, pig, and sheep. Horse consisted of a maxillary fragment aged at 3½ years plus. Cattle remains were composed of processing waste, dietary refuse, and butchering waste. Processing waste consisted of a mandible fragment, an incisor, a premolar, and molars. These were aged at minus 1¾ years and plus 2 years. Dietary refuse included beef meat cuts from the neck, foreshank, short rib, rib, and loin. One veal cut was also present, a steak from the leg. Cuts were chopped and cleaved. Butchering waste was indicated by a single proximal phalange fragment. One horn core was present and had been processed for the removal of the sheath. Pig was represented by dietary refuse. It included the fore and hind limbs of a neonate pig. Sheep was composed of processing waste, dietary refuse, and butchering waste. Processing waste included teeth. There were six molars aged at pre- and post-1¾ years. Dietary refuse included two loin chops. Butchering waste consisted of phalanges. Other unidentified medium- and large-mammal bone included skull, vertebra, rib, and longbone fragments. A fair number of fragments were charred and calcined. The presence of a small mammal was indicated by an acetabulum fragment. Chicken was the only bird species identified, represented by a wing element. Two unidentified bird longbone fragments were calcined. Fish remains

were unidentified to the species level. These remains consisted mostly of skull elements and a scale. One reptile longbone fragment was also present. This deposit was composed primarily of a mix of dietary refuse and processed food waste, with a small volume of butchering and craft-related refuse.

AU26

AU26, planks, yielded a medium-sized faunal deposit, most of which was stained (91 MNU) (Table 121). The deposit was composed of mammal, bird, and fish. Mammal was the most frequent class. Mammal species included rat, cattle, pig, sheep/goat, and sheep. Rat was indicated by a lower hind limb. A few small-mammal rib and longbone fragments may have belonged to this individual. Cattle were the most abundant species. Cattle remains were composed of processing waste, dietary refuse, and butchering waste. Processing waste included three crania, three mandibles, and loose teeth. One mandible was aged at ½ year. Based on ages obtained from other teeth, the individuals represented were all immature. One skull and mandible each exhibited butcher cuts. Dietary refuse consisted of beef and veal meat cuts. Beef cuts included steaks, roasts, and stew meats from the neck, loin, chuck, short rib, arm, foreshank, sirloin, rump, and hindshank. Veal cuts were few and included a leg roast and a stew cut from the foreshank. Butchering waste consisted of one foot element, a chopped proximal phalange aged at 1½ years plus. Cuts were sawed, chopped, and cleaved. Two elements were gnawed.

Pig was the least common mammal species. It was composed of processing waste and dietary refuse. Processing waste consisted of a neonatal skull and loose teeth from older individuals. One molar was chopped. Dietary refuse included a chop, two roasts, and stew cuts from the rib-end loin, shank ham, and hock. In addition, the presence of a neonate pig was indicated by an innominate. Cuts were chopped and cleaved. Two of the meat cuts bore rodent gnaw marks.

Sheep/goat included a shank-end leg roast and a foot bone. The roast came from an individual less than 3½ years of age. The foot element came from an individual aged 1½ years plus. Sheep was the second most common species. It was composed of processing waste, dietary refuse, and butchering waste. Processing waste included one maxilla, three mandibles, and teeth. The maxilla was aged at minus 1½ years, one mandible was aged at 2 years plus, one at minus 2 years, and one at 1¼–3½ years. Though none of these bones bore clear butcher marks, one mandible had cut marks on the surface. Dietary refuse consisted of roasts and stew meats from the chuck, foreshank, butt-end of the leg, shank-end of the leg, and hindshank. Butchering refuse included a metacarpal shaft and two phalanges. Cuts were chopped. Two elements were rodent-gnawed. Medium- and large-mammal remains were composed of fragments of skull, vertebra, rib, and longbone.

The only bird species identified was chicken. It consisted of wing and leg elements. Unidentified bird was composed of longbone fragments and a small bird lower-wing element. Fish species included cod and sheepshead. Both species were identified by skull elements and represent a minimum of one individual each. In addition, there were a few unidentified fish-skull elements. The deposit contained a large variety of dietary refuse. It also contained a fair amount of processing waste and a small amount of butchering refuse.

AU29

AU29, a wood trough, yielded two fragments of large-mammal bone unidentified as to skeletal element (MNU 0) (Table 121). No modifications were present.

AU31

AU31, a posthole, also yielded a small bone deposit (2 MNU) (Table 121). It was composed of fish-skull and fish-scale fragments.

AU40

AU40, a builders' trench, yielded a small bone deposit composed of bird, mammal, and fish (17 MNU) (Table 121). Mammal species included sheep, pig, and cattle. Cattle remains included processing waste and

dietary refuse. Processing waste consisted of a mandible fragment and dietary refuse cuts from the rib, chuck, and shank. Pig was represented by processing waste. There were three molars, two of which were aged 1 year plus while the third was aged at ½ year. Sheep was composed of processing waste and dietary refuse. Processing consisted of an incisor aged at 1¼ years plus and dietary refuse of cuts from the chuck and butt-end of the leg. One cut exhibited rodent gnaw marks. A rib fragment indicated the presence of an unidentified small mammal. Medium-mammal remains included skull, vertebra, pelvic, and longbone fragments. Bird, consisting of longbone fragments, was not identified to the species level. Sheepshead was the only fish species identified, based on a skull bone. The other skull bone was unidentified. This deposit was composed of a mix of processing waste and dietary refuse.

AU46

AU46, the sediment associated with the sandstone threshold between F12/13, contained a small bone deposit similar in size to AU12, though it had a greater diversity of species (16 MNU) (Table 121). It included mammal, bird, and fish. Mammal included cat, cattle, pig, sheep/goat, and sheep. A partial forearm that included a humerus and radius indicated the presence of one cat. A few small-mammal longbone fragments suggest that more of this individual was present. Cattle were the most frequent species. Cattle remains were composed of processed food waste and dietary refuse. Processed food waste consisted of cranial bone, including two molars, one aged at ½ year plus, the other at 1¼ years plus. Dietary refuse consisted of meat cuts from the forequarter. Meat cuts came from the rib, chuck, and arm. Pig was the least common species. One meat cut was represented, a shank ham exhibiting cut marks. Sheep consisted of processing waste that included a partial mandible aged at ½ to 1 year and a premolar. Medium mammal consisted of fragments of skull, rib, and longbones. One longbone fragment had cut marks on its surface and rodent gnaw marks. Bird consisted of a partial chicken rib and an unidentified longbone fragment from an egg-laying individual. There were two unidentified fish-skull fragments. The deposit was a mix of processing waste and dietary refuse.

AU47

AU47, a wood post, yielded a very small amount of bone (2 MNU) (Table 121). It was composed of a partial sheep skull aged at ½ year and medium-mammal rib and longbone fragments. No modifications were noted.

AU193

AU193, a pit, contained a small bone deposit (3 MNU) (Table 121). This included a cattle rib section and femur fragment as well as a large-mammal rib fragment. The rib section was cleaved. No other bone modifications were present.

AU206

AU206, a pit, contained a small faunal deposit (18 MNU) (Table 121). It was composed of mammal, bird, and fish, most of which was stained. Mammal species included cattle, pig, and sheep. In general, there were small volumes of processing waste and dietary refuse for large domesticated mammal species. Cattle consisted of a molar aged at ½ year plus and loin steak. Pig was composed of a premolar aged at 1 year plus; two molars, one aged at minus 1 year; and a distal tibia epiphysis representing a ham shank, aged at minus 2 years. Sheep consisted of a skull fragment and incisor aged at minus 2¾ years as well as a proximal femur representing a butt-end leg roast, aged 3 years plus. A rib and cervical vertebra indicated small mammal. Other unidentified medium and large mammal consisted of fragments of skull, cervical vertebra, rib, and longbone. Cuts were chopped. In addition, two bone fragments were calcined. One unidentified bird longbone was present. Fish was unidentified. Skeletal elements included a vertebra, three cranial elements, and a few unidentified fragments. The deposit was a mix of processing waste and dietary refuse.

AU518

AU518, a deposit on top of the ground surface, yielded a large and diversified faunal assemblage (959 MNU) (Table 121). This was the largest deposit at the site. It was composed of mammal, bird, fish, reptile, and crustacean species. Mammal species included rat, squirrel, cat, dog, horse, cattle, pig, and sheep. One partial rat individual was present. Skeletal elements included one upper forelimb and two hind limbs. One squirrel mandible was recovered. There was a minimum of two cats, one a neonate, the other a mature individual. Both individuals were represented by a few elements from the head, forelimb, and hindquarter. One dog was represented, and appears to have been a neonate. It was composed of a mandible, innominate, and hindshanks. Horse was present in low frequency, representing one individual. It consisted of a kneecap and carpal.

Cattle was the second most abundant mammal species after sheep, represented by processed food waste, dietary refuse, and possibly butchering refuse. Processed food waste included seven skulls, one of which belonged to a neonate. This specimen was cleaved and bisected. The rest of the skulls were unaged but came from older individuals. One horn-core fragment and a butchered hyoid were also present. There was a minimum of four mandibles, two of which were butchered. One was aged at 2¾ years plus, another at minus ½ year. Dietary refuse was composed of beef and veal steaks, roasts, and stew meats. Beef cuts came from the neck, loin, rib, short rib, sirloin, brisket, chuck, arm, foreshank, rump, round, and hindshank. Veal cuts came from the leg. Butchering waste was indicated by eight metapodials and three phalanges. Three of these were from neonates and might be processing waste. Cuts were mostly chopped or cleaved, and a few were sawed. Some of the bone was stained, two pieces were burned, and another three were gnawed.

Pig was composed of processed food waste and dietary refuse. Processed food waste consisted of a minimum of five skulls and five mandibles. Ages varied between ½ year and 1¾ years plus. In addition to these, there were two neonate skulls assumed to be associated with the rest of the neonate longbones found in the deposit. Dietary refuse included chops, hams, and stew meats from the loin, Boston butt, picnic ham, hock, trotter, loin end, butt ham, and shank ham. As already indicated, neonate pig longbones were also present. Cuts were cleaved and chopped. Slice marks appeared on several elements. Several specimens were stained; a small number were gnawed.

Sheep was the most abundant mammal species. It was represented by processed food waste, dietary refuse, and butchering waste. Processed food waste included skulls, hyoids, mandibles, and loose teeth. There were seven skulls, nine hyoids, and fourteen mandibles. Some of these elements were chopped, while others bore slice marks. Two age groups were present, neonates and older mature individuals. Dietary refuse included chops, roasts, and stew meats from the neck, loin, rack, butt-end leg, foreshank, chuck, shank-end leg, and hindshank. A small amount of potential butchering waste was indicated by seven phalanges. Cuts were cleaved and chopped, and some elements exhibited slice marks. Several bones were stained, a small number were calcined, and a few others were gnawed.

Other unidentified medium- and large-mammal elements were composed of fragments of skull, tooth, vertebra, rib, and longbone. Small-mammal elements included skull, mandible, vertebra, rib, and longbone fragments. Several specimens were stained; a few were burned and gnawed.

Bird species included chicken, duck, goose, pigeon, and turkey. Chicken was the most frequent bird species. It consisted of butchering refuse and dietary refuse. One skull and a pair of feet indicated the presence of butchering refuse. Dietary refuse was composed of elements from the breast, wing, back, and leg. Two immature humeri were present. Judging from all skeletal elements, there was a minimum of three individuals represented. Duck consisted of a limited range of elements. These came from the breast, wing, and foot and represented a minimum of one individual. Goose was the second most frequent bird species. Like duck, it was limited in terms of skeletal elements. These came from the breast and back. Two bones were charred. Pigeon was the least frequent bird. It consisted of a single wing element. Turkey was also poorly represented by two elements from the breast and foot. Other unidentified bird remains were comprised of vertebra, rib, sternum, and longbone fragments. A small amount of eggshell was present.

Fish species included cod, drum, red snapper, sheepshead, and tautog. Each species was identified by mouth elements and was represented by a minimum of one individual except for sheepshead, where there

were two MNI. Other unidentified fish elements included skull, vertebra, and fish-scale fragments. Fish scales comprised 70 percent of all fish remains. Reptile species included snapping turtle. Other reptile included unidentified turtle and snake. Snapping turtle consisted of a partial scapula. Unidentified turtle was mainly composed of small carapace fragments and a small number of longbone fragments. A single vertebra indicated the presence of an unidentified snake species. Crustacean species included some type of crab. There was a minimum of four individuals represented by claws. This deposit was composed of a large concentration of processing waste and dietary refuse. Small amounts of butchering waste may be present.

AU519

AU519, the ground surface when the historic occupation began, yielded a large and diversified deposit very similar in composition to AU518 (634 MNU) (Table 121), being composed of mammal, bird, fish, reptile, and crustacean species. Mammal species included mouse, rat, cat, dog, horse, cattle, pig, and sheep. Mouse consisted of a single individual represented by two femurs. Rat was more common than mouse. It was represented by a minimum of three individuals. Skeletal elements came from the head, upper forearm and hind leg. Like rat, cat was more abundant in this deposit. It was represented by a minimum of three individuals. It was composed of elements from the head, forearm, foot, and hind limb. One neonate was present. One humerus exhibited what appear to be slice marks. Dog consisted of a limited range of elements from the lower forearm and upper hindquarter. Unlike rat and cat, where it appears that different individuals were represented in both AUs 518 and 519, dog elements may belong to the two individuals from the upper deposit. Horse also consisted of a limited range of elements. These came from the head, upper forearm, and hindshank. Except for the tooth, all elements were weathered. As with dog, the horse elements may belong to the individual found in the upper deposit.

Cattle were the most abundant species in the deposit, which was composed of processing waste, dietary refuse, and a small amount of butchering waste. Processing waste consisted of head elements. Head elements included skulls, teeth, a mandible, and a hyoid. There were four skulls, three of which were from neonates. None of these showed butcher marks. The mandible fragment exhibited slice marks on the surface. Dietary refuse included a wide variety of beef and veal steaks, roasts, and stew meats. Beef cuts came from the neck, loin, chuck, short rib, rib, rump, arm, foreshank, sirloin, and hindshank. Veal cuts came from the chuck and leg. Butchering waste consisted of three metapodials and a few phalanges. One of the feet was from a neonate; the others, from mature individuals. Cuts were sawed, cleaved, and chopped. Slice marks were also present on some cuts. A small number of bones were calcined, gnawed, and stained.

Pig was well represented and was composed of processed food waste and dietary refuse. Processing waste included skulls, mandibles, and teeth. There were five skulls, two of which were neonates. There were a number of other neonatal skeletal elements in the deposit and these skulls were most probably associated with them. One other skull was aged at 1½ years at death. There were three mandibles, none of which was aged. Dietary refuse included hams and stew meats from the Boston butt, picnic ham, hock, trotter, loin end, butt ham, and shank ham. Cuts were chopped. Some elements bore cut marks on their surfaces. Several bones were stained, two were gnawed, and one was burned.

Sheep was the second most abundant species in the deposit. It was composed of processed food waste, dietary refuse, and butchering waste. Processed food waste included skulls, hyoids, teeth, and mandibles. Two horn-core fragments were present that may be goat. There were a mandible and an ulna that appear to be goat as well. Sheep skulls and maxillas indicated a minimum number of four individuals. Three of these were aged at minus 1¾ years, 2¾ years plus, and 2 years plus respectively. There were six fragmentary mandibles. One was aged at 2¾ years plus, another at minus 1½ years. Two of the mandibles were chopped. Dietary refuse included chops, roasts, and stew meats from the neck, loin, rack, chuck, foreshank, butt-end and shank-end of the leg, and hindshank. Cuts were chopped and cleaved. Butchering waste was indicated by a small number of toe elements. Three of these bore slice marks on their surfaces. A few bones were gnawed, burned, and stained. Both immature and mature animals were represented.

Other unidentified medium- and large-mammal remains consisted of fragments of skull, mandible, vertebra, rib, longbone, and phalange. Many fragments were charred or calcined. A few were stained and

gnawed. Small mammal included skull, mandible, vertebra, rib, and longbone fragments. Most of these were unmodified.

Bird species included chicken, duck, goose, pigeon, and turkey. There was slightly more bird in this deposit than in AU518. However, there was a higher rate of unidentified bird bone as well. Chicken was the most frequent bird species. It was composed mainly of edible body parts. However, there was one skull and a small amount of eggshell. Body parts included the breast, wing, back, and leg. A minimum of two individuals was present. About one-quarter of the elements were stained. One bone had canine tooth marks. Duck was the second most frequent species. It was composed of elements from the wing, sternum, and leg. A minimum of two individuals was present. Only one bone was stained. Goose, pigeon, and turkey were present in low frequencies. Goose consisted of two breastbones, turkey of a wing element, and pigeon of wing and leg bones. Other unidentified bird was composed of elements from the neck, rib, sternum, back, wing, leg, and foot. Several pieces were stained. One element came from an immature individual.

Fish species included cod. This species was represented by a single individual's skull bones. Unidentified fish included skull and vertebra fragments and a fair number of fish scales. A few elements were stained. Reptile species included snapping turtle. It consisted of elements from the shoulder, hind legs and carapace. Other unidentified turtle elements represented a butchered shoulder bone, longbone fragments, and carapace and plastron fragments. Crustacean species included crab, which consisted of one claw. This deposit was composed of a high frequency of dietary refuse, a lower frequency of processing waste and a small frequency of butchering waste. It was very similar in to AU518 in terms of the range of species, the variety of meat cuts present, and the types of refuse represented.

Table 121. Summary of Phase 2, Lot 12 Area, Faunal Remains by Analytical Unit and Minimum Number of Bone Units (MNU)

Class/Species		AU 11	AU 12	AU 14	AU 16a	AU 18	AU 21	AU 25	AU 26	AU 29	AU 31	AU 40	AU 46	AU 47	AU 193	AU 206	AU 518	AU 519
Mammal																		
Cat		-	-	-	3	-	-	-	-	-	-	-	2	-	-	-	6	22
Cattle		-	4	1	32	9	-	17	34	-	-	4	5	-	2	2	158	157
Dog		-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	6	6
Horse		-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	3	7
Mouse		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Pig		-	1	-	3	2	-	5	13	-	-	3	1	-	-	4	117	76
Rat		-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	2	9
Sheep		-	6	-	27	14	-	11	26	-	-	3	2	1	-	3	165	126
Sheep/goat		-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	5
Squirrel		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Small mammal		-	-	-	4	3	-	1	1	-	-	1	-	-	-	2	22	18
Medium mammal		-	4	-	5	2	-	2	3	-	-	2	3	1	-	2	51	40
Large mammal		-	-	-	6	2	-	1	-	-	-	1	-	-	1	1	22	22
	Subtotal	-	15	1	85	32	-	38	80	-	-	14	13	2	3	14	553	490
Bird																		
Chicken		-	-	1	1	4	-	1	3	-	-	-	1	-	-	-	26	16
Duck		-	-	-	2	1	-	-	-	-	-	-	-	-	-	-	7	11
Goose		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2
Pigeon		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2
Turkey		-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	2	1
Unidentified bird		-	-	-	2	2	-	7	3	-	-	1	-	-	-	-	31	49
	Subtotal	-	-	1	5	8	-	8	6	-	-	1	1	-	-	-	77	81
Fish																		
Cod		-	-	-	3	-	-	-	1	-	-	-	-	-	-	-	1	4
Drum		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Snapper		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Sheepshead		-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	20	-
Tautog		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Unidentified fish		-	2	1	10	156	-	3	3	-	2	1	2	-	-	4	280	48
	Subtotal	-	2	1	13	156	-	3	5	-	2	2	2	-	-	4	304	52
Reptile																		
Snapping turtle		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	5
Unidentified snake		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Unidentified turtle		-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	16	5
	Subtotal	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	18	10
Crustacean																		
Crab		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	1
	Subtotal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	1
	Total MNU	-	17	3	104	196	-	50	91	-	2	17	16	2	3	18	959	634

10.2.2.2 MID Area

10.2.2.2.1 Lot 15

The features from Lot 15 included three privies and two pits. These features contained relatively small faunal deposits. The two largest deposits were contained in AU56 and AU91.

AU56

AU56, a privy, yielded 50 MNU (Table 122). This bone deposit was characterized by a high rate of fragmentation. It was composed of mammal, bird, fish, and reptile. Mammal species included rat, pig, sheep, and cattle. One rat femur was present. Small-mammal elements included a vertebra, ribs, and a metapodial, all of which may be rat. Cattle consisted of processing waste and dietary refuse. Processing waste included a mandible fragment and a molar aged at ½ year plus. Dietary refuse was primarily composed of beef cuts as well as one veal cut. Beef cuts included roasts and stew-meats from chuck, arm, foreshank, round, and hindshank. The veal cut consisted of a stew-meat cut from the foreshank. Cuts were sawed, chopped, and cleaved. One element was rodent-gnawed. Pig was also composed of processing waste and dietary refuse. Fragments of a maxilla represented processing waste. Dietary refuse included a pork chop, a butt ham, and the hind limbs from a minimum of two neonate pigs. One neonate femur had cut marks. Sheep was also composed of processing waste and dietary refuse. Processing waste included a mandible fragment and loose teeth. Ages obtained from the teeth indicated the presence of a lamb and a mature individual. Dietary refuse included meat cuts from the chuck and butt-end leg. Neither of these bore obvious butcher marks. Other unidentified medium and large mammal included vertebra, rib, and longbone fragments. Several fragments were calcined. Chicken and goose were the only identified bird species. Chicken consisted of a scapula and goose of an ulna. Unidentified bird consisted mainly of foot elements and longbone fragments. Four bone fragments were calcined. Cod was the only fish species identified, based on a skull element. Unidentified fish consisted of a vertebra, scale, and three skull plates. Snapping turtle was also recovered in the deposit and consisted of a radius and phalange. The deposit was a mix of processing waste and dietary refuse.

AU74

AU74, a privy, contained a small bone deposit (7 MNU) (Table 122). It was composed of mammal and bird, most of which was unidentified to the species level. Mammal bone included a beefsteak, the sirloin, and medium- and large-mammal rib, vertebra, and longbone fragments. A few pieces were calcined. A vertebra indicated the presence of a small mammal. Bird consisted of a pigeon wing element and another unidentified species vertebra.

AU77a

AU77a, a privy, yielded a fair-sized bone deposit (26 MNU) (Table 122). This deposit was composed of mammal and bird. Mammal species included cattle, pig, and sheep. Cattle consisted of dietary refuse and butchering waste. Dietary refuse included cuts from the neck and rib. The rib cut was a steak. Butchering refuse was indicated by the presence of a metacarpal, phalanges, and a cuboid. Pig was represented by dietary refuse. Meat cuts included a loin pork chop, a Boston-butt ham, and a shank ham. In addition, there was a partial neonate pig. Sheep was also composed of dietary refuse. Meat cuts came from the neck and the loin. Small mammal consisted of a vertebra and two ribs. Medium- and large-mammal remains included vertebra, rib, and longbone fragments as well as several unidentified fragments. The rib fragments exhibited saw marks. Bird was unidentified to the species level and consisted of a pelvic fragment. The deposit was composed primarily of dietary refuse. A small amount of butchering waste was present as well.

AU77b

AU77b, a pit, yielded a small deposit (19 MNU) (Table 122). The deposit consisted of mammal and fish. Mammal species included rat, dog, pig, cattle, and sheep. One rat was indicated by an upper-arm element. Dog consisted of a single vertebra. Cattle were indicated by dietary refuse consisting of meat cuts from the neck and hindshank. Pig also consisted of dietary refuse. Meat cuts included a loin chop and a tooth from a neonate pig. Sheep included dietary refuse and butchering waste, represented by loin chops and a tailbone. Other unidentified medium and large mammal consisted of vertebra, rib, and longbone fragments. Few bone modifications were noted. Fish was well preserved in this deposit. Identified species included sheepshead and cod. With the exception of one fish scale, all bones were skull elements. The deposit was mainly composed of dietary refuse. There were small amounts of processing and butchering waste.

AU91

AU91, a pit, had the largest bone deposit in this area (63 MNU) (Table 122). The deposit was composed of mammal, bird, fish, and crustacean. Mammal species included cat, cattle, pig, and sheep. An incisor and axis vertebra indicated the presence of at least one cat. Cattle were represented mainly by dietary refuse, though there were also small amounts of processing and butchering waste. Processing waste consisted of a hyoid. Dietary refuse included meat cuts that came from the neck, rib, chuck, and hindshank. Butchering waste consisted of two phalanges, one of which was aged at 1½ years plus. Pig was also composed of processing waste and dietary refuse. Processing waste included two mandibles, one of which showed clear butchering marks. This mandible was aged at 1–1½ years at death. Dietary refuse consisted of meat cuts from the Boston butt and shank ham. Sheep was the most abundant species. It was composed of processing waste, dietary refuse, and butchering waste. Processing waste included mandibles and teeth. There were five mandibles, two of which were aged at over 2 years at death. On the basis of ages obtained from loose teeth, another immature individual was indicated. Dietary refuse included meat cuts from the loin, chuck, foreshank, and shank end of the leg. Butchering waste consisted of one foot element. Medium and large mammal included vertebra, rib, and longbone fragments, a few of which exhibited butcher marks, and one of which was burned. Bird consisted of the wing and leg of a pigeon. Other unidentified bird consisted of longbone fragments. Fish was unidentified to the species level. It was composed of a few vertebra and spines as well as a few skull plates. Two crab claws were present. The deposit was predominantly composed of dietary refuse. There was also a fair amount of processing waste and a small amount of butchering waste.

10.2.2.2.2 Lot 16

There were five bone deposits in this area. AUs 58a–c and 108 represented a complex series of privies and related pits. AU58c had the greatest amount of bone, followed by AU58a and last by AU58b and AU108. AU101 was a posthole.

AU58a

AU58a, a privy, contained a large amount of bone (201 MNU) (Table 122). It was composed of mammal, bird, fish, and reptile. Mammal species included rat, cat, horse, cattle, pig, and sheep. There was one rat element, a scapula fragment. Small mammal included vertebrae and rib fragments. Cat consisted of a minimum of two individuals. Skeletal elements included a maxillary fragment and three humeri. Horse consisted of a partial thoracic vertebra. Cattle was the most common species, composed of possible processing waste, dietary refuse, and possible butchering waste. Possible processing waste consisted of a minimum of thirteen horn cores. On the basis of the shape, size, and texture of the horn cores, both longhorn and shorthorn cattle, and immature and mature individuals were represented. Processing waste also included a neonate mandible and two teeth. Dietary refuse was composed of meat cuts from the neck, loin, rib, short rib, brisket, chuck, arm, foreshank, rump, and hindshank. Cuts were sawed and chopped. Possible butchering waste included eight feet representing a minimum of two individuals, one immature and one mature. One phalange exhibited rodent gnaw marks. Pig was the second most abundant species. It consisted of processing waste and dietary refuse. Processing waste included one incisor. Dietary refuse was

composed of hams and stew meats from the loin, rib, Boston butt, leg hams, and feet. Aging information indicated the cuts came from immature animals. Sheep consisted of processing waste, dietary refuse, and butchering waste. Processing waste included a skull, mandible, and hyoid. The skull bore cut marks on the surface. The mandible was aged at minus 1½ years. Dietary refuse was represented by meat cuts from the chuck and butt-end leg. Butchering waste consisted of one partial foot that was aged at 1½ years plus. This specimen was chopped. Other unidentified medium and large mammal included vertebrae, rib, and longbone fragments. Some of the vertebrae were tailbones. Seven bone fragments were calcined, and a few were weathered.

Bird included chicken, pheasant, duck, goose, and pigeon. Chicken was the most frequent and was represented by the breast, wing, leg, and foot. Pheasant consisted of wing and foot elements. Duck was the second most abundant bird species. It included elements from the skull, back, breast, leg, and foot. Goose consisted of a single element from the breast. Unidentified bird was composed of skull, rib, breast, foot, back, and longbone fragments.

Identified fish species included cod and sheepshead. Based on skull elements, each species was represented by a minimum of one individual. In addition, there were several unidentified fish-skull elements, vertebrae, and scales. One unidentified turtle humerus was present.

The deposit was a mix of processing waste, dietary refuse, and butchering waste. The composition of the cattle processing and butchering waste strongly suggests it represents craft-related/commercial refuse.

AU58b

AU58b, a privy, yielded a fair amount of bone (40 MNU) (Table 122). It was composed of mammal, bird, and fish. Mammal species included cat, cattle, pig, and sheep. A single cat element was identified consisting of a mandible. Cattle consisted of processing waste and dietary refuse. Processing waste was represented by a minimum of three horn cores, none of which exhibited obvious butcher marks. The horn cores came from shorthorn cattle aged at 10 years plus. Dietary refuse included meat cuts from the loin and chuck. Cuts were chopped. Pig was the most abundant species. It was composed of dietary refuse. Two partially disarticulated piglets were present, aged at around ½ year. Meat cuts included loin chops, a shank ham, and butt hams. Sheep was represented by stew meat from the foreshank. Medium and large mammal consisted of longbone fragments. Bird species included chicken and pigeon. Chicken was represented by the head, breast, wing, and leg. Pigeon consisted of a single leg bone. Cod was the only fish species identified, composed of skull plates and vertebra. One of the skull bones was calcined. Unidentified fish included a few vertebrae, scales, and a head plate. The deposit was a mix of processing waste and dietary refuse. From the cattle elements, the processing waste appears to be craft-related/commercial refuse.

AU58c

AU58c, a pit into a privy, contained a large and diversified faunal deposit (620 MNU) (Table 122). It was composed of mammal, bird, fish, reptile, and crustacean species. Mammal species included rat, cat, cattle, pig, and sheep. Rat consisted of a limited range of skeletal elements from a minimum of three individuals. Cat was present in low frequency, represented by a minimum of four individuals. The most complete skeleton belonged to a neonate cat.

Cattle were the most abundant mammal species. It was represented by processed food waste, dietary refuse, and butchering waste. Processed food waste included skulls and mandibles. There was a minimum of four fragmentary skulls. Small fragments of horn cores were also present. Two of the skulls came from neonate cattle. None of the skulls or horn cores showed signs of butchering. However, two of the four mandibles were chopped or hacked. Aging information indicated that three of the mandibles came from mature individuals while one came from a neonate. Dietary refuse was varied and included both beef and veal meat cuts. Beef cuts included roasts, steaks, and stew meats from the neck, loin, chuck, rib, shanks, arm, sirloin, rump, and round. Veal cuts included roasts from the chuck and shank. The small frequency of butchering waste consisted of four hind feet, two of which belonged to a neonate calf. Cuts were chopped, cleaved, and sawed.

Pig was the least common of the large domesticated mammals. It included a small number of teeth, indicating processed food waste. Most of the skeletal elements consisted of dietary refuse. They represented a small variety of cuts including hams, chops, and stew meats from the loin, picnic ham, foot, butt ham, shank ham, and ham hock. The presence of one neonate pig was indicated by a femur.

Sheep and sheep/goat were composed of processing waste and dietary refuse. There was a high frequency of processed food waste, composed of at least fourteen skulls of varying ages. Six skulls were aged. There were two neonates, one juvenile, and three mature individuals. In contrast to the large number of skulls, there were only four mandibles, all of which came from mature individuals. Only one skull and none of the mandibles showed clear signs of butchering. The rest of the bone was composed of dietary refuse. There were chops, roasts, and stew meats representing the neck, chuck, foreshank, loin, butt end of the leg, shank end of the leg, and hindshank. No foot elements were present. Cuts were chopped. Two fragments were burned.

Other unidentified small-mammal bone included skull, vertebra, rib, foot, and longbone elements. Unidentified large-mammal bone included skull, vertebra, rib, and longbone fragments. A small percentage of bone was burned.

Bird species included chicken and duck, chicken being the most frequent. A minimum of four individuals was present. With the exception of the head, all body parts were represented. There were no signs of immature individuals. A small number of bones were gnawed, and no cut marks were present. Duck was present in low frequency. One individual was present, which was composed of elements from the skull, breast, back, and leg. Other unidentified bird included fragments of ossified trachea, vertebrae, rib, breast, longbone, and feet. Although no direct evidence of gnawing was seen, there was a very high frequency of splintered longbone fragments that is usually indicative of this activity.

There was a wide variety of fish including striped bass, red snapper, bluefish, cod, sheepshead, and tautog. Red snapper and cod were the most frequent. Each species was represented by a minimum of one individual. Other unidentified fish was composed of a high frequency of crushed skull elements and low frequencies of vertebra, rib, and fish-scale fragments.

Reptile species consisted of unidentified turtle longbone fragments.

Crustacean species were limited to crab. Crab remains included both claw and carapace fragments. A minimum of one individual was represented.

The deposit was composed primarily of processing waste and dietary refuse and a small amount of butchering waste.

AU101

AU101, a posthole, yielded a small deposit (14 MNU) (Table 122). It was composed of mammal and fish. Mammal consisted of cattle and pig. Cattle consisted of possible processing and butchering waste. There was a minimum of two horn cores and of four disarticulated hind feet. Two of the hind feet came from an immature individual. Two elements exhibited cuts on the surface of the bone. The cattle bone appears to be craft-related/commercial refuse. One unidentified small mammal was also present. It was represented by a vertebra, foot element, and pelvic fragment. Other unidentified medium and large mammal consisted of rib and longbone fragments. Pig was indicated by single meat cut, a shank ham. Fish, consisting of a single scale, was not identified to the species level. The deposit is primarily composed of craft-related/commercial refuse and small amounts of dietary refuse and processing waste.

AU108

AU108, a pit, had a fairly large deposit (115 MNU) (Table 122). It was composed of mammal, bird, fish, and reptile. Mammal species included dog, horse, cattle, pig, and sheep. Dog consisted of two hind feet. Unidentified small mammal included fragments of costal rib, longbones, and phalanges. Horse was represented by five teeth and four cervical vertebrae. Cattle were by far the most abundant species. Cattle

remains were composed of possible processing waste, possible dietary refuse, and possible butchering waste. Processing waste may be indicated by a minimum of three horn cores. From the shape, size, and texture of the horn cores, at least one young shorthorn cow and one mature shorthorn bull were identified. Dietary refuse may be indicated by two cervical vertebrae. Butchering waste was the most abundant type of refuse. There was a total of twenty-four feet, representing six forefeet, eight hind feet, and ten unspecified feet. This indicates a minimum of six individuals. At least two individuals were aged at minus 2½ years, and the others were aged at plus 2 years. Most of the cattle bone appeared to be related to hide processing and therefore should be considered craft-related/commercial waste. Pig consisted of a single meat cut, a picnic ham. Sheep was composed of dietary refuse and butchering waste. Dietary refuse consisted of stew cuts from the foreshank and butchering waste of a phalange. Unidentified medium and large mammal included vertebra, skull, rib, and longbone fragments. There were some caudal vertebrae considered related to hide processing since tails were commonly left attached to the skins. Bird, fish, and turtle were present in very small frequencies. Bird consisted of a phalange, fish of three vertebrae, and turtle of a carapace fragment. The deposit is composed primarily of craft-related/commercial waste and small amounts of dietary refuse and processing waste.

10.2.2.2.3 Lot 17

There were five bone deposits in this area. AUs 102, 146, and 162 were postholes; AU104 was a concentration of artifacts; and AU126 was a pit. Most of these had very small bone deposits. AU104 contained the largest deposit.

AU102

AU102, a posthole, contained a small bone deposit (4 MNU) (Table 122). It was composed of mammal and fish. Cattle were the only identified mammal species, represented by butchering waste that included a phalange with a cut mark on it, an articulated distal metatarsal phalange, and cuboid. Fish was not identified to the species level. It consisted of a large vertebra fragment.

AU104

AU104, a concentration of artifacts, yielded a medium-sized bone deposit (45 MNU) (Table 122). The deposit was composed of mammal, bird, fish, and reptile. Mammal species included cattle, pig, and sheep. Cattle bone was composed of a mix of dietary refuse and butchering waste. Dietary refuse included meat cuts from the loin, chuck, foreshank, and hindshank. Butchering waste consisted of a disarticulated foot and three phalanges. The foot was aged 2–2½ years. One phalange had cut marks on the surface. Cuts were sawed and cleaved. Pig consisted of processing waste and dietary refuse. Processing waste was represented by a premolar aged at ½ year plus. Dietary refuse included three Boston-butt hams and one leg ham. Sheep was composed of dietary refuse. Meat cuts included stew meats, chops, and roasts from the neck, rack, chuck, foreshank, and butt-end leg. Two of the leg roasts were from lambs. Small mammal was indicated by the presence of a phalange from a species slightly larger in size than dog. Medium and large mammal included fragments from the skull, scapula, tibia, rib, vertebrae, and longbones. Six fragments were calcined. Bird, consisting of two longbone fragments, was not identified to the species level. One fragment was calcined. Fish was not identified to the species level. It was represented by two skull fragments and two scales. Reptile species included snapping-turtle carapace and plastron fragments. The deposit was primarily composed of dietary refuse along with small amounts of processing and butchering waste.

AU126

AU126, a pit, contained a small bone deposit (8 MNU) (Table 122). This deposit was composed of cattle, pig, and sheep. Cattle consisted of processing and butchering waste. Processing waste included fragments of a horn core and tooth fragment. Butchering waste included two phalanges. Pig was represented by a cut from the Boston butt. Sheep was composed of processing waste in the form of an incisor aged at 1¼ years plus. Medium- and large-mammal remains were represented by skull, rib, and longbone fragments. One

fragment was calcined. This deposit consisted mainly of processing and butchering waste and a small amount of dietary refuse.

AU146

AU146, a posthole, had 1 MNU (Table 122). This bone was a cattle phalange fragment.

AU162

AU162, a posthole, contained a small amount of bone composed only of mammal bone (8 MNU) (Table 122). Identified mammal species included cattle, pig, and sheep. Cattle were the most abundant species, represented by dietary refuse and butchering waste. Dietary refuse consisted of a stew cut from the hindshank and processing waste of two phalanges. A pelvic fragment exhibiting cut marks represented sheep. Pig and sheep were both composed of dietary refuse. There was a pork cut from the rib and a mutton cut from the butt-end of the leg. The remaining bone consisted of medium- and large-mammal vertebra and longbone fragments. Three pieces of bone were burned. This deposit was primarily composed of dietary refuse and a small amount of butchering waste.

Table 122. Summary of Phase 2, MID Area, Faunal Remains by Lot, Analytical Unit, and Minimum Number of Bone Units (MNU)

Class/ Species		Lot 15 AU56	Lot 15 AU74	Lot 15 AU77a	Lot 15 AU77b	Lot 15 AU91	Lot 16 AU58a	Lot 16 AU58b	Lot 16 AU58c	Lot 16 AU101	Lot 16 AU108	Lot 17 AU102	Lot 17 AU104	Lot 17 AU126	Lot 17 AU146	Lot 17 AU162
Mammal																
Cat		-	-	-	-	2	4	1	18	-	-	-	-	-	-	-
Cattle		14	1	7	2	8	51	6	70	8	70	3	13	4	1	3
Dog		-	-	-	1	-	-	-	-	-	3	-	-	-	-	-
Horse		-	-	-	-	-	1	-	-	-	10	-	-	-	-	-
Pig		8	-	5	3	4	16	10	14	1	1	-	5	1	-	1
Rat		1	-	-	1	-	-	-	4	-	-	-	-	-	-	-
Sheep		6	-	2	2	25	8	1	50	-	4	-	14	1	-	1
Sheep/goat		-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Small mammal		4	1	3	-	-	5	1	25	3	5	-	1	-	-	-
Medium mammal		6	2	6	3	8	11	-	36	-	14	-	6	-	-	2
Large mammal		-	1	2	-	1	7	-	9	-	3	-	-	2	-	1
	Subtotal	39	5	25	12	48	103	19	227	12	110	3	39	8	1	8
Bird																
Chicken		1	-	-	-	-	8	11	85	-	-	-	-	-	-	-
Duck		-	-	-	-	-	5	-	4	-	-	-	-	-	-	-
Goose		1	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Pheasant		-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
Pigeon		-	1	-	-	4	1	1	-	-	-	-	-	-	-	-
Unidentified bird		4	1	1	-	1	16	-	33	1	1	-	-	-	-	-
	Subtotal	6	2	1	-	5	33	12	122	1	1	-	-	-	-	-
Fish																
Bluefish		-	-	-	-	-	-	-	2	-	-	-	-	-	-	-
Cod		1	-	-	5	-	1	3	8	-	-	-	-	-	-	-
Sheepshead		-	-	-	1	-	1	-	4	-	-	-	-	-	-	-
Snapper		-	-	-	-	-	-	-	10	-	-	-	-	-	-	-
Striped bass		-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Tautog		-	-	-	-	-	-	-	5	-	-	-	-	-	-	-
Unidentified fish		2	-	-	1	8	62	6	238	1	3	1	4	-	-	-
	Subtotal	3	-	-	7	8	64	9	268	1	3	1	4	-	-	-
Reptile																
Snapping turtle		2	-	-	-	-	-	-	-	-	-	-	2	-	-	-
Unidentified turtle		-	-	-	-	-	1	-	1	-	1	-	-	-	-	-
	Subtotal	2	-	-	-	-	1	-	1	-	1	-	2	-	-	-
Crustacean																
Crab		-	-	-	-	2	-	-	2	-	-	-	-	-	-	-
	Subtotal	-	-	-	-	2	-	-	2	-	-	-	-	-	-	-
	Total MNU	50	7	26	19	63	201	40	620	14	115	4	45	8	1	8

10.3 Summary and Conclusion

10.3.1 Phase 1

There were discernable patterns observed in the Phase 1 bone assemblage, such as how the bone was deposited and the types of bone refuse contained within the deposits. The distribution of bone across the site showed heavy concentrations in the NE and Lot 12 Areas, while there were only small deposits in the MID and SE Areas. This uneven distribution was heavily affected by the excavation methods since most of the ground surfaces were removed mechanically and little information can be gained about the original volume of bone in the MID and SE Areas. Nonetheless, from the total counts for the non-impacted areas, it can be seen that there was a greater concentration of bone in the NE Area than in Lot 12. Figures 100a and 100b present the relative bone distributions by area based on Total Number of Fragments (TNF) and Minimum Number of Units (MNU). Both graphs show that the NE Area had the greatest concentration of bone. There appears to be a discrepancy between the two graphs with regard to the counts in the SE Area. However, that discrepancy is due to the high fragmentation of bone from this area as a result of poor preservation.

There was considerable variation in terms of how bone was deposited across the site. Lot 12 yielded the second largest mass of bone at the site. Figure 101 indicates the relative percentages of bone by deposit type (MNU). Within this area, most of the bone was recovered from the trenches (67 percent), and primarily came from AU51. The transitional zone contained the second greatest concentration of bone (24 percent), while the rest of the features yielded much smaller deposits.

The MID Area yielded a small volume of bone. The largest bone deposit (82 percent) was recovered from the pit (AU141) (Figure 102). Unlike Lot 12, the transitional zone contained almost no bone (14 percent), nor did the historic ground surface (4 percent).

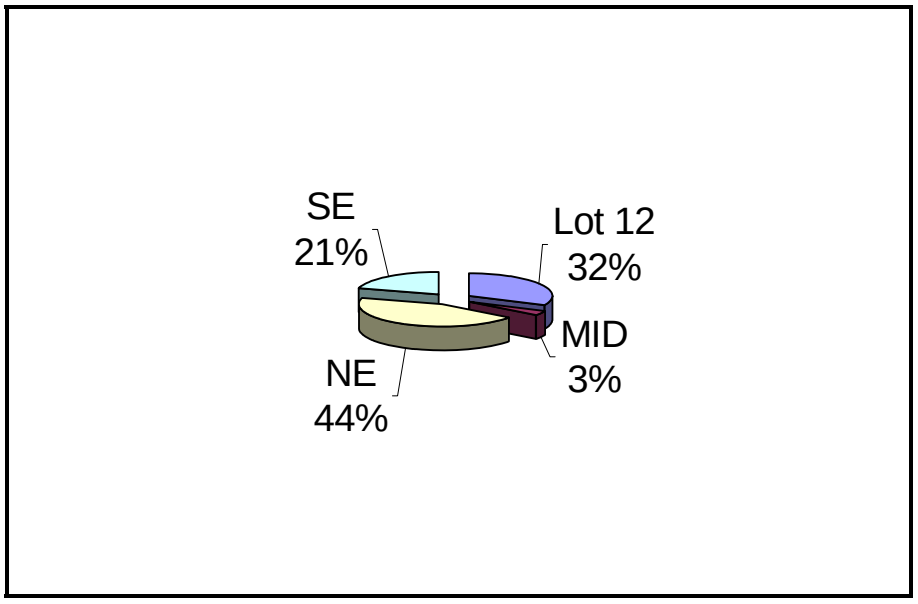

Figure 100a. Phase 1 bone distributions by area by relative percent based on Total Number of Fragments (TNF).

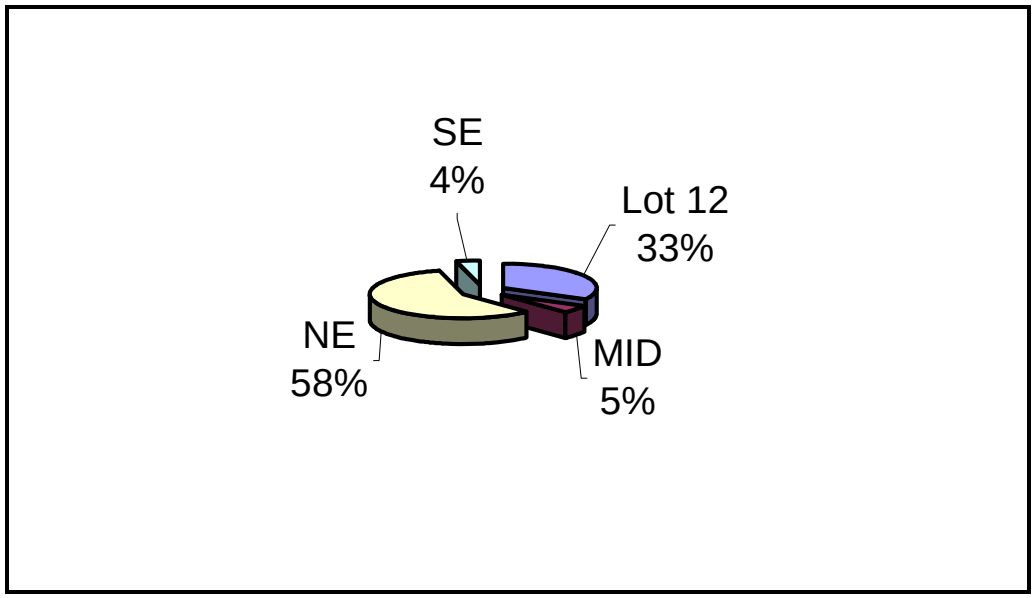

Figure 100b. Phase 1 bone distributions by area by relative percent based on Minimum Number of Units (MNU).

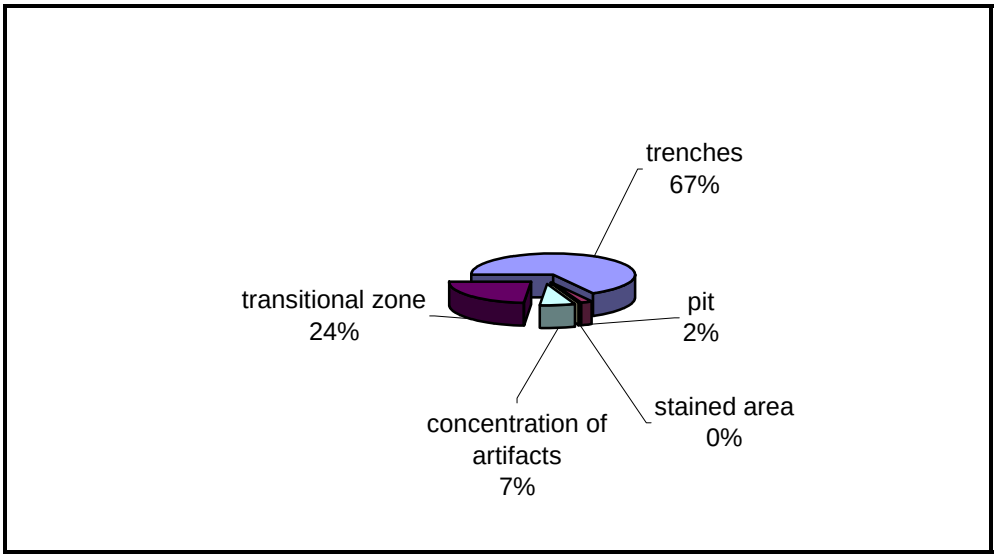

Figure 101. Phase 1, Lot 12 relative bone distributions by deposit type (MNU).

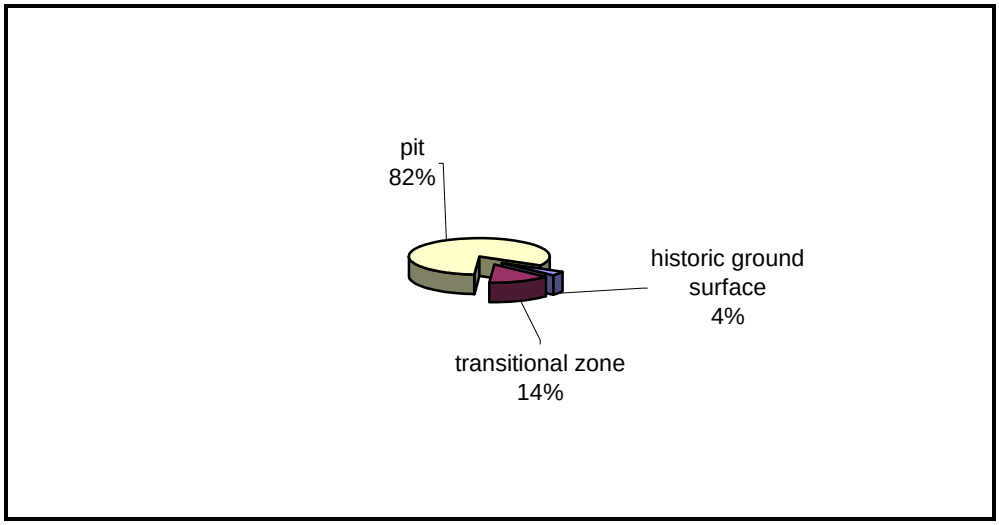

Figure 102. Phase 1, MID Area relative bone distributions by deposit type (MNU).

The NE Area yielded the largest concentration of bone at the site. Most of the bone came from the historic ground surface (68 percent) and pit features (21 percent) (Figure 103). All of the other deposit types yielded very small amounts of bone. The two pits that yielded high concentrations of butchering waste were AUs 154 and 155.

The SE Area yielded a highly fragmented bone deposit that contained very little identifiable bone. As with the MID Area, most of the bone was recovered from the pits (83 percent) (Figure 104). The trench had the second highest concentration of bone (14 percent) while the postholes and transitional zone had very little bone.

The data show that in Lot 12 and the NE Area, most of the faunal material was discarded on the surface during the time the block was used as a burial ground. It is presumed that AU51 was an open trench into which refuse could be thrown. The relatively low frequency of gnaw marks and the small presence of rodents and other scavengers strongly indicate that the faunal material accumulated, was covered over rapidly, and thereby became inaccessible. In the MID and SE Areas, the largest bone deposits came from pit features, which would be expected as a result of the excavation methods used there.

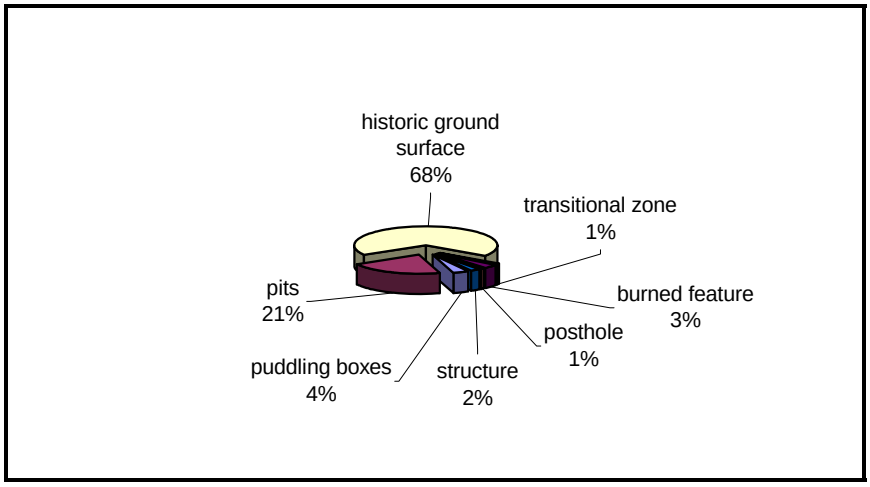

Figure 103. Phase 1, NE Area relative bone distributions by deposit type (MNU).

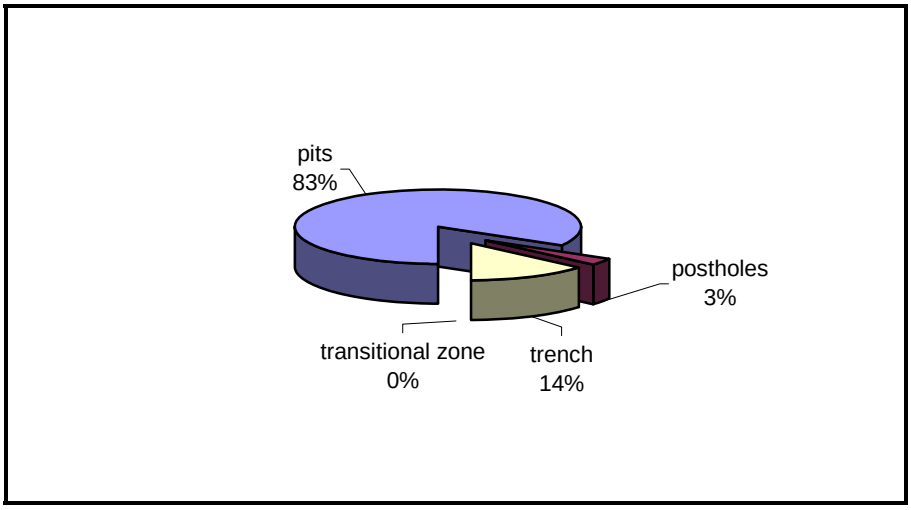

Figure 104. Phase 1, SE Area relative bone distributions by deposit type (MNU).

Another depositional pattern was observed in the kinds of bone refuse deposited across the site. The two types of information considered were refuse types and species diversity. The bone deposits from each area were combined and grouped by refuse type in order to see if there were similarities and/or differences in deposition across the site. Figures 105–108 indicate the relative percentages of bone refuse types by area. The four refuse types were processing waste, dietary refuse, butchering waste, and intrusive materials. Butchering waste included craft-related/commercial refuse. Intrusive materials included all commensal species, such as cat, dog, mouse, and rat. Figure 109 summarizes the number of species by class recovered in each area.

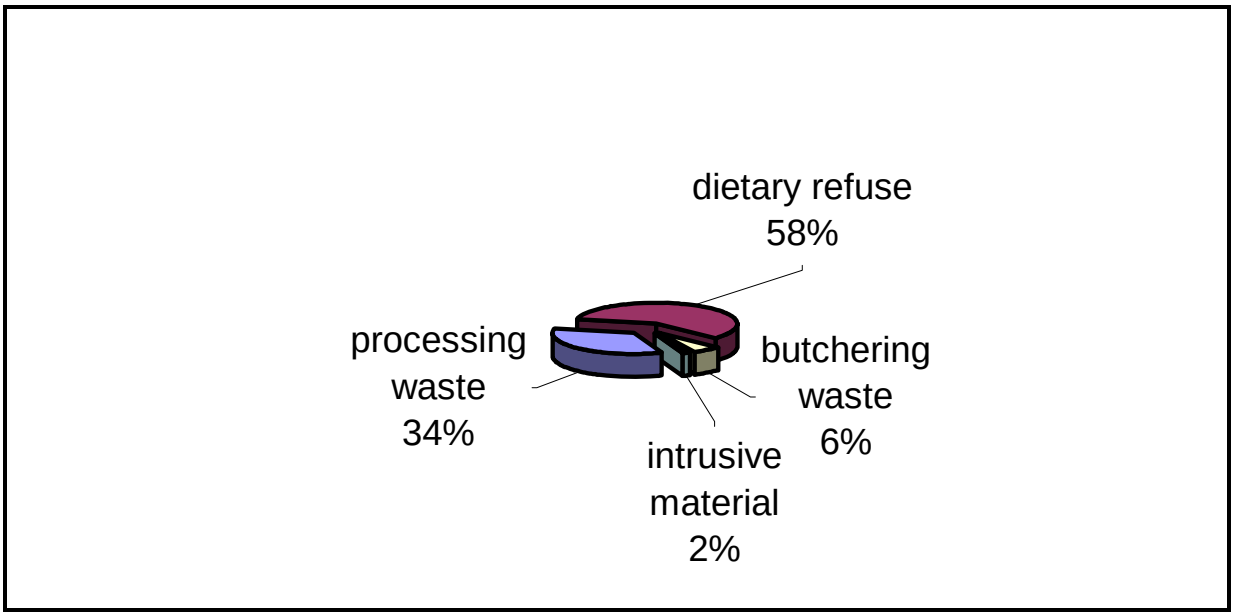

Figure 105. Phase 1, Lot 12 comparison of refuse types.

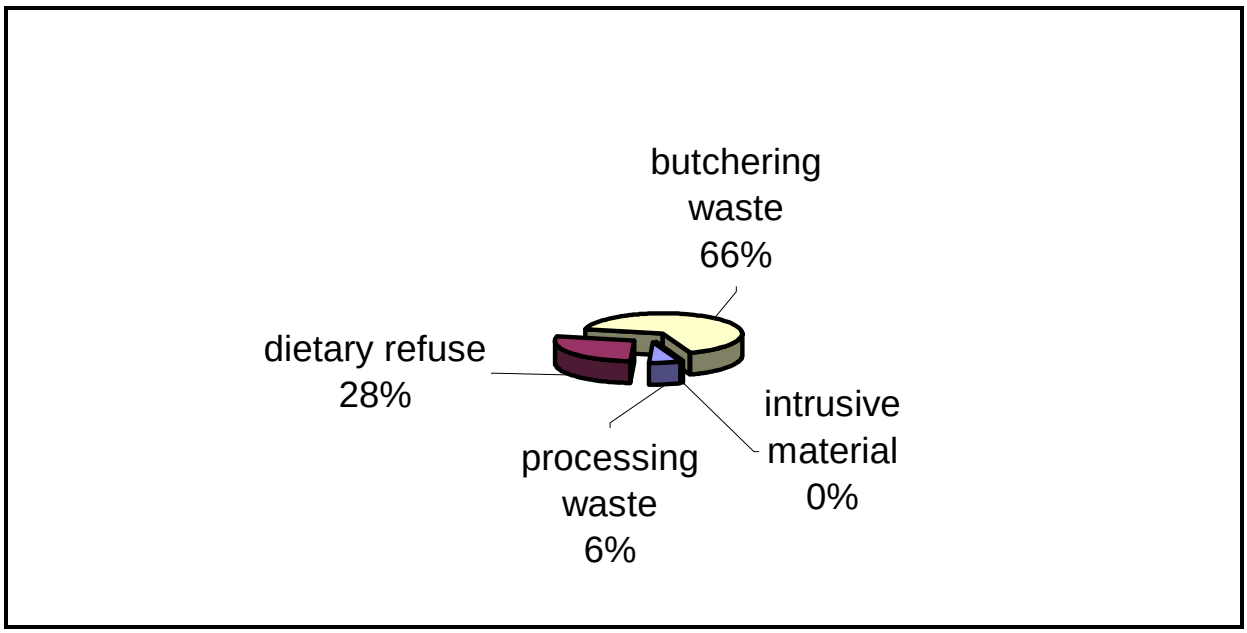

Figure 106. Phase 1, MID Area comparison of refuse types.

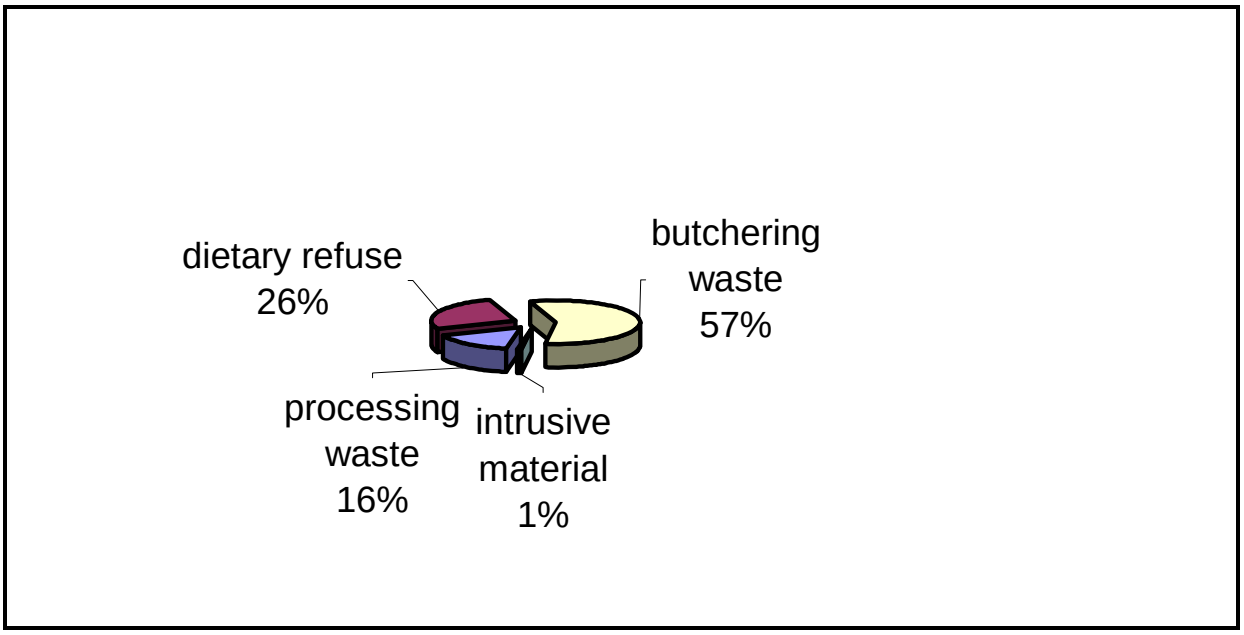

Figure 107. Phase 1, NE Area comparison of refuse types.

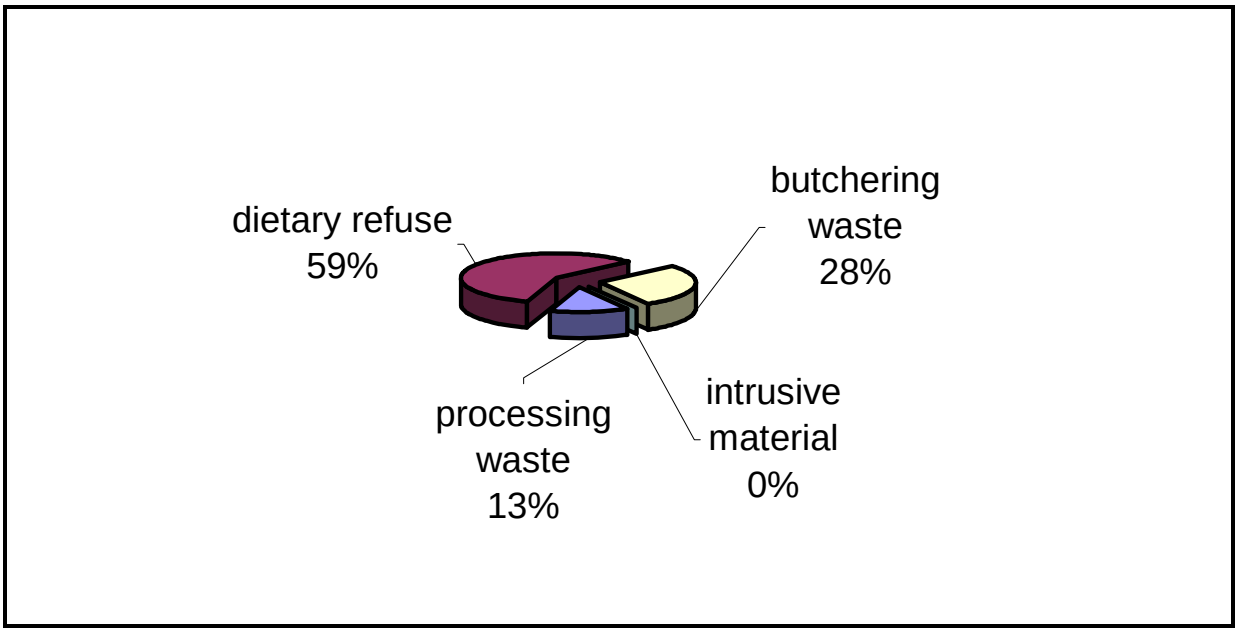

Figure 108. Phase 1, SE Area comparison of refuse types.

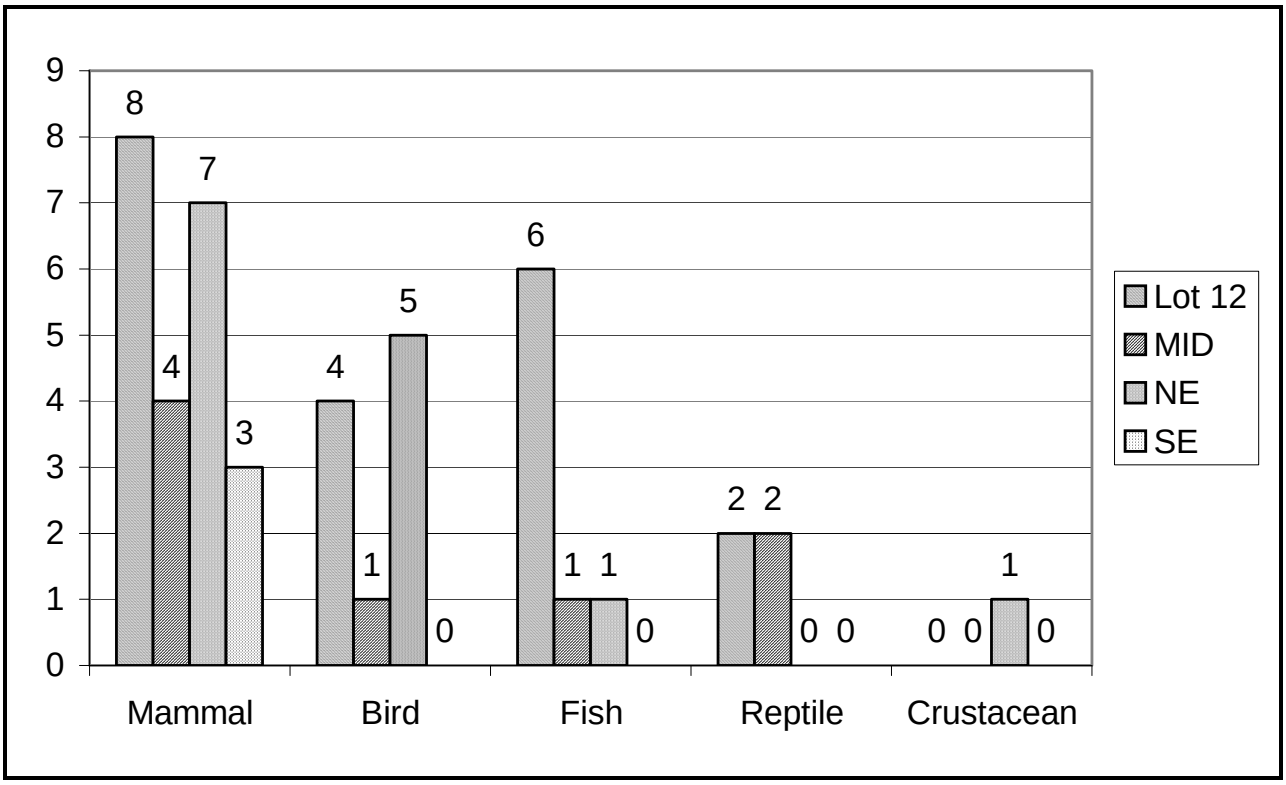

Figure 109. Phase 1, comparison of species diversity by area.

Lot 12 was composed of a high percentage of dietary refuse followed by a fairly high percentage of processing waste and small amounts of butchering waste and intrusive materials (Figure 105). This area had the greatest range of species at the site (Figure 109). There was a total of twenty species. Four species were intrusive, including rat, mouse, snake, and dog. In the MID and NE Areas, there were very high percentages of butchering waste, fair percentages of dietary refuse, and lower percentages of processing waste (Figures 106–107). Intrusive materials were either very low in frequency or nonexistent. In the MID Area, butchering waste included cattle- and sheep-foot elements that did not appear to be craft-related/commercial waste. Species diversity was lower than those of either Lot 12 or the NE Area (Figure 109). Of the seven identified species, only one was intrusive, an unidentified snake species. In the NE Area, AUs 154, 155, and 520, butchering waste was composed primarily of craft-related refuse in the form of cattle feet. This area had the second greatest diversity of species (Figure 109). However, of the fourteen species identified, three were intrusive to the deposits (cat, dog, and rat). The SE Area was similar to Lot 12 in having a high frequency of dietary refuse, but with more butchering waste and less processing waste (Figure 108). Unlike the other areas, only mammal species were present there, resulting in a very low diversity of species (Figure 109).

Dietary refuse and processing food waste represent household refuse. The distribution of household refuse across the site was heavily concentrated in Lot 12. It was characterized by a wide range of beef, veal, pork, mutton, and lamb meat cuts as well as poultry, fish, turtle, and crab. The skull remains of large domesticated mammals represented prepared foods. Butchering waste was also consistently present, though usually in low frequencies. These materials probably accumulated as a result of dumping household refuse at the site by residents and cartmen. On the other side of the block, in the NE Area, there was a very large accumulation of craft-related/commercial refuse represented by the metapodials and phalanges of cattle. Tanners probably deposited this material at the site.

During Phase 1, the site was used as a trash dump. Faunal remains were deposited principally on the eastern and western parts of the block. The western part of the block was used mostly for discarding household refuse by cartmen and residents. Most of the material was deposited on the surface. The

northeastern part of the block was heavily used by craft-related/commercial businesses. The material was primarily discarded on the surface in trenches and pits. Because of the low frequency of gnawed bone, it seems likely that the deposits were covered quickly, making them inaccessible to scavengers.

10.3.2 Phase 2

Whereas the context of the Phase 1 deposits compelled the issues to be broad, the Phase 2 deposits could be used to address more-specific issues because they accumulated rapidly and were attributable to a specific group of people. The deposits were used to consider patterns in refuse disposal, dietary preferences, and butchering practices in New York City. The Phase 2 deposits provided a snapshot in time of the kinds of foods available to New York City residents.

Bone was recovered from Lots 12, 15, 16, and17. Except for Lot 12, where a large sheet of refuse covered the area, the bone recovered in Lots 15–17 was contained primarily within pit features of some kind. In Lot 12, bone was recovered from deposits in the front, middle, and rear of the lot. For this reason, the deposits in Lot 12 were grouped by location to examine the bone distributions across the lot. In Lots 15, 16, and 17, bone deposits were recovered only in the rear of the lots. Bone deposits within each of these lots were grouped together and treated as single units of consideration. Table 123 summarizes the contents for each lot. To explore the selected issues, the following variables were examined: range of species, relative frequencies of large domesticated mammals, body-part distributions, and relative values of meat cuts.

Table 123. Summary of Phase 2 Bone Deposits (MNU) by Lot

Class/Species		Lot 12 Front	Lot 12 Middle	Lot 12 Rear	Lot 15 Rear	Lot 16 Rear	Lot 17 Rear
Mammal							
Cat		8	17	8	2	23	-
Cattle		21	256	148	32	205	24
Dog		-	10	7	1	3	-
Horse		-	4	7	-	11	-
Mouse		2	-	-	-	-	-
Pig		9	162	54	20	42	7
Rat		1	5	6	2	4	-
Sheep		24	230	130	35	63	16
Sheep/goat		1	1	5	-	1	-
Squirrel		-	1	-	-	-	-
Small mammal		2	39	11	8	39	1
Medium mammal		6	72	37	25	61	8
Large mammal		5	39	12	4	19	3
	Subtotal	79	836	425	129	471	59
Bird							
Chicken		-	36	17	1	104	-
Duck		5	10	6	-	9	-
Goose		-	11	1	1	1	-
Pheasant		-	-	-	-	2	-
Pigeon		1	1	1	5	2	-
Turkey		-	3	1	-	-	-
Unidentified bird		6	56	33	7	51	-
	Subtotal	12	117	59	14	169	-
Fish							
Bluefish		-	-	-	-	2	-
Cod		-	1	8	6	12	-
Drum		-	1	-	-	-	-
Sheepshead		-	21	1	1	5	-
Snapper		-	1	-	-	10	-
Striped bass		-	-	-	-	1	-
Tautog		-	1	-	-	5	-
Unidentified fish		3	466	43	11	310	5
	Subtotal	3	491	52	18	345	5
Reptile							
Snapping turtle		3	2	1	2	-	2
Unidentified snake		-	1	-	-	-	-
Unidentified turtle		1	20	2	-	3	-
	Subtotal	4	23	3	2	3	2
Crustacean							
Crab		-	7	1	2	2	-
	Subtotal	-	7	1	2	2	-
	Total MNU	98	1,474	540	165	990	66

The range of species is a good indicator of the variety of foods consumed by lot residents. Previous excavations in New York City have shown that the variety of animals consumed declined over time as a result of either over-exploitation, an increasing reliance on domesticated species, or the impact on preservation by taphanomic factors (Greenfield 1989; Rothschild 1990; Rothschild and Balkwill 1993). Looking at the relative frequencies of large domesticated mammals over time is used to consider meat dietary preferences. Beef was the most important source of meat during the seventeenth and eighteenth centuries. However, there was a change in the ratio of pig to sheep consumption. During the seventeenth century, pig was more prevalent than sheep. However, by the eighteenth century, sheep was more common than pig. There are a number of explanations for this phenomenon, such as dietary preference, use of pigs as a reliable food staple prior to the establishment of farms supplying the city, or simply poor preservation of softer bones (Greenfield 1989; Pipes 1994). Body-part distributions are a way of grouping skeletal elements together by species in order to see whether or not there are general patterns between species and deposits. Meat-cut values are a way of determining the range and quality of meats being consumed by people. Beef, pork, and mutton have assigned values that are based on studies that considered the economic value of the cuts as well as culturally determined quality of the cuts (Schulz and Gust 1983; Ubaldi and Grossman 1987; Pipes 1995). The specific economic values used in this report are those developed by Schulz and Gust (1983) for cattle and by Ubaldi and Grossman (1987) for pig and mutton. Because some of the deposits included craft-related/commercial refuse along with household refuse, some of the cuts are described as having no value, which is simply an indication that they had no food value.

The large bone concentrations recovered in Lot 12 raised the question of whether or not there were observable refuse-disposal patterns across the lot. The bone was examined to see whether or not there were differences in the distribution and composition of the bone from the front to the rear of the lot. The bone assemblage recovered within Lot 12 was extensive and covered almost the entire area. The front section of Lot 12 was represented by the analytical units found in association with EUs 4, 16, 18, and 19 (98 MNU). The middle section of Lot 12 was represented by the analytical units found in association with EUs 7, 7W 10, 11, 12, and 15 (1,474 MNU). The rear section of Lot 12 was represented by the analytical units found in association with EUs 6, 6B, 5, 9, 13, 13A, 8, 14 (540 MNU).

Figure 110 indicates the relative bone frequencies across the lot. The greatest volume of bone was found in the middle section, while the smallest concentration was in the front section. Most of the bone in the front section consisted of mammal remains. Bird was the second most frequent class (Figure 111). Fish and reptile were present in low frequencies. In terms of the number of identified species represented within each class, mammal was the most diversified class, followed by bird and last by fish and reptile (Table 124). In the middle section, mammal was the most frequent class followed by fish, then bird, and last by reptile and crustacean (Figure 111). Mammal, bird, and fish were the diversified classes followed by reptile and crustacean (Table 123). In the rear section, mammal was the most frequent class followed fairly equally by bird and fish, and last by reptile and crustacean (Figure 111). Mammal and bird were the most diversified classes followed by fish, reptile, and crustacean (Table 123). In terms of relative class abundance the front and rear deposits were most similar, while in terms of species diversity the middle and rear deposits were more similar though the middle section had the greatest range of species overall (Table 124).

The relative frequencies of cattle, pig, and sheep/goat were similar across the site. Only the ratios of pig to sheep/goat varied significantly (Figure 112). In the preceding analytical-unit descriptions, it was observed that most of the bone deposits in Lot 12, regardless of location, were composed primarily of dietary refuse and processing waste and small frequencies of butchering waste. Figures 113, 114, and 115 present body-part distributions for cattle, pig, and sheep/goat by lot location. Cattle distribution was similar in all three locations (Figure 113). The middle and rear sections had greater overall diversity of body parts. Pig presented greater variations across the lot (Figure 114). In the front section, the small sample size (9 MNU) was a significant factor in skewing the results. The middle and center were similar in body-part distributions. However, though both had high frequencies of foot bones, the rear section had a much greater occurrence. Some differences were also observed in sheep/goat distributions (Figure 115). In the front section, the upper hind leg, butt, and lower forearm were most frequent, while in the middle section the head was most frequent, and in the rear the foot was the most frequent. Generally speaking, the major

differences across the lot were in the volume and density of bone deposits, the range of species between the front section and the middle and rear, and a greater diversity of body-part distributions for cattle, pig, and sheep/goat. For the remaining issues, all of the bone from Lot 12 was combined into a single unit.

The next issue to be considered was diet. What did people eat and were there any similarities and differences among the lots? Figure 116 indicates the relative percentages by class for each of the four lots. In every lot, mammal was the predominant class, followed by fish. Except for Lot 17, where it was absent, bird was the third most abundant class. In Lots 12 and 16, mammal frequencies were lower than in the other two lots and other classes had higher frequencies. This most probably reflects a bias in large versus small sample sizes (Table 123). Table 124 summarizes the total number of edible species by class for each lot. Lots 12 and 16 had an equal number of species, though their compositions were not the same. Lot 12 had a greater number of mammal and reptile species while Lot 16 had a greater number of fish species. Lot 17 had the fewest species of all the lots.

Table 124. Lot Summaries by Total Number of Species Within Class

Species by Class *	Lot 12 Front	Lot 12 Middle	Lot 12 Rear	Lot 12 Combined	Lot 15	Lot 16	Lot 17
Mammal	4	6	5	6	3	5	3
Bird	2	5	5	5	3	5	-
Fish	1	5	2	5	2	7	1
Reptile	1	2	1	2	1	1	1
Crustacean	-	1	1	1	1	1	-
Total	8	19	14	19	10	19	5

* Excluding cat, dog, mouse, and rat

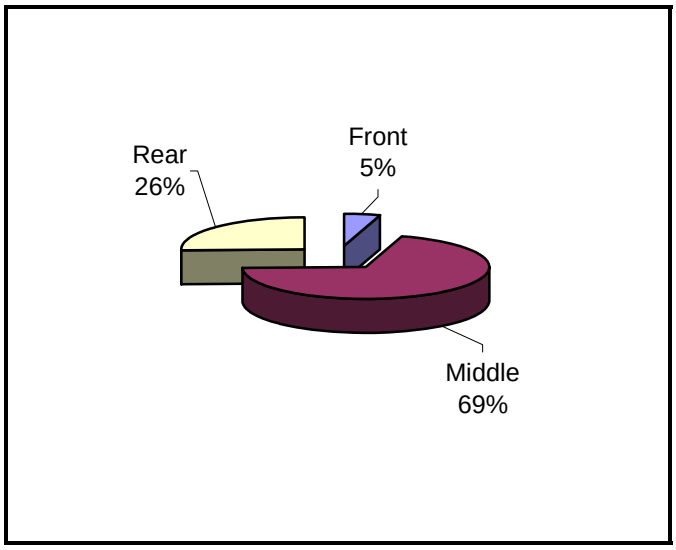

Figure 110. Lot 12 relative bone distributions by yard area.

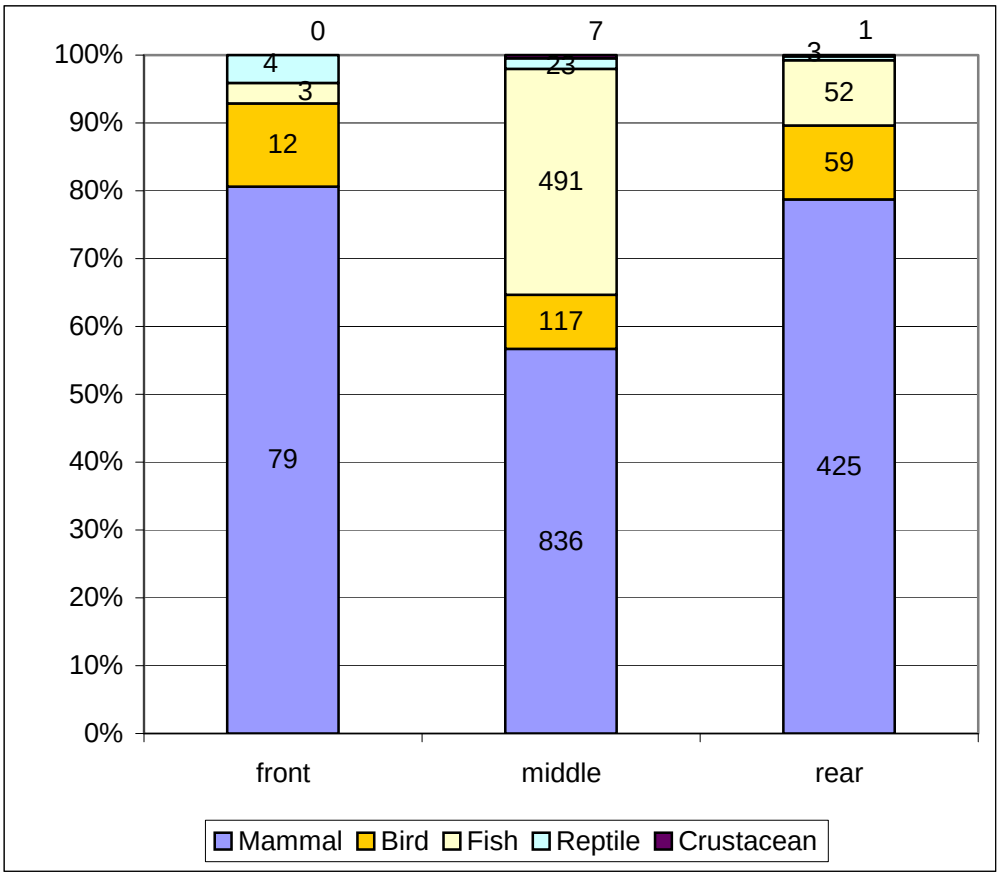

Figure 111. Relative class frequency distributions across Lot 12.

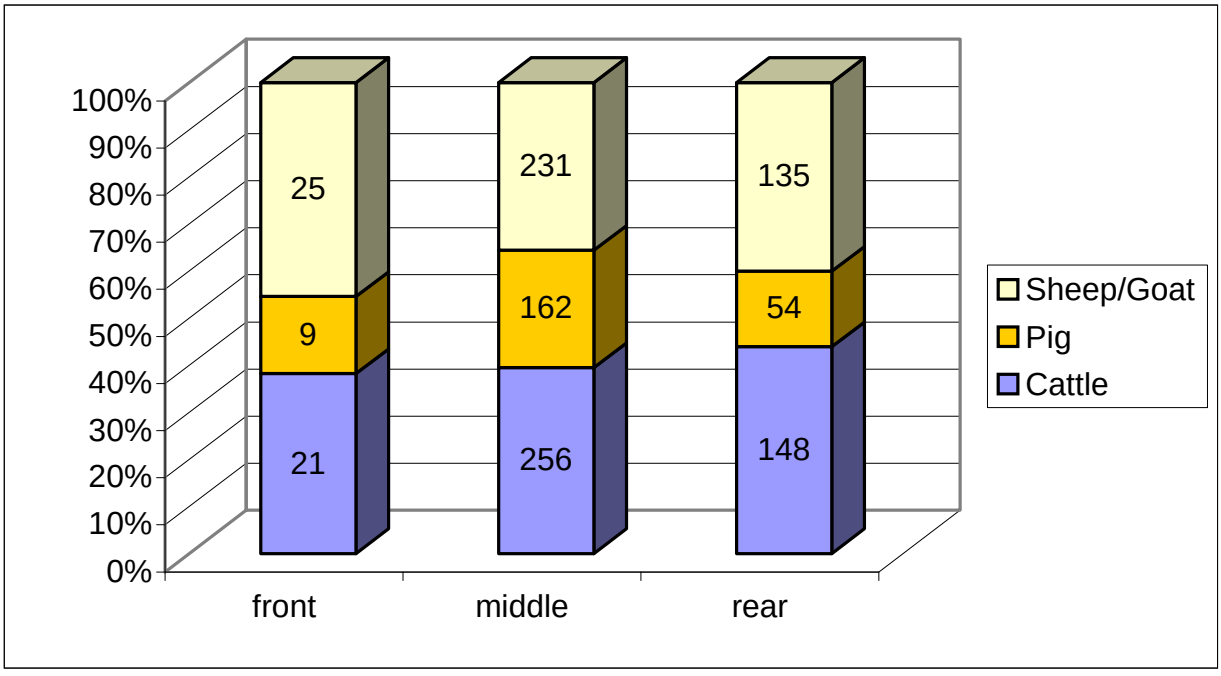

Figure 112. Lot 12 relative frequencies of cattle, pig, and sheep/goat by yard area.

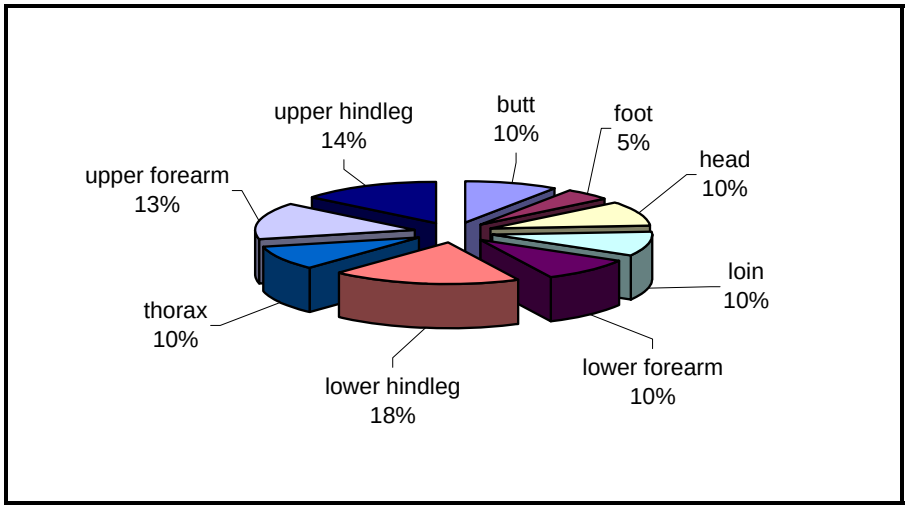

Figure 113a. Lot 12, front, cattle body-part distributions.

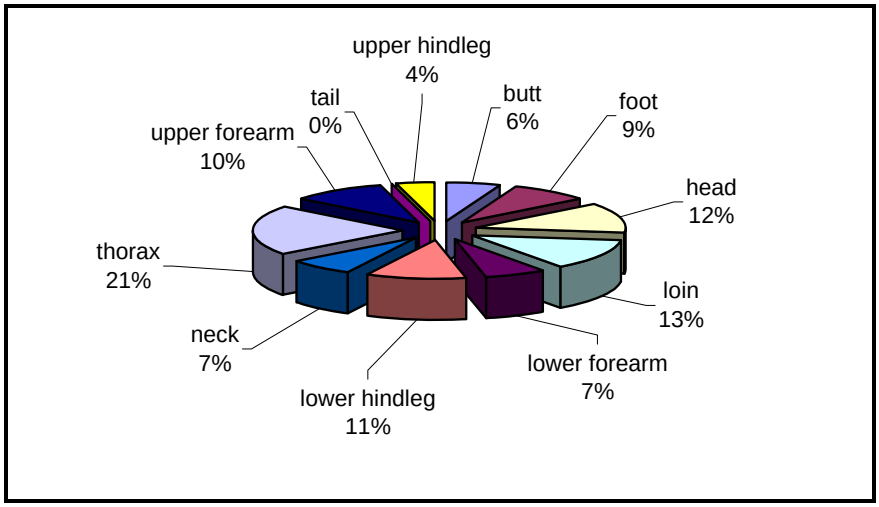

Figure 113b. Lot 12, middle, cattle body-part distributions.

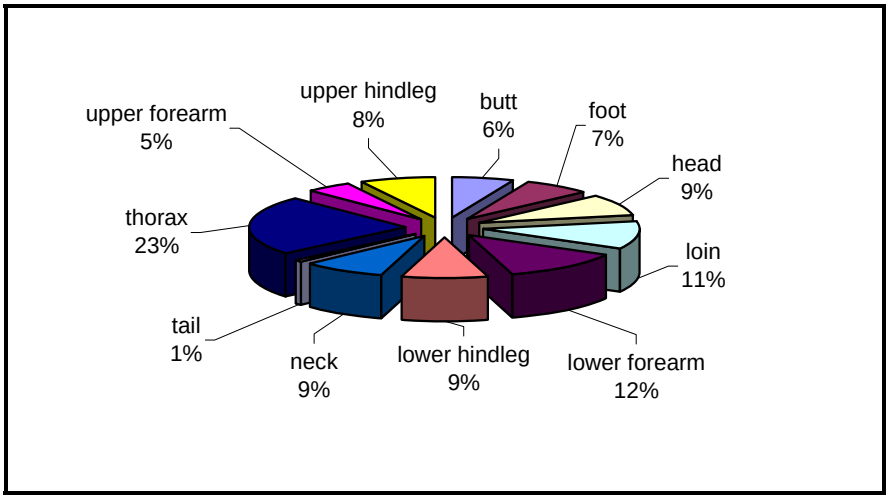

Figure 113c. Lot 12, rear, cattle body-part distributions.

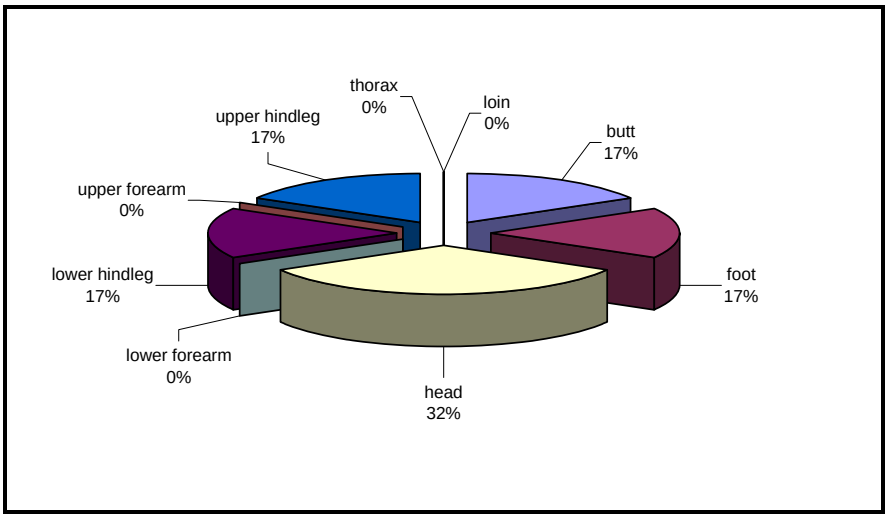

Figure 114a. Lot 12, front, pig body-part distributions.

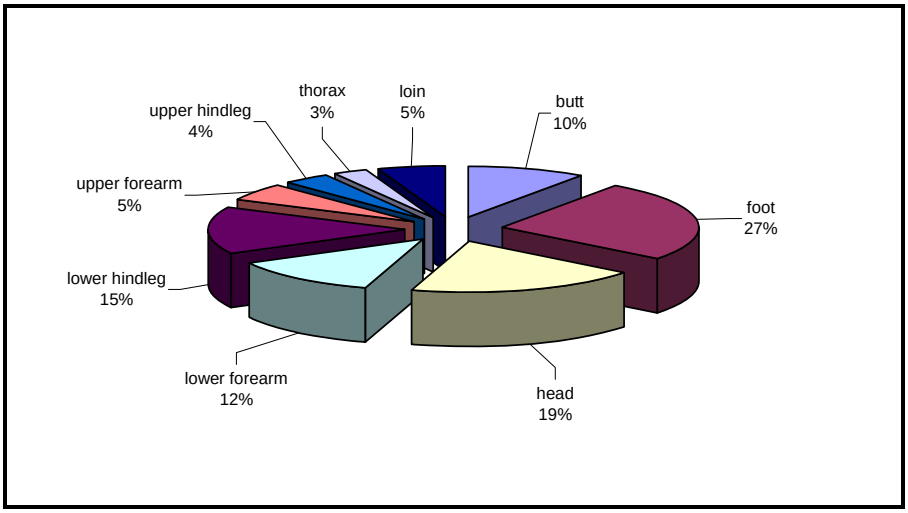

Figure 114b. Lot 12, middle, pig body-part distributions.

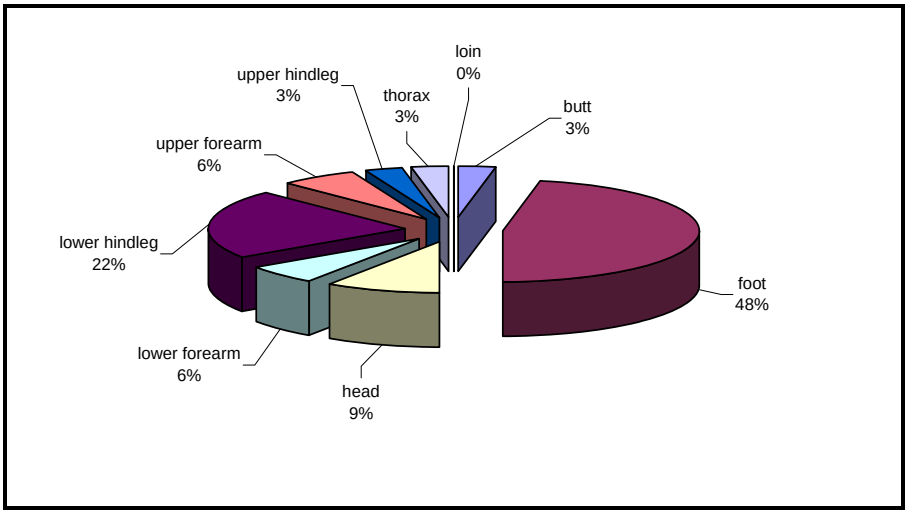

Figure 114c. Lot 12, rear, pig body-part distributions.

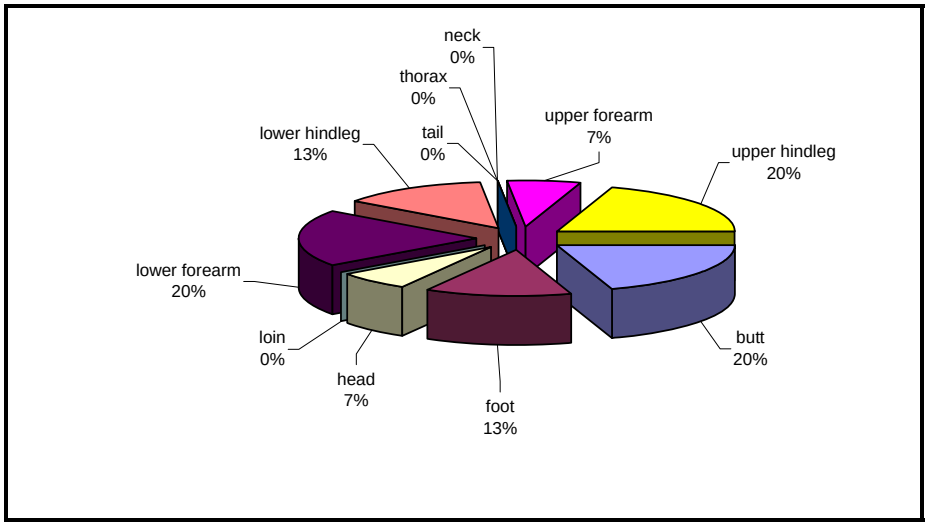

Figure 115a. Lot 12, front, sheep/goat body-part distributions.

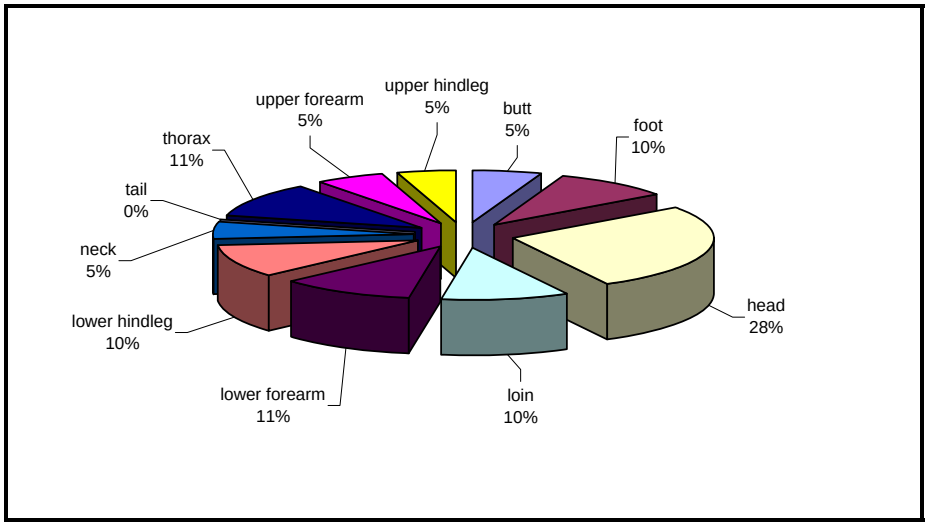

Figure 115b. Lot 12, middle, sheep/goat body-part distributions.

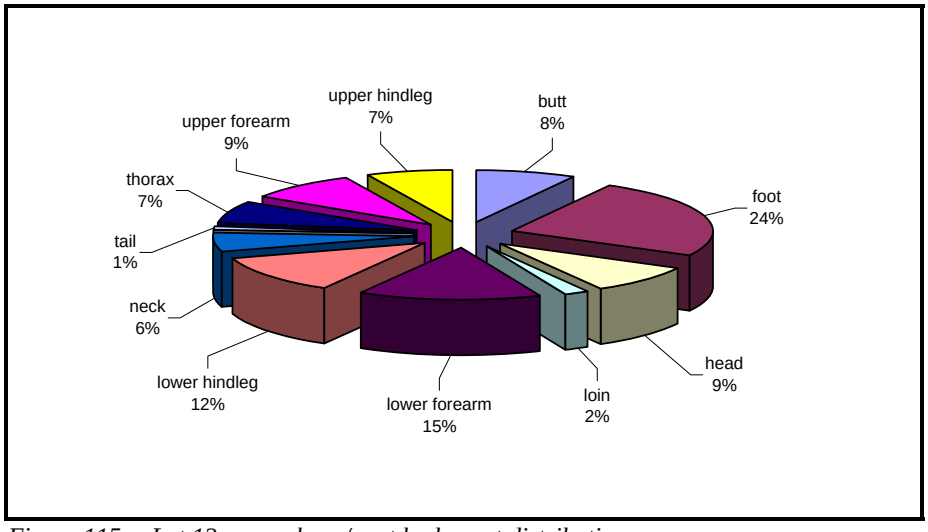

Figure 115c. Lot 12, rear, sheep/goat body-part distributions.

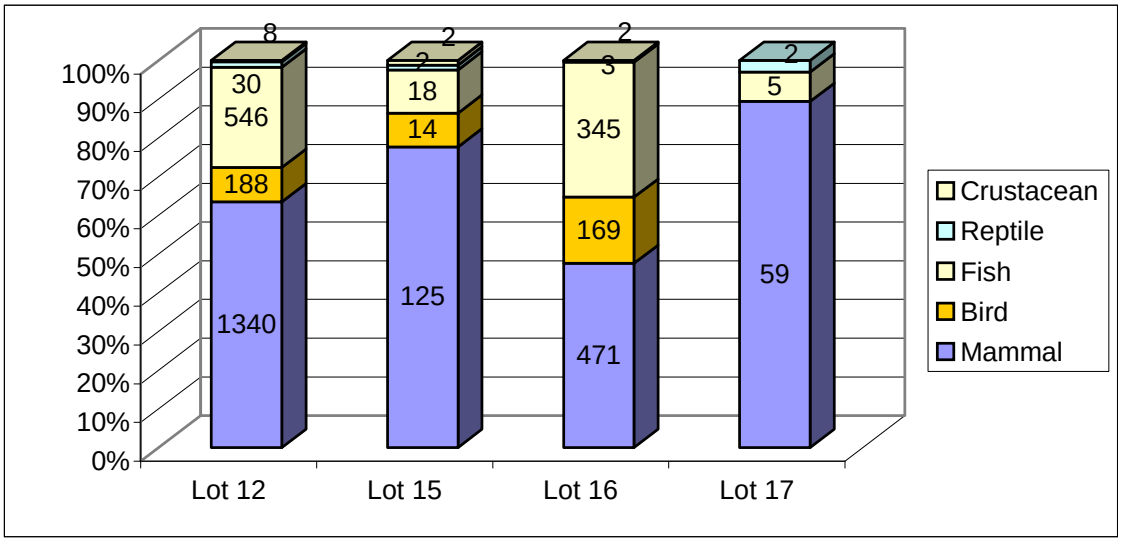

Figure 116. Lots 12, 15, 16, and 17 relative class frequency distributions.

There were some species that were pervasive in almost every lot. Cattle, pig, sheep/goat, turtle, and fish were consistently represented. Chicken, goose, pigeon, cod, sheepshead, and crab were present in every lot except Lot 17. Horse was present in Lots 12 and 16 and may have been eaten. Lot 12 also had squirrel, duck, turkey, drum, red snapper, and tautog. Lot 16 had duck, pheasant, bluefish, red snapper, striped bass, and tautog.

Figure 117 presents the relative frequencies of the large domesticated mammal species by lot. A very clear pattern was demonstrated, showing cattle as the dominant species followed by sheep/goat, and last by pig. One exception to the pattern was seen in Lot 15, where sheep/goat was slightly more abundant than cattle. In Lots 12, 15, and 17, the relative frequencies were similar. However, in Lot 16, cattle were significantly more abundant than either pig or sheep/goat.

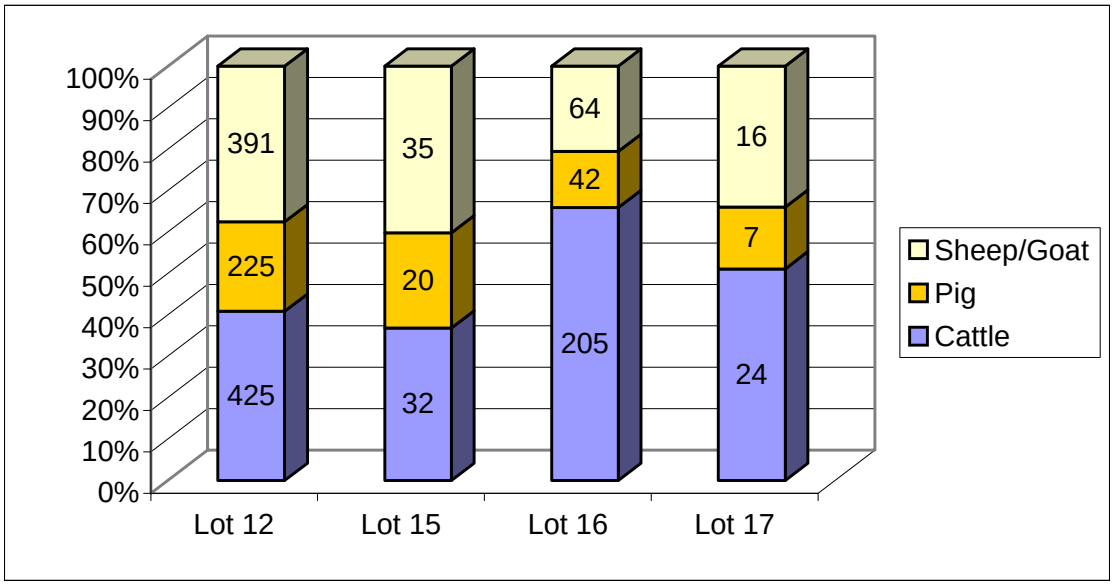

Figure 117. Lots 12, 15, 16, and 17 relative frequencies of cattle, pig, and sheep/goat by location.

In the previous section, cattle, pig, and sheep/goat were described in terms of specific types of refuse. Processing waste consisted of skull and mandible bones; dietary refuse consisted of bones associated with meat-bearing parts of the skeleton; and butchering waste consisted of foot elements typically discarded during the initial processing of a carcass. For each of the large domesticated mammal species, these types of materials were grouped by secondary butcher cuts and primary meat cuts and by rank value. This was done in order to determine the quality and relative importance of foods for each species by lot.

In the following discussion concerning meat cuts, the actual MNU counts for cattle, pig, and sheep do not appear to be in agreement with those found in Tables 114–123. This is because teeth were removed from the counts as they tend to inflate and skew the data. Teeth are the most frequent skeletal elements in the body. Therefore, except where they might have been the sole indicators of cranial bone, they were removed from consideration.

Tables 125–126 summarize the minimum number of beef and veal cuts by secondary butcher cut and primary meat cut for each lot. Figures 118–119 illustrate how beef and veal carcasses were processed. Table 125 shows the beef cuts in Lot 12 were varied, representing all of the secondary butcher cuts and primary meat cuts (254 MNU). The chuck was the best represented of the secondary butcher cuts, though the rib, round, and loin were abundant as well. The brisket, plate, and other body parts were the least abundant. Meat cuts included roasts, steaks, and stew meats as well as organ meats. Veal cuts were few and came from the shoulder, leg, and other body parts (28 MNU). They consisted of roasts and stew meats. A small amount of butchering waste was also present. Figures 120–121 indicate the relative frequencies of beef and veal cuts by rank value. Figure 120 shows a fairly even distribution of high (36 percent), to mid (29 percent), to low value (34 percent) cuts. No-value cuts were infrequent (1 percent). Figure 121 shows that veal cuts represented predominantly mid-value cuts (46 percent) and high-value cuts (36 percent) followed by low-value cuts (18 percent).

Lot 15 had a much smaller sample size of beef (24 MNU) (Table 125). Beef cuts came from the chuck, prime rib, round, and other body parts. Meat cuts included mostly stew meats and roasts as well as a small number of processed cuts and a steak. A small amount of butchering waste was present. One veal cut was present, a low-value stew cut from the shoulder. Figure 122 indicates the relative frequencies of beef cuts by rank values. It shows that there was a preponderance of low-value cuts (54 percent) followed by mid-value cuts (26 percent) and last by high-value cuts (13 percent). No-value cuts were present in low frequency (7 percent).

Lot 16 differed from the rest of the lots (118 MNU) (Table 125). Most of the beef consisted of butchering refuse. Beef cuts came primarily from the chuck. The prime rib, brisket, plate, loin, and round were far less frequent. Meat cuts included roasts, steaks, stew meats, and a few processed cuts. Veal cuts were infrequent, consisting primarily of processed cuts, though two chops from the bracelet were present (8 MNU). Figure 123 indicates that low-value cuts were well represented (52 percent). Mid-value cuts (17 percent) and high-value cuts were infrequent (12 percent). No-value cuts were more common (19 percent). Veal cuts were represented by a high frequency of low-value cuts (75 percent) and a low frequency of high-value cuts (25 percent).

Lot 17 had a small sample of beef cuts (15 MNU) (Table 125) and no veal at all. Cuts came from the prime rib, loin, round, and other body parts. They were composed of steaks, stew meats, and a processed cut. Figure 124 indicates that there was a high frequency of low-value cuts (54 percent). Mid-value cuts were the second most frequent category (26 percent), followed by high-value cuts (13 percent). No-value cuts were infrequent (7 percent).

Table 127 summarizes pork meat cuts by secondary butcher cut, primary meat cut, and rank value for each lot. Figure 125 illustrates how a pig was butchered. In Lot 12 there was a preponderance of cuts from other body parts consisting of processed meats and stew meats. The ham and loin were the second most abundant categories, followed last by cuts from the shoulder. Cuts included hams, roasts, chops, and stew meats. Six neonate piglets were also represented. Figure 126 indicates that most cuts were of low value (51 percent). High-value (24 percent) and mid-value (25 percent) were fairly evenly represented.

Table 125. Beef Meat Cuts

Secondary Butcher Cut	Primary Meat Cut	Rank Value	Lot 12 MNU	Lot 15 MNU	Lot 16 MNU	Lot 17 MNU
Chuck						
	Neck	8	26	3	4	-
	Chuck/blade	5	19	2	4	-
	Arm	6	12	1	3	-
	Foreshank	9	10	3	12	-
Prime Rib						
	Rib	2	31	3	4	-
	Short rib	6	30	3	7	4
Brisket						
	Brisket	7	2	-	2	-
Plate						
	Plate	7	1	-	1	-
Loin						
	Loin	1	42	-	6	2
Round						
	Sirloin	2	11	1	2	-
	Rump	4	10	-	3	-
	Round	3	6	1	2	-
	Hindshank	9	23	4	2	3
Other Body Parts						
	Head	9	19	2	3	1
	Foot	10	9	1	40	4
	Tail	10	1	-	-	-
	Horn cores	0	2	-	23	1
Total Meat Cuts (MNU)			254	24	118	15
MNI			6	1	12	2

Table 126. Veal Meat Cuts

Secondary Butcher Cut	Primary Meat Cut	Rank Value	Lot 12 MNU	Lot 15 MNU	Lot 16 MNU	Lot 17 MNU
Shoulder						
	Chuck	4	2	-	-	-
	Foreshank	6	4	1	-	-
Bracelet						
	Rack	3	-	-	2	-
	Brisket	5	-	-	-	-
	Breast	5	-	-	-	-
Loin						
	Loin	1	-	-	-	-
Leg						
	Leg	2	10	-	-	-
Other body parts						
	Head	6	7	-	4	-
	Foot	7	5	-	2	-
Total meat cuts (MNU)			28	1	8	-
MNI			4	1	2	-

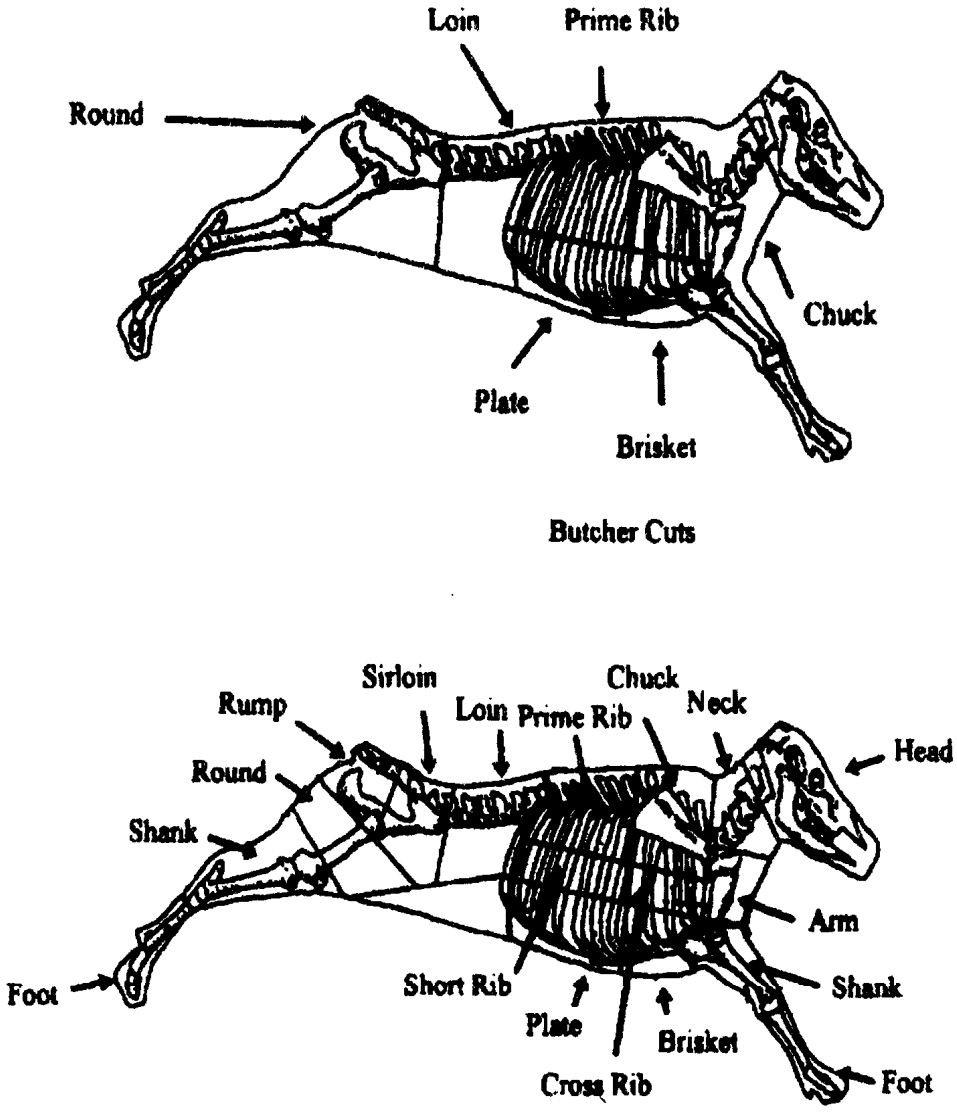

Figure 118. Cattle/beef secondary butcher cuts and primary meat cuts.

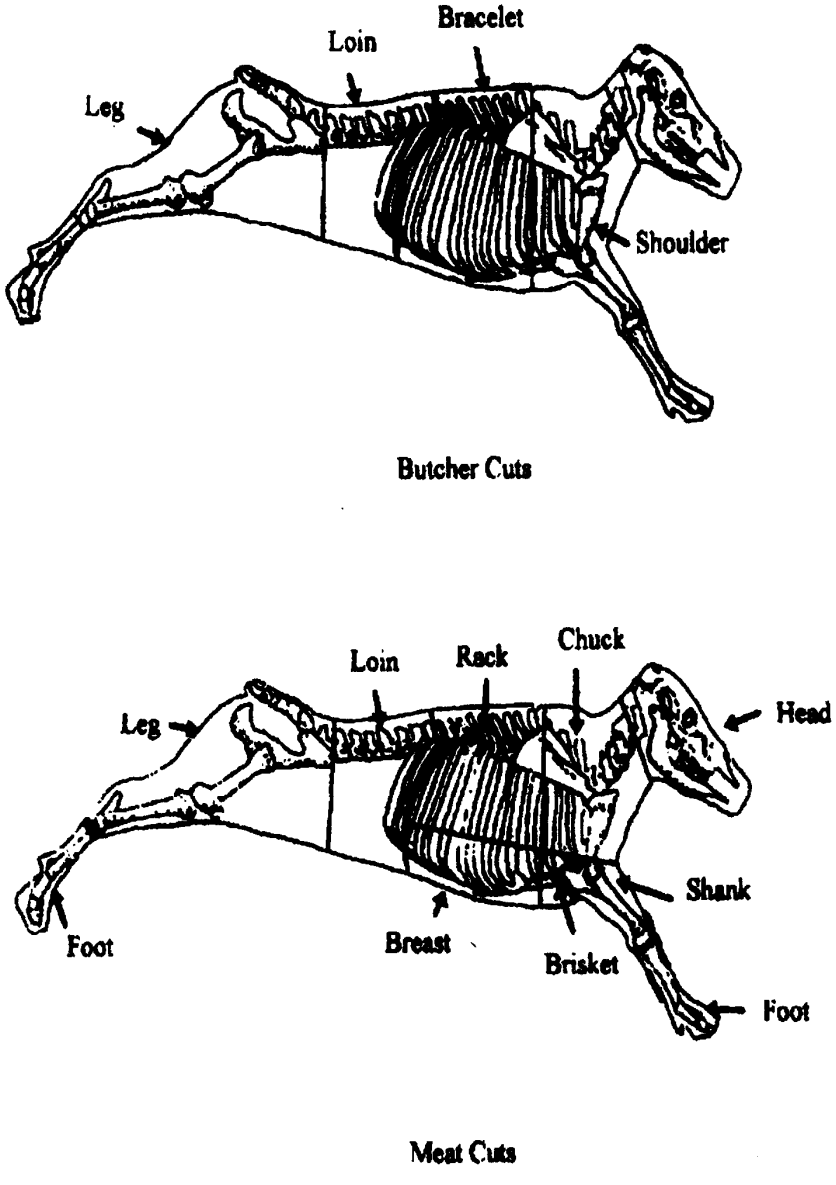

Figure 119. Cattle/veal secondary butcher cuts and primary meat cuts.

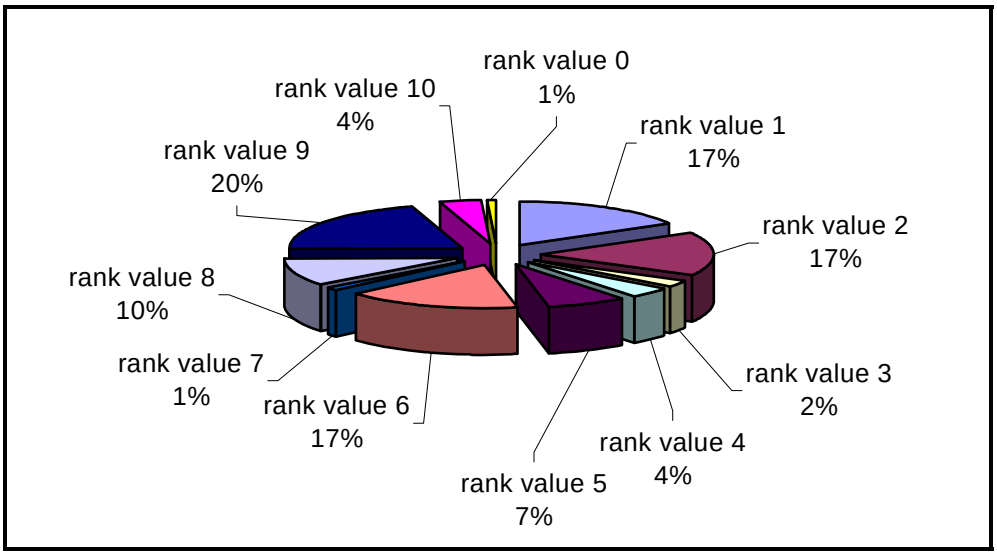

Figure 120. Lot 12 beef meat cut rank values.

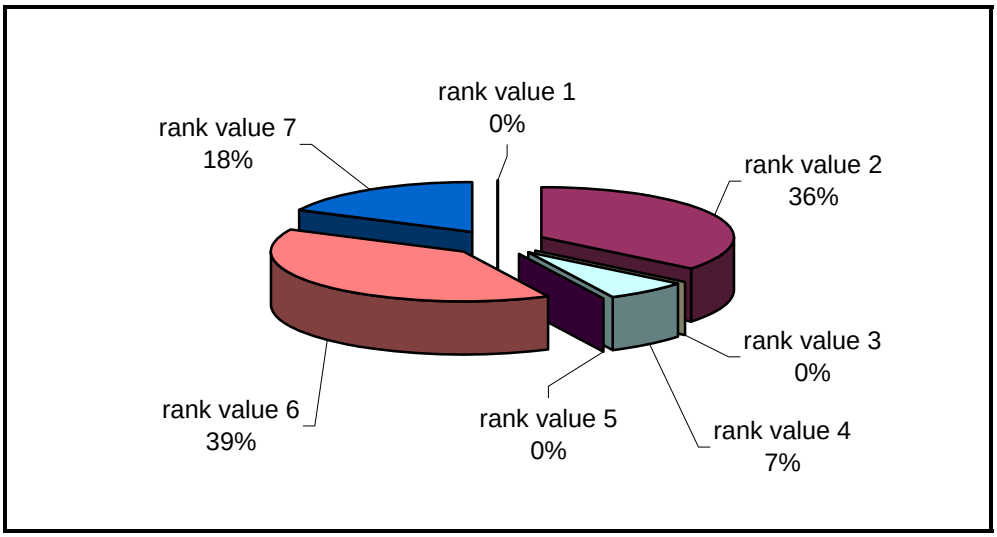

Figure 121. Lot 12 veal meat cut rank values.

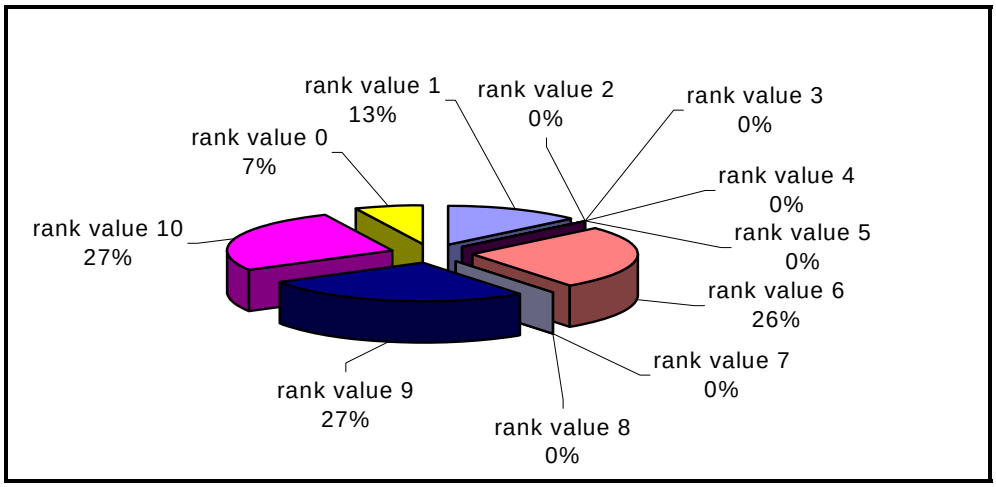

Figure 122. Lot 15 beef meat cut rank values.

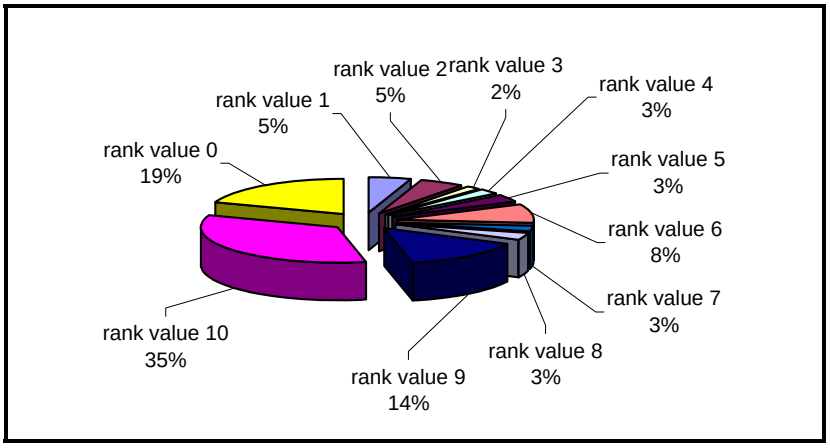

Figure 123. Lot 16 beef meat cut rank values.

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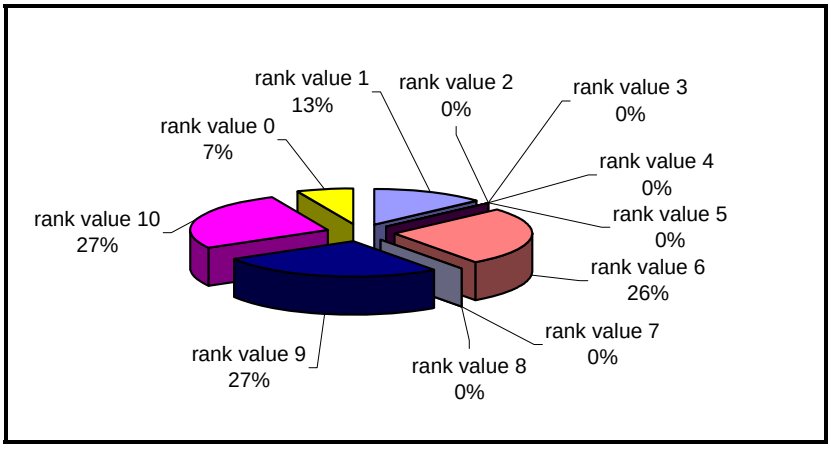

Figure 124. Lot 17 beef meat cut rank values.

Lot 15 had a much smaller sample of pork bones. There were several cuts from the loin and far fewer cuts from the shoulder, ham, and other body parts. Cuts included stew meats, chops, hams, and processed meats. One neonatal pig was also present. Figure 127 shows that high-value cuts were the most abundant (58 percent) while mid- (28 percent) and low- (14 percent) value cuts were less frequent.

Lot 16 also had a large number of pork cuts from the loin (Table 127). Other body parts was the second most frequent category, followed by the ham and last by the shoulder. Meat cuts included chop, hams, stew meats, and processed cuts. Figure 128 shows that most of the cuts were of high value (51 percent). Low-value cuts (26 percent) and mid-value cuts (23 percent) were about evenly represented. No neonatal pigs were present.

Lot 17 had a very small sample of pork bones (Table 127). Most cuts came from the shoulder; a few were from the loin, ham, and other body parts. Meat cuts included hams, stew meats, and a processed cut. Figure 129 indicates a preponderance of mid-value cuts (72 percent). High- (14 percent) and low- (14 percent) value cuts were equally represented. One neonatal pig was also present.

Table 127. Pork Meat Cuts

Secondary Butcher Cut	Primary Meat Cut	Rank Value	Lot 12 MNU	Lot 15 MNU	Lot 16 MNU	Lot 17 MNU
Shoulder						
	Boston butt	3	5	2	3	4
	Picnic ham	4	7	-	1	-
Loin						
	Rib end	2	6	-	3	1
	Loin end	2	11	7	11	-
Belly						
	Spare rib	5	-	-	-	-
Ham						
	Butt ham	1	6	1	2	-
	Shank ham	4	12	2	3	1
	Whole leg ham	1	-	-	-	-
Other body parts						
	Head	6	21	2	4	1
	Hock	6	8	-	1	-
	Foot	6	21	-	3	-
Total meat cuts			97	14	31	7
MNI-older			16	3	3	1
MNI-neonates			6	1	1	-

Table 128 summarizes mutton/lamb meat cuts by secondary butcher cuts, primary meat cuts, and rank values for each lot. Goat is subsumed under mutton and lamb. Figure 130 illustrates the way a sheep is butchered. In Lot 12 there was a wide variety of cuts. However, most meat cuts came from the shoulder and leg. Cuts from the bracelet, loin, and other body parts were less frequent. Cuts included roasts, chops, stew meats, and processed cuts. A small amount of butchering waste was also present. Figure 131 indicates that there were high frequencies of low- (41 percent) and mid- (35 percent) value cuts. High-value cuts were fairly well represented, though to a lesser degree (21 percent). No-value cuts were present in low frequency (3 percent).

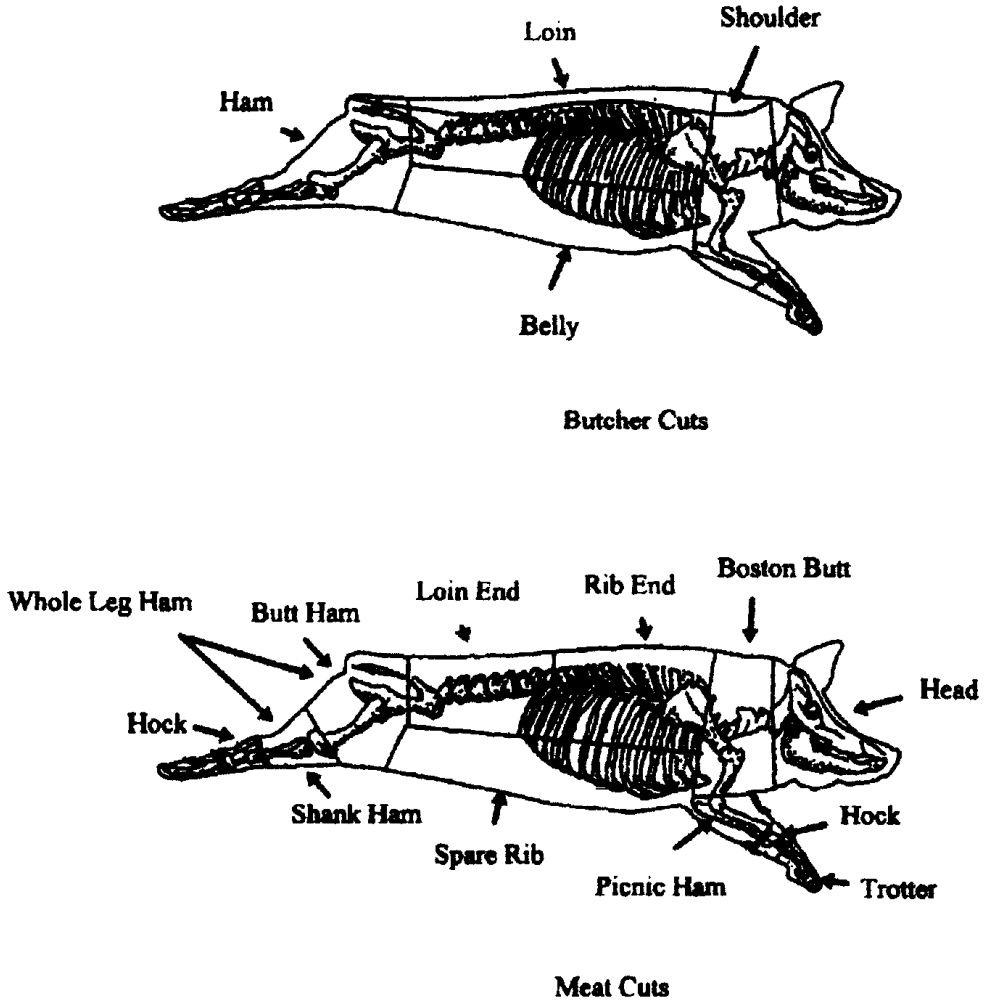

Figure 125. Pig/pork secondary butcher units and primary meat cuts.

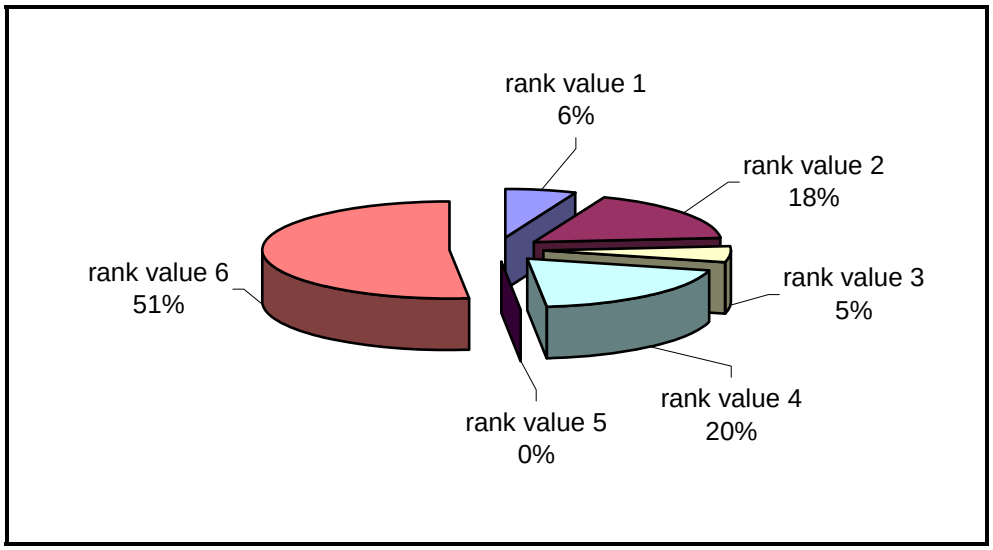

Figure 126. Lot 12 pork meat cut rank values.

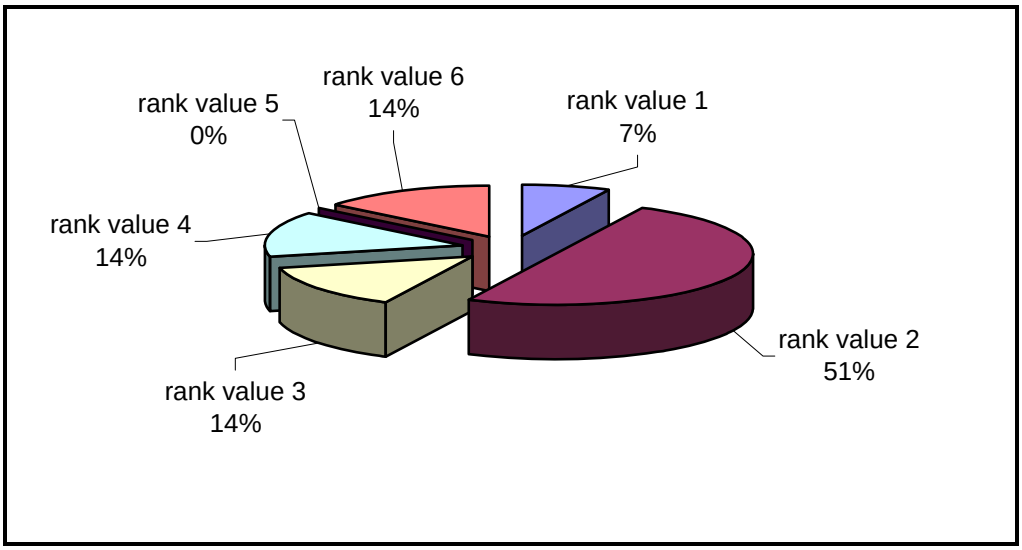

Figure 127. Lot 15 pork meat cut rank values.

Lot 15 had a small sample of mutton/lamb (Table 128). The greatest number of cuts came from the shoulder followed by the loin, other body parts, and the leg. Meat cuts included roasts, chops, stew meats, and processed cuts. A small amount of butchering waste was also present. Figure 132 indicates that low- (36 percent) and mid- (32 percent) value cuts were the most frequent, followed by high-value cuts (27 percent). No-value cuts represented 5 percent.

In Lot 16 there was a high number of mutton/lamb cuts from other body parts consisting mainly of skull bone. Other cuts came from the shoulder, leg, loin, and bracelet. Cuts included roasts, chops, stew meats, and processed cuts. A small amount of butchering waste was present. Figure 133 shows an unusually high frequency of low-value cuts (65 percent). Mid-value cuts were the second most frequent category (23 percent). High-value cuts (9 percent) and no-value cuts (3 percent) were the least frequent.

Lot 17 had a small sample of mutton/lamb cuts (Table 128). Most cuts came from the shoulder, followed by the leg and a few from the bracelet and other body parts. There was no butchering waste. Cuts included stews, roasts, a chop, and a processed cut. Figure 134 indicates that low- (50 percent) and mid- (43 percent) value cuts were the most frequent. High-value cuts were poorly represented (7 percent).

Table 128. Lamb/Mutton Meat Cuts

Secondary Butcher Cut	Primary Meat Cut	Rank Value	Lot 12 MNU	Lot 15 MNU	Lot 16 MNU	Lot 17 MNU
Shoulder						
	Neck	6	15	1	1	1
	Chuck	4	12	5	2	1
	Foreshank	7	34	2	5	5
Bracelet						
	Rack	2	25	-	1	1
	Brisket	6	-	-	-	-
	Breast	5	-	-	-	-
Loin						
	Loin	1	19	6	2	-
Leg						
	Butt end	4	36	1	5	5
	Shank end	3	23	1	1	-
	Hindshank	7	5	-	2	-
Other body parts						
	Head	7	28	5	15	1
	Foot	0	5	1	1	-
	Horn cores	0	2	-	-	-
Total meat cuts			204	22	35	14
MNI-older			12	2	6	2
MNI-neonates			2	1	2	1

In summary, the lots exhibited some patterning in the relative importance of large domesticated mammal species in the diet and in the variety of meat cuts for these species. Differences were observed in the range of species represented and in the composition of cuts from cattle, pig, and sheep. Lot 12 had an extremely varied representation of species and meat cuts. The deposit was primarily composed of dietary refuse, a fair amount of processing waste, and a small amount of butchering waste. Beef cuts were fairly evenly distributed in terms of their values. Pig and sheep were both predominantly composed of low-value cuts, though both species were also represented by mid- and high-value cuts.

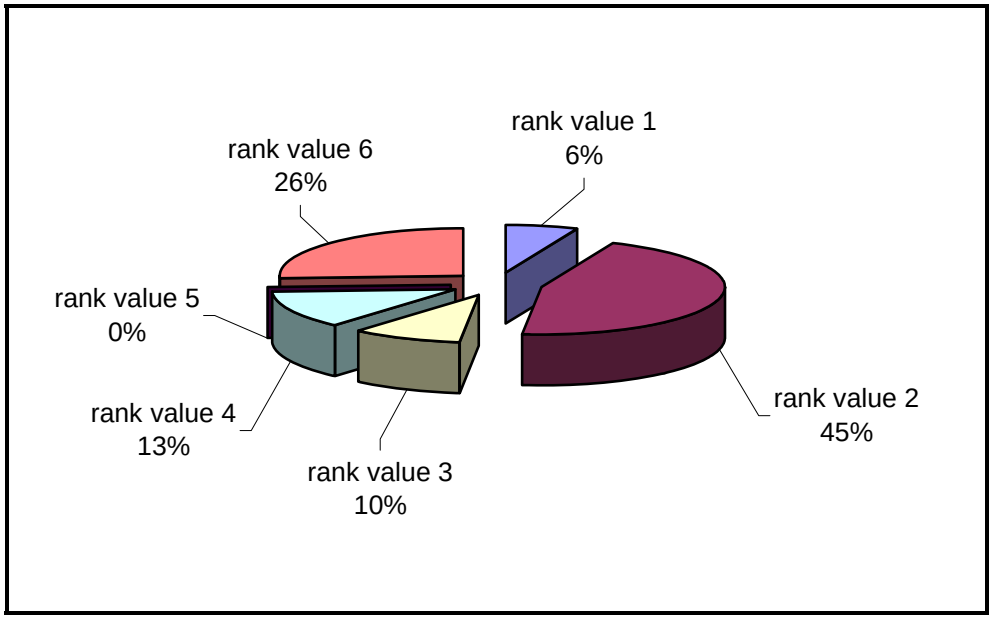

Figure 128. Lot 16 pork meat cut rank values.

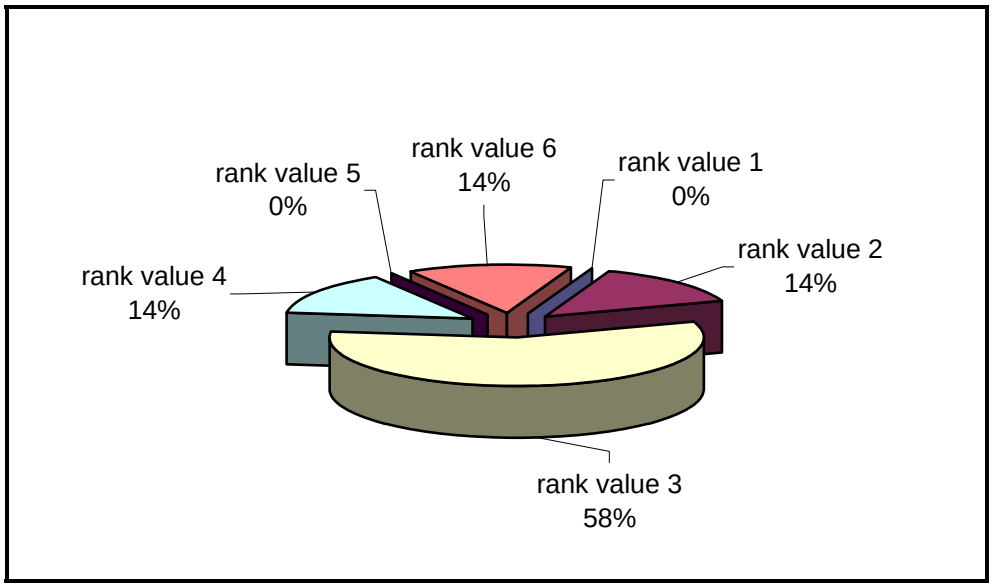

Figure 129. Lot 17 pork meat cut rank values.

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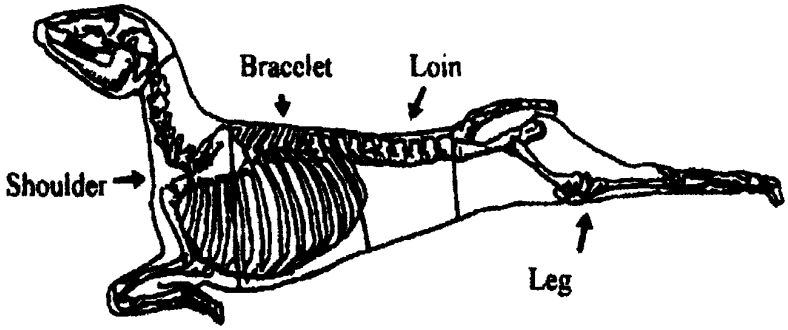
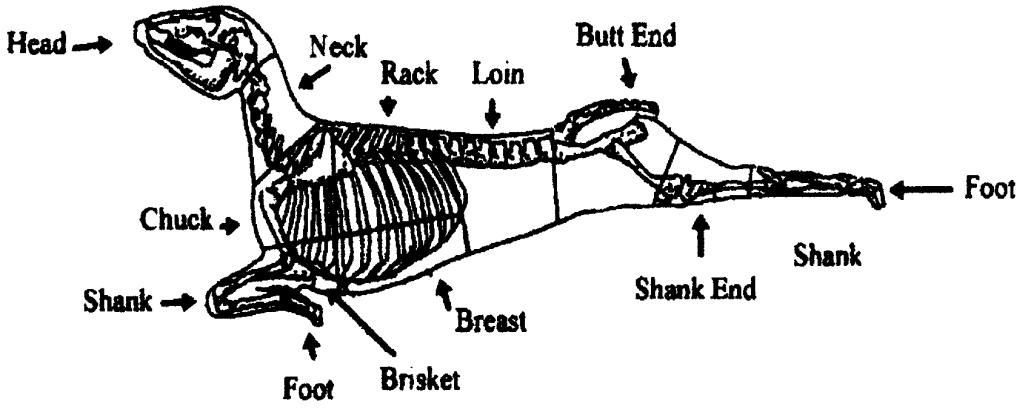


Butcher Cuts



Meat Cuts

Figure 130. Sheep/mutton secondary butcher cuts and primary meat cuts.

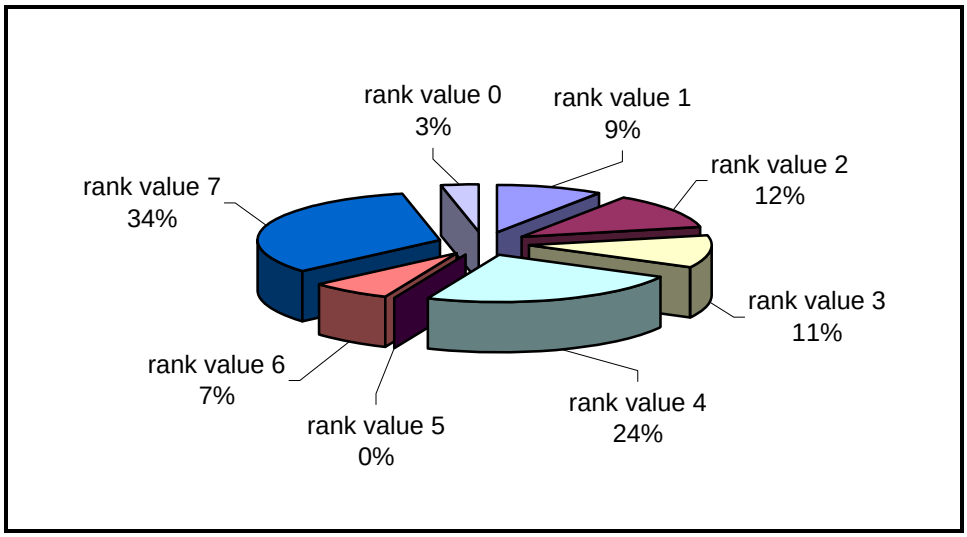


Figure 131. Lot 12 mutton/lamb meat cut rank values.

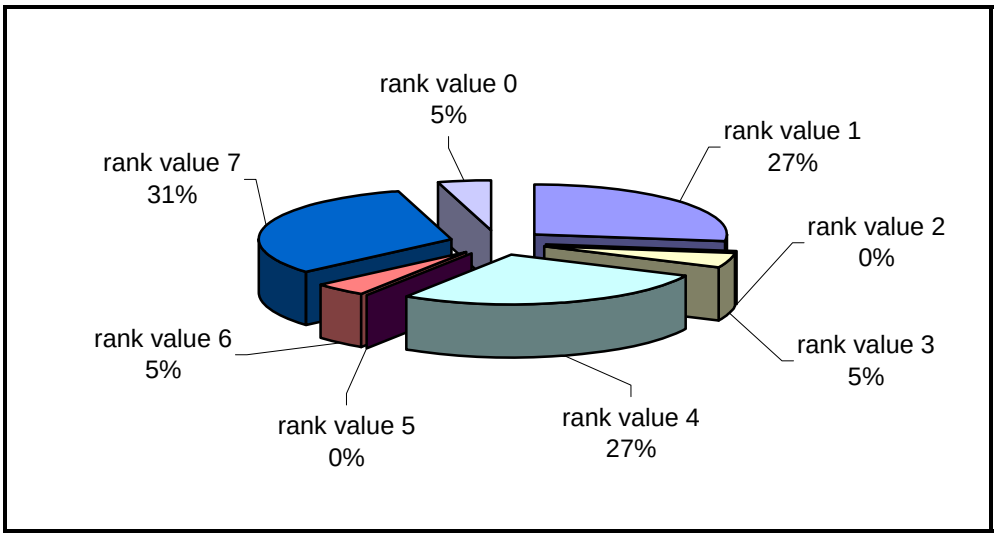


Figure 132. Lot 15 mutton/lamb meat cut rank values.

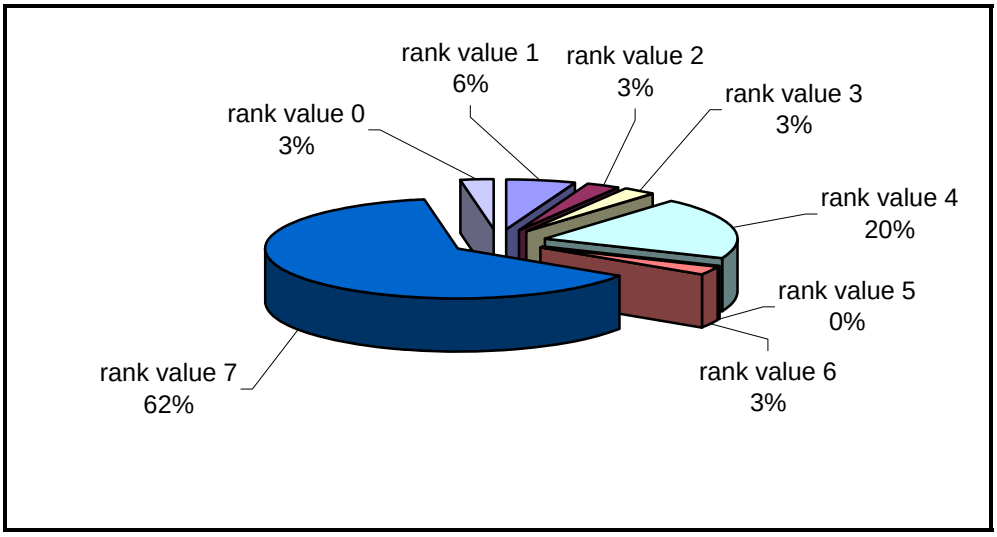


Figure 133. Lot 16 mutton/lamb meat cut rank values.

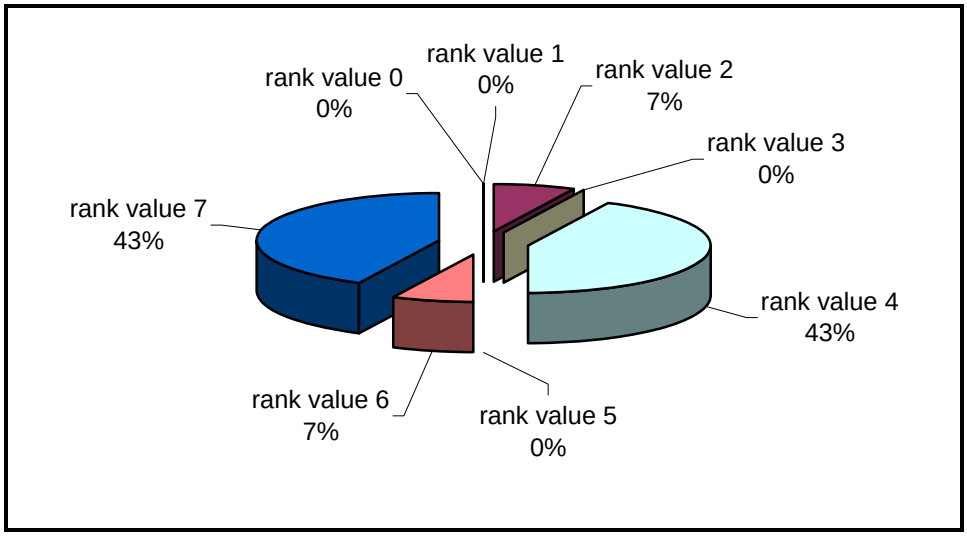


Figure 134. Lot 17 mutton/lamb meat cut rank values.

Lot 15 was a much smaller sample, a factor that needs to be remembered in interpreting the results of the analysis. The deposit was varied in the range of species. It differed from the other three lots in that sheep was slightly more prevalent than cattle. Beef and mutton cuts were composed of high frequencies of low-value cuts followed by high- and mid-value cuts. Pig was represented by a high frequency of high-value cuts followed by mid- and low-value cuts. For the most part, however, it is similar to Lot 12 in that most of the cuts were dietary refuse. There were also small frequencies of processed cuts and butchering waste.

Lot 16 differed from the other lots significantly. While it was similar to Lot 12 in having a wide range of species and in the relative importance of the large domesticated mammals, it contained very high frequencies of butchering waste. The butchering waste may be commercial, relating to the tanning industry. Beef was represented by a low variety of meat cuts and of no-food-value cuts. Pig consisted of a preponderance of mid-value cuts and sheep of a preponderance of low-value cuts.

Lot 17 yielded a small sample affecting the results of the analysis. It was unvaried both in terms of the range of species and the meat cuts represented. Both beef and mutton cuts had high frequencies of low-value cuts, while pork cuts were represented by a high frequency of high-value cuts.

The large volume of bone recovered from Lot 12 indicates that the residents allowed a large volume of trash to accumulate during their occupancy. Most of the bone refuse was recovered from the middle and rear of the lot. The low frequency of gnawing indicates that the material was covered rapidly. Lot 16 also yielded a large volume of bone. However, this material was primarily contained within pit features. The overall composition suggests that it represents both household refuse and commercial refuse. In Lots 15 and 17, the small volumes of bone indicate that trash removal was an ongoing process. The samples suggest many similarities with the other two lots. The differences may be real or simply the result of small sample size. In general, however, there are many similarities between the lots. The consistent ways in which the carcasses were processed and the types of meat cuts obtained indicate people were purchasing their meat in the marketplace. Furthermore, the results of the analysis are consistent with the findings from other eighteenth-century sites in New York City, including the Broad Street Financial Center Site, the Stadt Huys Site, and the Hanover Square Site (Greenfield 1989; Rothschild 1990). There was a wide variety of animal species used for food, including mammals, fowl, fish, reptiles, and crustaceans, although a primary reliance was placed on domesticated livestock for food, and beef and mutton were the predominant meats.

11.0 SETTING A REPUBLICAN TABLE

by Charles D. Cheek

How people set their table makes a statement about the way they wish to perceive themselves and, in some cases, how they wish others to perceive them. People use material items as symbols and as intermediaries in interacting with others. "Dining furniture and tableware are proxies for people's desires for particular expressions or presentations of self and for their decisions to allocate resources accordingly. This analysis is built on two concepts, that of performance and that of a 'kit' or a collection of closely related articles that served as essential props for the action" (Carson 1990:174, n.12). The goal of this chapter of the report is to describe and evaluate the dining complex (or food habits) of early Republican New York and relate it to what was happening in society as a whole.

An early interpretation of the table settings comes from Deetz (1977), who discussed the transformation from medieval table settings to modern ones. Deetz argued that the transformation signaled the transition from medieval to modern conceptions of the self and individualism. Yentsch (1991) and Wall (1994) have discussed the differences between courtly and non-courtly manners and foods and the changing way tables were set and food served. Shackel (1993) has shown how table settings became more regularized over time. Wall has studied the information about changes in the conception of meals found in the "middling" class or the middle class, its relationship to gender (Wall 1994), and how tableware differed among middle- and working-class households in the middle of the nineteenth century (Wall 1999). Leone, Shackle, and Potter (in various articles; see Leone 1999 for a summary) have attempted to show how orderly a table setting was and how it taught etiquette and work discipline (see also Shackel 1993). Others have discussed how dishes were used in other non-European households to establish or maintain behavior (Burley 1989; Cheek 1997a).

By the end of the Revolution, people abandoned old ways of behaving for new ways, especially in the cities. New materials and forms made it possible for individuals to change their behavior further and become different people, at least in some respects. These new material items were not only new but useful, and included ceramics, glassware, and other tableware; however, they were not just called forth from manufacturers by customer demand. As Miller (1996; Miller and Earls 2008) has pointed out, availability also had a supply side. His supply-side theory of ceramic replacement states that changes in ceramic variety and the use of many new forms is the result of the forms and wares being available in large quantities from England. Setting one's table was a form of expression, both personal and social. The new variety and abundance allowed these expressions to occur.

While this is true, we must understand it within the capitalistic context in which it occurred. Capitalism works by selling large quantities at low cost so a greater part of the population can take part in buying behavior. New things were made and new technologies invented so capitalists could make money by selling new products and by adding new items to the general pool of consumer goods that people could buy. The more consumer goods there were, the more ways they could be used and the greater the individuals' ability to control their immediate personal environments. While this does create greater opportunity for freedom of expression, it does not necessarily mean that people have more freedom in a general sense. In reality, capitalism limits behavior by forcing out other ways of living and makes people behave "economically" in the Western sense (Wallerstein 1983).

Consumer choice does play a role in the success of a product. For example, the checked variety of dipped ware was made as teaware. It is rare in New York, appearing in only two of the 16 New York assemblages examined: the carter's in Lot 15 and the merchant's of F49 from the Water Street project. Its rarity is probably due to its inability to compete with consumers taste for Chinese themed and floral varieties of teaware.

To understand how a table is set and what it might represent, one has to consider all the elements of a meal. This includes the actual food as represented in the floral and faunal remains, the drinks imbibed, and the vessels, ceramic, glass, and even wood and metal that people could have used. Understanding the changes in the etiquette of meals is also necessary. Yentsch (1991) has pointed out that much information is lost if we

lump ceramic categories; this observation is applicable to other material categories as well. While the usefulness of a detailed analysis of specific form classes depends on the scale and the focus of the analysis, her statement is generally true. Thus, this chapter will focus on individual vessel types for an analysis of the ceramic and glass tableware.[8]

The comparative analysis will draw on both the 290 Broadway and the Five Points collections, these being from the two blocks examined during the Foley Square project. Several deposits from these sites appear to be abandonment deposits as people moved their places of residence. From 290 Broadway, these are AUs 56 and 58, two privies, and some Phase 2 assemblages from Lot 12. The other shaft features from 290 Broadway appear to have been filled with soil containing artifacts, although some have partially restorable ceramic or glass vessels. These are grouped with AUs 56 and 58 by lot, when appropriate. The assemblages from Five Points (Brighton 2000b; Milne and Crabtree 2000; Yamin et al. 2000) included analytical strata AF-II, D-V, and B-V, and N-IV (Table 129). N-IV is included even though the deposit may have been formed near the time the widow of the baker Hoffman died in the 1830s and, thus, may include deposits from her sons' families.[9] N-IV is included because Mrs. Hoffman probably purchased the majority of the collection during the period in which we are interested and because it is a continuation of material from the same family as AF-II. However, N-IV is not included in the faunal analysis since the food bones probably date later than the ceramics.

In addition, this comparison includes several other New York assemblages; these are called the downtown collections or sites since they were all collected from sites along the waterfront in downtown New York. The two data sets are compared with the Foley Square or uptown sites. Set 1 includes the sites in Wall's study of ceramics (1994). Set 2 includes the sites studied in Rothschild's faunal analysis (1990) and in Louis Berger & Associates (1987) work at the Barclays Bank site at 175 Water Street. Four sites are common to both sets: J, AX, Cobble, and F48.

The Foley Square sites (Five Points and 290 Broadway) are considered uptown sites and come from the developing periphery of New York rather than the center of the city in downtown. Wealth in the early Republican period remained concentrated, as it was before the Revolution, in the East, Dock, and Montgomerie Wards, the location of all the downtown sites (Wilkenfield [1973:171] in Louis Berger & Associates 1987:IV-21). All of the assemblages used date from the 1780s to between 1810 and 1820.

[8] Table utensils are not considered in this survey since few were found in any of the Foley Square sites from this period. The exceptions are in Lot 12, which had some table knives, and in Feature 77, which also contained knives.

[9] B-V and N-IV are included because it is likely that the majority of the artifacts date to the pre-1820 period. The difference between the MCDs and TPQs in these analytical strata is 27 and 40 years, respectively. In Lot 12, such a large difference is interpreted as a sign of a later disturbance, through intrusion, of an essentially earlier deposit. Furthermore, the number of ceramic sherds with TPQs after 1795 in B-V amounts to only 17.8 percent. This figure is between the 18.7 percent of AF-II, and the 7 percent of D-V; both of these are considered early assemblages. Only 9 percent of the post-1795 ceramics in B-V are whitewares, which may have come from the interface with later B-IV, as discussed in Yamin et al. (2000:A-24). This indicates the majority of the collection belongs to the early Republican period. N-IV on the other hand has 22.4 percent post-1795 ceramics, most of which appear to be intrusive whitewares or white granite since there is 20.7 percent of those wares. Another indication these are intrusive into a collection of earlier origin is that there is only one other post-1830 artifact in this analytical stratum. It seems likely most of the earlier wares belonged to the Widow Hoffman, and the total assemblage is included for that reason.

Table 129. Sites Used in Study of Foodways

City Section	Location	Site	Occupation	Position in Economy	Ethnicity	Provenience Type
Uptown	290 Broadway	Lot 12	Upholsterer	Artisan	English	Sheet midden, features
	290 Broadway	Lot 15	Carter	Laborer	Dutch	Privy and box
	290 Broadway	Lot 16	Merchant and carpenter	Merchant	Dutch/English	Privy and box
	290 Broadway	Lot 17	Confectioner	Artisan	African-American	Pit and posthole fill
	Five Points	AF-II	Baker	Artisan	Dutch	Privy
	Five Points	B-V	Cabinetmaker	Employer	English	Privy
	Five Points	D-V	Merchant	Merchant	English	Privy
	Five Points	N-IV	Baker's widow	Artisan	Dutch	Privy
Downtown Set 1 Ceramics	Hanover Square	J	Painter/glazier or hatter	Artisan	English	Privy or box
	175 Water St.	F49	Merchant	Merchant	?	Box
	175 Water St.	F51	Merchant	Merchant	?	Privy
	175 Water St.	F43	Merchant or artisan	Merchant or artisan	?	Privy
	75 Wall St.	F48	Druggist	Storekeeper	English	Privy
	75 Wall St.	Cobble	Silversmith	Merchant	Dutch	Sheet midden in basement
	Telco	AT	Merchant	Merchant	?	Privy
	Telco	AX	Grocer	Storekeeper	English	Privy or box
Downtown Set 2 Faunal	Hanover Square	J	Hatter	Artisan	English	Privy or box
	Hanover Square	G	Rich merchant	Merchant	Dutch	Cistern
	Hanover Square	AO	Retail ceramic shop	Merchant	English	Ceramic dump
	Telco	AX	Grocer or hairdresser	Retail	English	Privy
	75 Wall St.	F48	Druggist	Storekeeper	English	Privy
	75 Wall St.	Cobble	Silversmith	Merchant	Dutch	Sheet midden in basement

The social geography of the locations of these sites suggests the differences among them. The downtown was in the heart of the original city in the old established areas, the center of power and economic dominance. The uptown areas were on the edge of the expanding post-Revolution city, and developed as economic differences among areas within the city were becoming more established and noticeable, as discussed in Section 4.2. The downtown areas of the city had a greater concentration of wealth and older, more established families, while families beginning their life cycle and those with lower income populated the uptown area. Although a variety of people in different economic classes inhabited the uptown areas, they were predominately folks that did not have assets that produced income but had to work for a living as independent businesspeople, essentially self-employed, or as employees of others. In addition, although there were some merchants, it is not clear what kind of merchants they were and what economic role they played.

Traditionally, archeologists have used occupation of the head of the household as a proxy for the economic position and class of a household. Some historians (Cerutti 1995:593) have questioned the power of occupational classifications because these terms may not reflect how the city residents formed their social categories and because we often interpret these categories through our modern experiences. One way to understand occupation terminology is to look at the emic understanding (how the local people of the time understood the terms) of these occupations. Another is to look more closely at the relations of production that created the groups (Cerutti 1995:592).

This study will use the terms provided in the documents for the head of household's occupation. However, they are grouped to reflect the relations of production since it was not possible to review the data on emic understanding. In addition, we looked at the variety of terms applied to households in the records, which provided some alternative views of their economic position. Based on the records, we have assigned households to the following economic position:

- merchants—selling goods produced by others wholesale;
- in retail (storekeepers) —selling goods produced by others and provided by merchants or artisans;
- artisans with employees—in a trade whose production could be rationalized (the beginning of the metropolitan form of industrialization [Wilentz 1984; see also Wall 1994:28–33]);
- self-employed artisan—producing goods themselves (possibly with journeymen or employees); or
- a laborer—an employee.

This classification assumes the people in the different categories will have different access to money (both the amount and reliability of income) and therefore different access to goods and foodstuffs.

There is not always enough data to be sure what people do in the economic system, especially for those called merchants or artisans. For example, two of the households described by Wall, Van Voorhis and Brown (Wall 1994:17–18), were described by a wide range of economic terms, including craftsmen (silversmith and druggist), merchant, and shopkeeper. Such individuals were classed according to the occupation ranked highest in the period, merchant. The term merchant includes a large range of incomes and should perhaps be divided into kinds of merchants, but the data were not available to do that.

The only laborer in the collection is the carter household on Lot 15. As we have seen, the carter could make as much as an artisan and so is grouped with the artisans for most of the analyses. However, he also worked as a dockworker at times, suggesting he had more in common with the laborers than the artisans. The rest of the sites' occupants would be either middle class or upper class.

These different levels of access to wealth in society are often related to different codes of behavior and use different kits of artifacts and foodstuffs for preparing, serving, and consuming food and drink. Furthermore, this was a time when classes were separating, not just in terms of wealth, which had occurred before the Revolution, but also spatially. Blackmar (1989:87-94) has said that neighborhoods began to form around the middle class by 1810, although the spread of population to the area around the Collect may represent the start of new middle- and lower-middle-class neighborhoods at an earlier date. One question addressed below is whether foodways and the way people set their tables were differentiated in this early Republican period as well. Wall (1994) has examined some of these issues for this period, but only as they relate to those who were primarily in the middle and upper levels of society and lived in the old downtown center of the city. Wall focused on ceramics and the changes in the meaning of dining that took place between 1780 and 1820s. This period saw the separation of home and work and the beginning of the cult of domesticity in which meals at home came to have a ritual significance. This chapter will reexamine the issue of ceramics and include glassware and food as well.

11.1 Eating Behavior

Evidence from New York (Wall 1994:144–147) suggests that middle-class households (storekeepers and artisans) used standardized tableware with limited ware types and decoration, but used teaware with much variation in ware and decoration. Wall noted the wares and decorations in tableware and teaware changed from her early to middle groups (the equivalent periods to the sites from the Foley Square project). She noted that tableware changed from minimally decorated or undecorated creamware to edge-decorated pearlware but continued to be more simply decorated. The teaware remained more varied than the tableware, with older types such as blue underglazed oriental (Chinese) export porcelain (OEP) replaced by overglazed OEP. Wall interpreted these changes and the variation in table- and teaware as showing that women were creating new rituals to bind families together during the change in the social context of work in the Early Republican period. The uniformity of the designs on the plates reflected a concern in families to stress the communal nature of the meals. Teawares, on the other hand, had considerable variation, with many different decorations, and generally cost more than the tablewares. Teawares included predominately overglaze-decorated OEP and polychrome pearlware with lesser amounts of blue underglaze-decorated OEP and blue hand-painted china glaze , a variety of pearlware. Smaller amounts of plain and fluted creamware, printed pearlware, and other minor types also occur. At the Foley sites, teaware came in blue hand-painted or printed Chinese landscape or floral designs, polychrome-painted floral designs (the subtle color palette), sepia hand-painted floral designs, and oriental export porcelain, both blue and overglazed. Rarely one finds edged and dipped teaware.

Although the notion and presence of sets (complete tea- and tableware of the same pattern) is rare in the early Republican period (Miller et al. 1994), except among those of the highest wealth class, the concept is useful in examining the kinds of ceramics that people put on their table. Although matching tea and table sets were not available to most people, they did seem to purchase table- and teaware in loose "sets" where, for example, blue- and green-edged ware are used in the same households. Hand-painted dishes seem to have been chosen for general similarity that was useful when a dish in the set broke. However, in general, teaware and tableware had to be different because that was what was available in the market, partly due to technological issues (Miller et al. 1994:240–241). This chapter uses "set" to mean vessels of similar ware and decoration that people used on the table together. It is not clear how many sets were in use at one time since most deposits have more than one set as well as non-sets in different varieties. For example, Wall's study of deposits in her middle group (c. 1805) has three to five varieties of tableware. This could be due to breakage and replacement, or households could actually have bought different tea sets depending on the styles of the moment.

The above summary does not discuss change over time. Wall divided her sample (the downtown sites) into three temporal groups (early, middle, and late), of which the early (1780s) and middle (c. 1805) groups best match with most of the Foley sites. The Foley sites (also referred to as the uptown sites) can be divided into early, middle, and late temporal groups (Table 130). The next section looks at the potential differences in spending on ceramics and other patterns of behavior over time as well as between the two areas of New York that had separate social and economic characteristics.

11.1.1 Teawares

As Wall (1994) has noted, teawares were the most variable of the ceramic wares that went on a table (tea, table, and serving ware). She described how the favorite teaware types changed from the early to the middle to the late groups. The analysis of the Foley collections also identified changes over time, although in different wares.

In the middle downtown temporal group, OEP overglazed replaces OEP blue underglazed and China glaze teawares. China glaze is not found in the middle group. Plain creamware is a minor type in the early group and disappears in the middle group, while fluted creamware is common in the early group and a minor type in the middle group. Pearlware polychrome increases over time, and printed pearlware appears in the middle group. Dipped teaware appears only in the early group. Polychrome pearlware is

the main teaware with plain creamware in the early Foley Square group; both of these decline in the later phases with plain creamware dropping out of favor much faster. Blue-painted pearlware appears in the early Foley group, and printed wares increase over time. China glaze appears in low frequencies only in the middle Foley group. Notice that various low-frequency minor wares appear in all the Foley sites. This variety is due in the late Foley group to its extension into the 1820s. In both the early and middle Foley groups, this may be because of mixing. The lack of such variety in Wall's study may be because of the rigorous way Wall selected her sample (only counting vessels with more than one-quarter of the vessel present).

Using Table 130, it is possible to make some observations of the differences in style and cost of teaware among the socially distinct geographic locations that were occupied at roughly the same time. At the lower end of the cost scale, plain creamware is rare in the downtown sites. When bought, it was in a fluted form that is not common and may have cost more. In the uptown sites, it is common only in the early Foley group and rare or absent in the others. At the upper end of the cost scale is OEP. The blue-underglaze OEP, mostly represented by the Chinese landscape style, was common in the early downtown group and was replaced by the more frequent overglazed OEP in the middle-group households. At the uptown sites, both blue and overglazed OEP are present. The OEP types are highest in the middle Foley group, but never reach the combined percentages of OEP found in downtown sites. There seems to be a lag in the importance of the OEP types compared to downtown. For example, blue-underglaze OEP is the dominant OEP type in the early downtown group and the overglazed OEP is dominant in the middle downtown group. In comparison to the early and middle Foley groups, the OEP blue is not present in the early group, and blue-underglaze OEP is 40 percentage points lower in the middle Foley group. When the late group deposits are removed from the Foley collections, printed wares for the uptown sites are also less frequent than the downtown sites. China glaze is also more common in downtown sites, primarily the early ones, and rare in the uptown sites. Instead of the porcelain teawares, the uptown households bought primarily polychrome pearlware and then blue hand-painted and printed wares. While the printed wares were the most expensive of the refined earthenwares in the Foley groups, they did not dominate the teawares in the Foley sites as the porcelains did in the downtown sites.

Table 130. Percentages of Teaware Ceramic Types in New York City Republican Sites

Ceramic Types[1]	Early Downtown[2]	Early Foley[3]	Middle Downtown[2]	Middle Foley[3]	Late Foley[3]
PW - Molded					1.9
HPP - Gilt or Luster					3.7
WW - Painted					1.9
WW - Polychrome					5.6
WW - Printed					11.1
Unknown				1.6	
HPP - Painted				1.6	
CW - Printed				1.6	
Black Basalt				1.6	
HPP - Plain		1.5			
WSG		1.5			1.9
RW Turned		3.0		1.6	1.9
PW - Sepia		4.5	1.7	4.8	
PW - Painted blue		13.4		19.0	7.4
PW - Printed		3.0	10.3	9.5	37.0
CW - Plain	1.8	23.9		3.2	
Bone china	5.5				1.9
PW - dipped	7.3			3.2	
OEP overglazed	7.3	10.4	51.7	15.9	5.6
CW - fluted	12.7		3.4		
PW - Painted polychrome	14.5	38.8	29.3	25.4	18.5
OEP blue	20.0		3.4	6.3	1.9
China glaze-painted	30.9			3.2	
TOTAL N	55	67	58	63	54

[1]CW - creamware; PW - pearlware; HPP – hard-paste porcelain; OEP - oriental export porcelain; RW Turned - engine-turned redware; WSG - white salt-glazed stoneware; WW– whiteware
[2]Sites in downtown groups: early = J, cobble floor, F51, F49; middle = F43, F48, AX
[3]Sites in Foley Square groups (uptown): early = AF-II; middle = AU56, AU58, AU91, AU77, AU74, D-V; late = B-V, N-IV

The Table 130 data are grouped by neighborhood and period. When considered by individual features, the most frequent teaware decorative styles in the downtown sites are blue or overglazed OEP in five of the eight sites available for study. Of the other three, Chinoiserie pearlware dominates one, polychrome pearlware another, and the last is split between Chinoiserie and polychrome pearlware. In the Foley sites, polychrome pearlware is most common in four of the seven features. In Lot 15, the three smaller features with four to six vessels are split between hand-painted blue floral and printed teawares. One feature has an equal number of blue hand-painted and dipped teaware. In the late period, printed teawares are dominant.

Compared to the downtown sites, the occupants of the Foley (uptown) sites spent less on teaware, confirming the predicted differences in income between the households in the uptown and the downtown sites. It also confirms that the people in the households in each neighborhood were interacting in different social circles. The early Foley group (composed only of AF-II) is unusual in that it has a moderate amount of overglaze OEP with a high percentage of plain creamware.

11.1.2 Tableware

Tableware in the uptown sites is similar to that found in the downtown sites. Tableware is restricted to plain creamware or creamware with the molded border of the Royal variety and blue- and green-edged pearlware. Blue-painted pearlware is also present in small amounts. A few wealthy households also used Chinese export porcelain, either underglaze-blue or overglazed varieties.

As with the teawares, tableware types change over time. The tableware among the downtown sites shows a major increase in shell-edged decoration from the early to the later group of sites (Table 131). It replaces not only plain and royal creamware but also early edged creamware, such as the feathered-edge variety, a few examples of which are also found in the early Foley group. In the Foley groups, edged ware increases from early to middle, although a variety of other wares reduce its overall percentage. Blue-painted pearlware appears only on a tankard in the middle Foley group. The dipped-ware vessels in the early Foley group are also tankards. OEP types were hardly used for tableware except in the early downtown group and in the early Foley group, by the baker, Hoffman (AF-II). The Hoffman site has what appears to be a set of overglaze OEP tableware. Everywhere else, this type is only used on teaware. Blue OEP as tableware occurs in low frequency in all the early and middle groups, except the middle downtown one. A variety of later types appear in the late Foley group.

The ceramic evidence seems clear: people bought and used a greater variety of teaware than tableware. The flat tableware is all edged or plain or molded creamware with the former "edging out" the latter two wares. Tableware used for family meals is in the domestic realm where the public is a rare visitor.

People possibly bought sets of tableware with, for example, all creamware in the Royal pattern or all blue-edged tableware. Brighton (2000a) has interpreted the greater amount of wear on creamware versus pearlware in the 290 Broadway sites as representing an everyday versus specialized meal use of plate styles. However, the edged wares are more plentiful than the creamwares, both as individual vessels and as sherds. Instead, we may be seeing the discarding of set remnants in a previous style or perhaps even out-of-style plates used by servants, although there were not many servants in the Foley sites. If this interpretation is correct, people discarded the old styles as they bought the new ones. Then Wall's idea that there are best and everyday sets may not be an accurate interpretation of what is happening.

Only two sites suggest the actual separation of meals into distinct event types—for example, Sunday and daily meals (Wall 1994:146). These two are the sites with porcelain tableware. At the early Foley site, there is a set of overglazed OEP and a set of creamware. It should be noted that the only forms found in OEP overglaze at AF-II are 9–10 inch plates, while the creamware occurs in dinner plates, soup plates, muffins, and a twiffler. At site J from the early downtown sites, table and soup plates occur in the OEP blue-painted type while creamware has dinner plates and muffins. Both of these are early sites, and neither of these sites is occupied by a merchant. One houses a baker and the other a hatter. Thus, it is possible that the change to two sets did not occur in the wealthier group, but in those aspiring to higher status. This possibility will be discussed further when examining sets.

Table 131. Percentages of Tableware Ceramic Types in New York City Republican Sites

Ceramic Types[1]	Early Downtown[2]	Early Foley[3]	Middle Downtown[2]	Middle Foley[3]	Late Foley[3]
WW- Printed					12.2
WW- Shell					7.3
WW- Painted poly					2.4
PW- Plain					2.4
PW- Painted blue				2.2	
HPP- Plain				2.2	
Tin Glazed				4.4	
CW- Dipped		6.9			
OEP- Overglaze/gilt		24.1			
WSG	2.0				
PW- Printed			1.9	2.2	7.3
PW- Shell	4.0	17.2	67.9	55.6	53.7
OEP- Blue	8.0	3.4		2.2	
CW- Early edged[4]	20.0	3.4			
CW- Royal	32.0	24.1	13.2	15.6	2.4
CW- Plain	34.0	20.7	17.0	15.6	12.2
TOTAL	50	29	53	45	41

[1]CW - creamware; PW - pearlware; HPP – hard-paste porcelain; OEP - oriental export porcelain; WSG - white salt-glazed stoneware; WW- whiteware
[2]Sites in downtown groups: early = J, cobble floor, F51, F49; middle = F43, F48, AX
[3]Sites in Foley Square groups: early = AF-II; middle = AU56, AU58, AU91, AU77, AU74, D-V; late = B-V, N-IV
[4]Includes feather-edge and diamond/beaded decorations

11.1.3 Serving Ware

Archeologists have not generally examined the number and kind of serving vessels closely, possibly because of their relative rarity. Some have commented that the number and kind of forms reflect the increasing differentiation of the meals as set forth in etiquette books. However, the variety of serving vessels was quite limited in these New York collections. Where any were found, they were usually bowls, pitchers, or platters. Occasionally there were deep or oval dishes, vegetable tureens, sauceboats, a caster, or an eggcup.

Serving vessels in the Foley classification system include vessels identified as multifunctional. Serving vessels are placed on the same table as the flatware and are, like the flatware, not very diverse. In the Foley sites, there are three platters (royal creamware, and shell-edged green or plain pearlware) (Table 132). The bowls are almost all minimally decorated also, including largely plain creamware with some molded and dipped bowls. Of the twenty-five bowls only two, all from B-V, were hand-painted or printed. There were one tin-glazed bowl, one redware bowl, and six dipped bowls, but plain creamware bowls dominated the bowl category.

Bowls are particularly problematic since they could be used in the kitchen, for serving food on the table, as eating vessels, or even in taking tea. The minimally decorated bowls could all have been used in food preparation in the kitchen. The only two decorated bowls, other than dipped ones, are decorated in hand-painted polychrome like the teaware and could have been used during tea. Oval and deep dishes on the other hand were almost certainly for use on the table and were less numerous (seven). Three of these are transfer-printed, two green-edged, one molded, and one plain creamware.

The pitchers are more varied, perhaps as a result of their potential dual use in public as well as private meals. Minimally decorated pitchers are only about one-half of the collection and included plain creamware and dipped varieties. The rest include hand-painted blue and sepia versions, transfer-printed creamware, and Pratt-style. Some of these may actually go with teaware sets, but this is not always obvious. In summary, of the vessels for serving food, only bowls, which may have been used primarily in the kitchen, are often minimally decorated (Table 133). The other serving forms, dishes and pitchers, are primarily decorated, and may have been chosen to go with the tablewares.

Table 132. Ceramic Vessel Form and Ware by Foley Square Features

Serving	D-V	B-V	AF-II	N-IV*	56	58	74	77	91
Platter	CW molded			PW		Shell-edge green			
Pitcher	PW dipped CW plain	PW HP blue PW molded PW plain PW printed WW HP polychrome	PW printed 3 CW plain	PW HP blue PW molded PW HP sepia PW dipped REFRW luster RW clear YW dipped	2 CW Printed RW black	PW HP sepia PW printed 2 Pratt stoneware	CW Plain		
Dish, deep ≥ 8”		CW plain PW printed							
Dish, deep ≥ 12”	CW molded								
Dish, oval 8”–10”	PW edge green	PW edge green			PW print				
Vegetable dish		PW printed							
Dish, unk.									
Bowl 4”–5”			PW dipped						
Bowl 5”–6”	2 CW plain								
Bowl 6”–8”									CW plain
Bowl 6”–7”	CW plain	PW HP polychrome	2 CW plain	2 PW dipped		PW dipped		CW plain	
Bowl 7”–8”		PW HP polychrome		2 PW plain WW plain					
Bowl 8”–10”					CW plain				
Bowl ≥8”			CW plain						
Bowl, unk.			2 CW plain	WW molded	Tin-glazed	PW dipped			CW dipped PW dipped RW phil
Cup plate				WW printed polychrome					
Caster				PW edge blue					

*More than 20% post-1795 ceramics.
Key: unk.= unknown dimensions; CW = creamware; PW = pearlware; WW = whiteware; RW = redware; REFRW = refined redware; HP = hand painted; phil = Philadelphia-style; YW = yellowware

Table 133. Decorated and Undecorated Serving Vessels for the Foley Square (Uptown) Sites

	Decorated	Minimally Undecorated[1]
Bowls	3	22
Dishes	5	2
Pitchers	13	11
Platters	1	2

[1]Includes plain and molded and dipped; includes only fine wares

This pattern of decoration of serving vessels is followed at Wall's downtown New York sites also, except there is less decoration. Dishes and bowls are either plain or molded creamware or shell-edged pearlware[2]. Two sites have serving vessels that are parts of an expanded shell-edged set: one (F48) has a tureen, a dish, a boat (sauce or gravy), and a platter, besides various plates; and the other (F43) has a dish and platter. The Cobble Floor collection has a dish and a boat in molded (Royal pattern) creamware. Both of these are from the middle downtown group (Table 134). The only decorated serving vessel is an OEP platter in AX (also from the middle downtown group), which did not have any other CEP tableware vessels. Overall, the downtown households had more serving vessels than the uptown ones (excluding pitchers and bowls), an average of 1.5 to 1 per site. The downtown households also had forms not found uptown—tureens and sauce or gravy boats. Dishes are more common in the uptown sites, while platters are more common downtown. Forms besides pitchers and bowls do not occur in the early Foley group.

[1] Wall's (1994) analysis apparently does not include pitchers or bowls above 6 inches in diameter. Although this limits the comparison potential, her data do include the rest of the table- and teawares.

Table 134. Percentage of Serving Vessel Forms of All Vessels Between Downtown and Uptown Sites in New York City

	Early Downtown[1]	Middle Downtown[1]	Early Foley[2]	Middle Foley[2]	Late Foley[2]
Caster					0.8
Hollowware				1.4	
Pitcher	*	*	3.8	6.5	10.2
Bowl	*	*	4.8	7.9	5.5
Dish	0.9	4.6		2.2	2.4
Platter	0.9	7.7		1.4	1.6
Boat	2.8	0.8			
Tureen		0.8			
Total	109	130	105	139	127

[1]Sites in downtown groups: early = J, cobble floor, F51, F49; middle = F43, F48, AX
[2]Sites in Foley groups: early = AF-II; Middle = AU56, AU58, AU91, AU77, AU74, D-V; late = B-V, N-IV
*Not included in Wall's analysis, exact number unknown

In the late eighteenth and early nineteenth centuries, an impressive meal, which was reflective of a higher social status or of the attempt to move to a higher status, was one that had more distinct dishes of food within the two-course mode common in America at that time (Wall 1994:117). The greater variety of serving forms in downtown sites suggests that the better-off downtown households had more dishes (in both senses of the word) on the table and that they used sauces that were not often used in the uptown area.

11.1.4 Summary

The ceramics show changes over time in style and varieties. However, variations probably related to income and class are also evident. The only ceramic variety that occurs primarily in the uptown sites is the blue hand-painted pearlware that is not identified as "China glaze" and that is primarily decorated with floral designs. This difference may be merely due to differences in classification or to time with the China glaze pieces at 290 Broadway being heirloom pieces. Other ceramic elements in the downtown sites that probably related to differences in income and social status include: bone china, more China glaze and OEP blue underglaze, fluted creamware, and a greater variety of serving vessels.

11.2 Drinking Behavior

Although there are no comparative data for other New York sites, it is worthwhile examining the distribution and characteristics of the glass and ceramic artifacts associated with drinking. Drinking in the Republican period was an important part of life. Although temperance movements became popular in the middle of the nineteenth century, drinking was still a significant part of many people's lives because of the importance of drinking alcohol in social settings (Rorbaugh 1979:14–21). It was also a significant component of the workingman's leisure activity.

The ceramic pitchers are interesting because people could use them in both private and public settings. The two creamware pitchers, one each from Lot 15 and Lot 16, carry transfer prints showing political imagery. The one with a memorial to the death of George Washington came from the merchant's household (Lot 16), and the one with doggerel is from the household of the carter (Lot 15). As discussed in Chapter 3, carters were an important political force during this period, and Wert Valentine held a patronage position for a short time, implying he was involved in local politics. Although we were not able to find a reference for the doggerel, it seems clear that it pokes fun at the power hierarchy. The context seems also to be one of a workingman's entertainment. The clothing looks like that of workingmen and -women dressed up to see a circus-type show where they

Behold the ass a monkey strides
Who kneels while he gets up and rides
To monkeys asses always submit
Each day gives instances of it…

Any group can use political satire. This theme, using a workingman's entertainment to make fun of authority, would be best appreciated in the workingman's home. It seems that even if Valentine did get a minor political position, he had a grievance against the system. The patriotic pitcher memorializing Washington's death, in contrast, is a more standard public and political expression that appears in the merchant's household.

The two pitchers represent two seemingly contradictory comments on politics and society. One apparently rejects authority and the other honors the president-general Washington. However, Washington was associated with Republicanism, an ideal that was strongly held by the artisans. Authoritarian behavior may have been associated with the former rulers of New York and with Toryism and tyranny as discussed in the glass section (8.4.2.5). In his remarks on the composition of the glass assemblage in Lots 15 and 16, Bonasera notes that Bohemian glass is more popular in the carter's household than in that of the merchant, which has leaded glass from England. Although he discusses the possibility that there is an ethnic preference for such glass by the Dutch-descended Valentine, the English leaded glass appears in the Dutch-descended merchant's household trash. Perhaps class behavior both reinforces ethnicity in the case of Valentine and trumps ethnicity in the case of the merchant. Although the lack of leaded glass simply may be due to its cost, the several pieces of evidence of an artisan and mechanic behavior pattern is intriguing. The choice of these particular jugs can tell us more about the household's orientation to the developing social structure than the plainer pitchers. However, these plain pitchers or those without commentary on them also may have participated in the culture of alcohol. There is an average of 4.1 pitchers in the six uptown sites (all but in Lot 12 where no minimum vessels were defined for the ceramics of this lot).

The early Republican period was important in the solidification of workingmen's leisure. Nash, in the *Urban Crucible* (1979), argued that social distinctions separating the laboring classes from the middle and upper classes developed early, especially during the middle of the eighteenth century in the colonial cities of Boston, New York, and Philadelphia. He reports cases where workers chose to abandon being supported with food and lodging by their employer and take a higher wage instead. However, during the economically unstable post-1760 period, this trend probably slowed (Nash 1979:259–260, 320–321). With the increasing diminution of paternalistic relationships in the growing economy of New York, journeymen developed a separate culture from the artisan-employers, and alcohol was the center of this leisure time, both in and out of the workshops (Wilentz 1984:53). This culture was well developed by 1820 (and is discussed in more detail in Rorbaugh [1979] and more specifically for mid-nineteenth century Foley Square in Reckner and Brighton [2000]), but it had its beginning in this transitional period when the old artisan and journeyman relationship was breaking down and being replaced with labor for wages. The glass tableware also addresses this issue of drinking, possibly for social purposes, among the residents of Foley Square's two project areas. Alcohol was consumed on many kinds of occasions, including all meals and between meals (McKearin and Wilson 1978:229). Lot 12 is included here since an analysis of the minimum vessels was done for the table glass for that lot.

The most common glassware forms are tumblers and flips. Both have basically cylindrical forms with flat bottoms. American collectors and archeological analysts have traditionally called the larger tumbler forms flip glasses (Palmer 1993:85). Flip is a drink that has a base of beer, about two-thirds of a pitcher or pewter mug, with a sweetener (usually sugar, but also molasses or dried pumpkin) and about a gill of rum (Mariani 1983:162; Smith 2000) or gin (All About Beer 1997). Historic records, however, refer to tumblers by size, and advertisements refer to tumblers as wine and water glasses or punch tumblers, or simply as "beer glasses" (Palmer 1993:85). Thus, it is certain that large tumblers or "flips" were used for a variety of drinks. However, it is useful to consider the large tumblers as primarily a special-purpose alcoholic drink glass for at least beer and possibly flip. One should not ignore the use of pitchers as a measuring device for making flip.

The first reference to a flip in England is in the 1690s (Mariani 1983:162). It was popular in taverns and appears in General George Washington's expense accounts (Smith 2000). It was popular into the mid-1800s and was mentioned in *Moby Dick*, written in 1851, as a common drink of the laborers (in this case seamen), and an 1832 cookbook, written for middle- to upper-class households, has a recipe for it (Stewart 1997:98). According to some sources (Hooker 1981:131–132; Rorbaugh 1979:108–109), beer was often not very good and would have benefited by various additions. Americans also often thought the beer was too weak and had not enough alcohol (Rorbaugh 1979:113). Furthermore, the upper classes tended to drink imported wine, brandies, cordials, and whiskeys, while the middle and lower classes drank cider, rum, beer, and whiskey (Pickvet 1992:16; Rorbaugh 1979:100–103). To some extent, the upper classes may have looked down on beer as alien and lower class (Hooker 1981:132).

Flips and tumblers are the most common drinking-vessel forms except in B-V. Decanters are also common, appearing in all but one of the deposits. Wine glasses are found widely. Other forms have more restricted distributions. Mugs and the single punch cup appear only at 290 Broadway, and the numerous shot glasses and a cordial glass appear only at Five Points.

Overall, the assemblages from the two Foley Square project areas are roughly similar. Most proveniences have the same amount of alcohol glasses compared to regular tumblers, about 0.8 alcohol glasses to every tumbler (Table 135). Two deposits from Five Points have both the highest and lowest ratios. Feature B-V has the most, without having any flips, because of the large number of firing glasses. The Widow Hoffman's late deposit (N-IV), while it has both firing glasses and flips, shows a decline in alcohol vessels. We cannot say for sure what people were drinking out of the various beverage glasses, but the specialized vessels were generally bought for specific reasons related to their advertised function. The fact that the firing glasses are spread throughout three privies on two lots, and not elsewhere on the Five Points block or at 290 Broadway, suggests that this form may have been passed from one family to another, and eventually discarded as families moved. On the other hand, both Hoffman (N-IV) and Cross (B-V) employed men to assist in their bakery and cabinetmaking shops. The firing glasses may have been from the workers' on-the-job drinking.

Table 135. Ratio of Alcohol Glasses[1] to Tumblers for the Foley Square Sites

Ratio	AU56	AU58	Lot 12	AF-II	D-V	B-V	N-IV
Alcohol glasses/tumbler	0.73	0.81	0.78	0.81	0.75	1.33	0.37

[1]Includes flip, wine, punch cup, firing glasses, shot glasses, and cordials

The kinds of alcohol and other vessels as well as their relative representation in each collection vary among the assemblages of drinking-related vessels (Table 136). At 290 Broadway, flips are more than twice as abundant in AU56, and wineglasses and decanters are fewer than in AU58 or Lot 12. AU58 also has more rare forms such as the punch cup. At Five Points, the two temporally equivalent features on adjacent lots (AF-II and D-V) have similar percentages of flips, but not of wines; AF-II has no decanters and more wine glasses. The small sample size for D-V makes this comparison problematic. Deposit N-IV is attributed to the same family as AF-II, but later. N-IV has fewer flips and wine glasses, but adds cordial and shot- or firing-glass forms. However, these are less than half the specifically alcohol-related forms in AF-II. This may be in keeping with the change in household composition after Mrs. Hoffman's husband died; she may have entertained less because of her change in status.

Class affiliation may explain some of the variation in the kinds of glass drinking vessels at 290 Broadway. Although there are about equal percentages of alcohol-drinking glass in the three major proveniences (Lot 12 [AUs 518 and 519], AU56, and AU58), one can suggest that there is more drinking of the type that came to be associated with workingmen (flip) and less with upper-class behavior (wines) in the cartmen's households (AU56) than there is in the other two proveniences (the merchant [AU58] and the upholsterer [Lot 12]). Although the upholsterer is a workingman, he may have consumed more wine than the cartmen. An upholsterer's work is less manual and more design-oriented, and he may have employed others. One could argue that he would have affiliated more with the middle and upper classes than with the cartmen.

Table 136. Percent of Glass Drinking-related Vessels at Foley Square Sites

	290 Broadway				Five Points		
Vessel Form	AU56	AU58	Lot 12	AF-II	N-IV	D-V	B-V
Flip	29.3	11.6	16.7	23.9	11.1	25.0	
Mug	4.9	2.3					
Punch cup		2.3					
Firing glass					4.4		45.8
Cordial					2.2		
Wine glass	9.8	25.6	22.2	20.9	6.7	12.5	12.5
Decanter	2.4	9.3	11.1		8.9	12.5	12.5
Tumbler	53.7	48.8	50.0	55.2	66.7	50.0	37.5
Total	41	43	18	67	45	8	24
Alcohol glasses[1]	39.0	39.5	38.9	44.8	24.4	37.5	50.0
Wine (glass and decanter)	12.2	34.9	33.3	20.9	15.6	25.0	16.7

[1]Includes flip, wine, punch cup, firing glasses, shot glasses, and cordials

If flip glasses indicate a workingman's sensibilities, then both the baker Hoffman (AF-II) and merchant Wilson (D-V) would have this sensibility since they have more flips than wines. However, when one adds decanters to the wine glasses, only the baker Hoffman (AF-II) and the cartmen (AU56) have more flips than wine-related glassware; in Hoffman's case, the dominance of flip is small. The cabinetmaker Cross's (B-V) high percentage of alcohol glasses (primarily firing glasses) may say less about his habits than about those of his workmen. Higher taxes and nationalistic sentiment nearly killed the rum industry by 1802 and it was replaced by whiskey from the frontier (Pickvet 1992:13). It is interesting that the shot glasses appear at the time when Cross was developing his business. Perhaps his workers had switched to whiskey from beer or beer flavored with rum. Dram drinking (the drinking of small amounts throughout the day) in small glasses like firing glasses was one of the drinking patterns of the workingman in the late eighteenth to early nineteenth century, which died out in the 1820s, to be replaced by communal binge drinking away from work (Rorbaugh 1979:150–151).

Although all the households also had wine bottles, the quantity of such bottles varied, and they may have contained rum until 1800 and whiskey thereafter (Jones 1986:17). Case bottles also held a variety of liquors like brandy, rum, and gin (McKearin and Wilson 1978:203, 224). AUs 56 and 58 and B-V and N-II have about the same percentage of wine bottles, Lot 12 has more, and D-V even more. AF-II has substantially fewer, even though it has wine glasses with gauze stems (Table 137). Wine was consumed in small quantities nationally (about as much per year as the amount of cider consumed in a week [Pickvet 1992:14]). If one had access to sugar, one could make all kinds of fruit-based wines or cordials (as standardized in a variety of cookbooks available in colonial cities). These drinks could be drunk in wine glasses, so wine glasses do not necessarily represent imported wine; nor do wine bottles. However, New York City and other seaboard cities probably drank proportionately more wine, as attested by the wine glasses in the assemblages. Demijohns, used for storing large quantities of drink, were recovered from AU56 and B-V, only one each.

Besides glass bottles, ceramic jugs or bottles may also have held alcoholic beverages. Very few were recovered. They were a stoneware jug from AU58, a redware jug from B-V, two stoneware bottles from B-V, and one from D-V.

Table 137. Percentage of Alcohol Bottles for Foley Square Sites[1]

	AU56	AU58	Lot 12	AF-II	D-V	B-V	N-IV
Wine-Style bottles	13.7	17.6	25.0	8.6	31.8	19.3	11.8
Whiskey-style bottles		1.4					
Beer-style bottles				1.6		2.6	3.4
Case bottles		3.4	4.2	6.3	4.5	1.3	2.5
N	55	58	48	128	22	78	119

[1]Percentages are calculated from the total of vessels that were used to hold or drink beverages

In summary, the carter's households on Lot 15 have elements of the workingman's leisure culture that developed during this period to emerge in the 1820s. Lot 15 also has a ceramic pitcher that pokes fun at the establishment. The other sites that have signs of heavier drinking of flip and whiskey are the two sites (the baker's, AF-II, and the cabinetmaker's, B-V) that employed workingmen in their on-site business. Since drinking was part of the work culture of the time, it is likely that we are seeing a mixture of the drinking artifacts from the households and from their daily workers.

11.3 Food

Foodways are elemental cultural and behavioral patterns that are reinforced at each meal. They are considered good signs of affiliation to cultural groups. However, changing patterns of cooking and serving (Yentsch 1991) in the eighteenth century made different kinds of recipes or ways of preparing food and different ways of serving more important than the food eaten. This may have been particularly true in the growing cites of the Republican period.

Except for the poor, most kinds of meats would have been available to the city dweller, especially within one neighborhood. However, this availability may have led to the easier expression of personal and cultural differences than might be possible with a smaller range of choices.

The glass and ceramic comparison showed that the kits used on the Republican period tables did seem to differ according to class and economic position. The ceramics were more obviously connected to the amount of money the households had to spend, and the glass seemed more connected to value and behavioral differences in the working-class culture. The foods the people of New York chose to prepare and serve on the plates should probably also reflect these economic and cultural differences. Fish in English culture and in most of American history, including New York at this time, has been considered food for the poor and/or Catholic people (Oliver 1995:332). The upper and middle classes disdained fish as being both cheap and boring or unpalatable (Rothschild 1990:149;Appendix 4, Part B). Many fish recipes used rich sauces to disguise the taste, although some nineteenth-century commentators reported such sauces to be indigestible (Oliver 1995:333–335). However, the role of fish in Dutch foodways is not discussed much in the literature in English; an exception is a seventeenth-century Dutch cookbook, *The Sensible Cook* (Rose 1989). If the Dutch appreciated fish more than the English, this could complicate interpretation.

There are several other complicating factors related to socioeconomic and site-formation processes. One socioeconomic factor is that some fish were more expensive than others. This is reflected in a list of the relative cost rank of foods in New York City, where salmon and small bass are in the Rank 5 (8 is the top rank); large bass, cod, and freshwater perch are in Rank 4; tom cod and trout in Rank 3; and the rest of the fish are at the bottom in Rank 1 (Rothschild 1990:Appendix 4 Part B). These ranks were derived from contemporary newspapers and a history of markets in New York (DeVoe 1862). Another socioeconomic factor is the number of dishes that were set on the table at one time during each course of the meal. The Old English or covered table plan was still the primary way of presenting food at this time. In America, there tended to be just two courses (Wall 1994:115–117). In upper-class and aspiring households, meals with just the family, as well as meals served while entertaining, may have had a fish dish in addition to soup, one or more meats, and vegetables. Thus, these households would have used more fish during the year than a middling household which did not entertain or which had limited money to spend on what they may have defined as "extra" dishes.

One site-formation process that might affect the deposition of some fish and birds is seasonality. Some of the sites have a majority of one species, and some of them were usually available at only one or two seasons of the year. Other species were available most of the year. For this analysis the assumption is that seasonality is not a factor.

Some birds were relatively expensive, such as turkeys, geese, and many wild birds, although they are ranked at no more than 5. Chicken has some ambiguous position since it appears in Ranks 6 and 4. The relative average cost of the main food mammals, cattle, sheep, and pigs, is also hard to ascertain from historic records; Rothschild has pork (Rank 8) above beef and lamb (Rank 7). The cost and the value obtained for that cost probably depends on how the provisioning system was structured. For example, in the Chesapeake, plantation owners butchered their own meat and got the best cuts. The middle and poor classes in the towns had to buy their meat from a butcher if they did not have contacts in the country, and paid for poorer cuts of meat (Walsh et al. 1997:2). In New York, proximity to markets may also have played a role. All the markets at this time in New York were downtown, which would mean a trip to the market of a mile or about 20 minutes (Rothschild 1990:66) for the people in the Foley project area since vendors or other retail outlets were not allowed. However, since the Widow Hoffman or someone on her lot was raising chickens and possibly pigs, neighbors may have been another source of meat. Although Rothschild (1990) identifies pork as the most expensive domestic meat in New York, more than beef or mutton, the reasoning for this is unstated.

A better measure of stress on the food budget may be the degree to which high-quality cuts of meat are included in the diet. However, some households may have preferred high-quality meats in one kind of domestic mammal and not in another. Furthermore, some cultures may stress a diet that emphasizes good cuts of meat or just quantities of meat regardless of their relatively high cost. In the late nineteenth century, American working-class males favored meat, and some surveys even found a small percentage that had fresh meat three times a day. A compilation of a number of studies of workers' diets in the 1880s confirmed that American workers not only loved meat, but loved beef best of all (Levenstein 1988:23–24). How early this bias toward meat, and beef in particular, by the working class started is not known from documents. However, Americans are known to have favored meat and especially beef from early in their history. *Harper's Weekly* reported in 1854 that steak was the most common meal in America (Root and de Rochemont 1995:152). Such preferences would also confuse an attempt to use meat as an independent indication of wealth and the lack of it as an indicator of stress on the food budget.

Food preferences and costs, the provisioning system, and site-formation processes make a comparative evaluation of food use complicated. These elements of the historical value and disposal of various food animals will be used to evaluate the diets and the food budgets of twelve New York City sites.

The sites for comparison are listed in Table 129 and include both downtown and uptown sites. However, the analysts of the downtown sites and those from Five Points calculated the Number of Individual Specimens, (NISP) and the analyst for the 290 Broadway collections used Minimum Number of bone Units (MNU) which is similar to the NISP (Pipes, personal communication; see Chapter 10). The basis for the comparisons, then, is the NISP and MNU counts. One should also note that the assemblages used from 290 Broadway are the entire Phase 2 collections, which include a yard's sheet midden and features in Lot 12 and more than one feature in the rest of the lots.

There are several ways to look at faunal data to see if there are differences in what people were eating. We can look at the proportions of animal classes (mammals, birds, fish, other), the percent of different major domestic animals, and the differences in the percentages of meat cuts, including the percentage of high, medium, and low food-value cuts.

The relative contributions of mammals, birds, fish, and others (reptiles and crustaceans where reported) are considered first. There are interesting differences in the emphasis on fish among the sites. Mammals had the highest percentage of bone in only half the sites (Figure 135). However, although biomass was not calculated for any of the New York sites, mammal bone almost certainly contributed the most to the diet because of the higher biomass associated with mammals. If people conceptualized fish as a poor food, then it might appear most frequently among those at the lower end of the economic continuum. This is not the case. It is most common in the downtown sites and among the households at the upper end of the economic continuum.

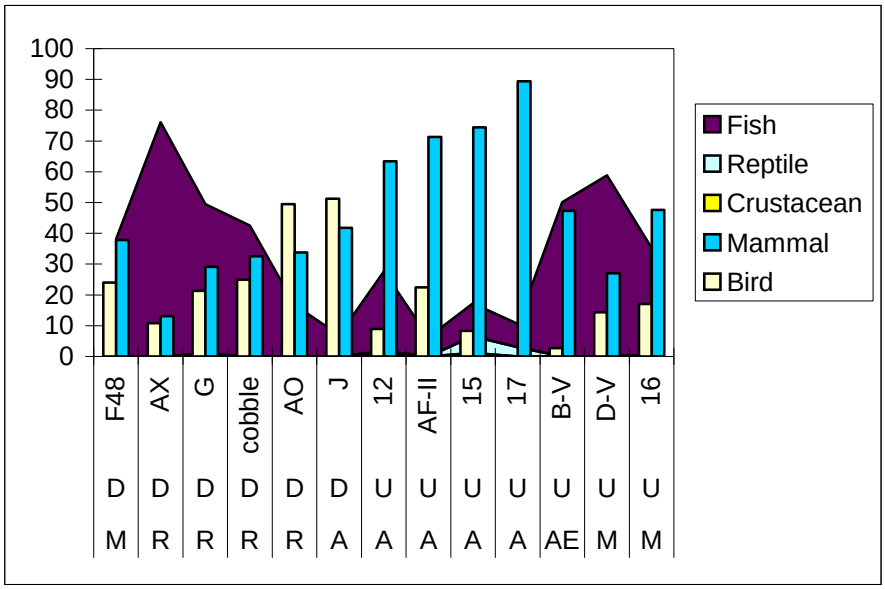


Figure 135. Proportion of animal classes by site, sorted by location (uptown [U], downtown [D]), economic position (artisan [A], artisan-employer [AE], merchant [M], retailer[R]), and percent of food sources.

Fish are the dominant class in four of the downtown assemblages, and birds (which include chicken, turkey, pigeon, and other wild birds) are dominant in the other two. Mammals are the second most common bone in all of these sites. The only two uptown assemblages in which fish are the most common bones are the cabinetmaker's assemblage (B-V) and that of the merchant at Five Points (D-V). However, they are relatively abundant in the merchant/carpenter household in Lot 16 and that of the upholsterer in Lot 12. Birds are not dominant in any of the uptown assemblages.

When the sites are grouped into merchant/retailer and artisan/artisan-employer, an unexpected pattern emerges (Table 138). Merchants and retailers ate much more fish and more birds than the artisans. Artisan sites have twice as many mammal bones as merchant sites. This could imply that the merchants have a more varied diet than the artisans and that they have the money to make more choices and to invest the time and energy (of their servants) in a variety of recipes rather than sticking to the same old things. This may also be seen in the larger number of serving forms found in downtown sites compared to uptown sites. Dishes, platters, and bowls are more common in downtown or center sites, and sauceboats and tureens are found only on downtown sites (Table 134). Also, the need of merchants to maintain social connections may have led them to entertain more and to have several dishes per course, using fish as one of the dishes.

Table 138. Average Percentage of Animal Classes by Occupation Type

Class	Merchants[1]	Artisans[2]
Crustaceans	0.0	0.3
Reptiles	0.2	1.6
Fish	45.0	17.9
Bird	23.1	15.6
Mammal	31.6	64.6

[1]Merchants/retailers
[2]Artisans/artisan-employers

The artisan class can be separated into self-employed and employer artisans, arguing that those who employed others would have reaped more profits than individuals working on their own. This additional money could have been fed back into the household budget. The self-employed artisan households have less variety in their diet than the artisan, although there is only one, B-V, which employs others (Table 139).

Table 139. Percentage of Animal Classes by Occupation Group

Class	Artisan Self-Employed	Artisan-Employer	Merchant
Crustaceans	0.3	0.0	0.0
Reptiles	2.0	0.0	0.2
Fish	11.5	50.1	45.0
Bird	18.2	2.7	23.1
Mammal	68.1	47.3	31.6

There is, of course, variation within the merchant/retailer and artisan/artisan-employer groups, and other factors may cause variation within each group. For example, Site J, a hatter in downtown, has birds as the dominant food bones while Lot 16, uptown, a merchant, has its assemblage dominated by mammal bones, although both birds and fish are higher than at any other site at 290 Broadway.

These data suggest that fish is not solely an indicator of stress on the family budget. As suggested above, they could reflect a preference for more variety in the diet like the upper classes, or the ability to have servants prepare less desirable foods in a more elaborate fashion as witnessed, perhaps, by the sauceboats in some of the downtown sites. Several other factors may have contributed to the higher frequency of fish on merchant sites. One is that the merchants had more servants and fed them more of the lower-cost foods, like fish (see Cheek [1998] for a discussion of this possibility with respect to the Chesapeake as a whole versus the Boston area). Merchants also needed to maintain social relationships to be effective businessmen and may have entertained more, including fish among the multiple dishes they served to their colleagues. Lastly, the merchants could have been saving their money for their businesses and putting it into capital equipment or investments rather then into costly food. This pattern has been found for material items in seventeenth-century Virginia (Rutman and Rutman 1984) and nineteenth-century farmers in New Jersey (Friedlander 1990:105). Whichever of these factors applied, all these factors, alone or working in concert, would have increased the amount of fish in merchant rather than artisan households.

Whether chicken was considered a favored and expensive food in the decisions of householders is more uncertain. Chicken is given a rank in the middle or upper half of the New York food ranks. Rothschild (1990) noted an increase in chicken over time in her sample. It is not appropriate to compare Phase 1 from 290 Broadway with the downtown collections since Rothschild's Phase 1 is not primarily a domestic occupation. However, chicken is in the top four ranks of identified bones in the Foley sites, except for Lot 15 where it is eighth and B-V where it is seventh. However, the downtown sites have more chicken than was found at the Foley sites (Table 140).

Table 140. Percentage of Chicken in Downtown and Uptown Sites Based on Identified Bones

Downtown[1]		Uptown			
Period III	13.1	290 Broadway	8.2	Five Points	7.2

[1]Calculated from data in Rothschild 1990:Appendix 4.

This lower percentage of chicken can be interpreted as spending less on this relatively expensive food at the uptown sites and more at the downtown sites. This might be another cost-related difference between the two areas that is expressed in the food budget. However, the silversmith and the druggist have 6 and 3 percent chicken, respectively, lower than the average of the uptown sites.

Beyond these comparisons based on overall animal classes, one can also focus on the bone count of the important food species, the domestic mammals. The most common rank order was cattle, sheep, and pig (C-S-P) (Table 141). This pattern occurred in five of the assemblages and four of the six artisan and artisan-

employer groups; most of those sites with this rank order were in 290 Broadway. (The collection from Lot 17 is very small and should be considered suggestive rather than decisive, while the tie between sheep and pigs in J should probably count as another C-S-P, since C-P-S did not occur at all.) Only one of the retailer/merchant group and that from 290 Broadway had the cattle, sheep, pig rank order. The most variation occurred in the retailer/merchant group. Four of these have pork ranked first. If Rothschild is correct and pork is expensive meat, then this would fit with the idea that this group had the money to buy the high-ranked foods. In fact, the sites that have pork first are the rich merchant (G), the silversmith (Cobble), the ceramic and glass merchant (AO), and the merchant in Five Points (D-V). In the artisan or artisan-employer group, none has pork ranked first. Sheep occurs first only in the carter's, the druggist's, and the grocer's households.

Table 141. Rank Order of Domestic Mammals by Site from Number of Bones

Location	Class[1]	Site	Rank 1[2]	Rank 2	Rank 3
Downtown	A	J	C	S/P	
290 Broadway	A	12	C	S	P
290 Broadway	A	17	C	S	P
290 Broadway	A	15	S	C	P
Five Points	A	AF-II	C	S	P
Five Points	AE	B-V	C	S	P
290 Broadway	R	16	C	S	P
Five Points	R	D-V	P	C	S
Downtown	R	Cobble	P	C	S
Downtown	R	G	P	C	S
Downtown	R	AO	P	S	C
Downtown	R	F48	S	C	P
Downtown	R	AX	S	C	P

[1]A = artisan; AE = artisan-employer; R = retailer or merchant
[2]C = cattle; S = sheep; P = pig

The same rank order (C-S-P) occurs in the 290 Broadway sites (the other sites did not have comparable data) when we look at the rank based on meat cuts rather than bone counts. However, when inedible parts are removed (specifically cattle horn cores and feet and lamb's feet), lamb/mutton is the most abundant mammal in Lot 17, and beef instead of lamb/mutton is most abundant in Lot 15 (Table 142). The rank order in the other lots stayed the same, although the percentage of beef in Lot 16 decreased by 20 percent when inedible elements were removed.

Table 142. Relative Percentages of Domestic Mammals by Lot Without Inedible Parts[1]

	Lot 12	Lot 15	Lot 16	Lot 17
Beef	44.7	39.0	45.4	32.3
Lamb/mutton	37.3	37.3	28.9	45.2
Pork	17.9	23.7	25.6	22.6
Total MNU	541	59	121	31

[1]This excludes cattle and sheep's horn cores and feet. The data also excludes veal, which was only about 2 percent of Lot 12 and the MID lots.

In looking at the 290 Broadway assemblages, one can also look at the relative emphasis each household placed on the cuts of meat that have the highest food value. Considered on a lot-by-lot basis, Lots 12 and 15 have the highest percentage of high-value cuts of meat (Table 143), while Lots 16 and 17 have about half that many high-value cuts of meat. Lots 12 and 15 also have about a third each of high-, medium-, and low-value meat cuts, while 16 and 17 are over-weighted in either low or medium cuts. This may indicate that the households on Lots 17 and 16 had more pressures on their food budgets than did the households on the other two lots. On the other hand, they could have been spending their money on more expensive birds and fish.

Table 143. Percentage of Each Meat Cut Rank per Lot[1]

	Lot 12	Lot 15	Lot 16	Lot 17
High	28.2	31.0	15.5	12.9
Med	32.1	31.0	32.0	48.4
Low	39.7	37.9	52.4	38.7

[1]Without inedible cuts of meat

Another way to look at food preferences is to see which meats are favored in a household for its choicest cuts. For example, did one household favor the choice cuts of beef or pork, no matter what the overall percentage of pork or beef was in their assemblage? In each lot, each meat has different percentages of high, medium, and low cuts of meat. In Lots 12 and 15, where the amounts of high, medium, and low meat cuts are about equal, high-value meats were bought in different percentages, depending on the meat type.

In Lots 12, 16, and 17, the highest percentage of high-value meat cuts is beef (Figure 136). However, pork has the highest percentage of high-value meat cuts in Lot 15; this lot also has a higher percent of mutton/lamb high-value cuts than the other lots. On the other hand, for the medium- and low-value cuts, beef is the most frequent except in Lot 17, where mutton/lamb is the highest for the medium- and low-value meat cuts. This figure suggests that when people allocated their money for the best cuts of meat, they had specific preferences for the meat they wanted to buy. This meat was not mutton/lamb, but beef or pork. Different households had different preferences. Occupants of Lots 12, 16, and 17 (upholsterer, merchant/carpenter, and confectioner) chose beef. The cartmen chose pork.

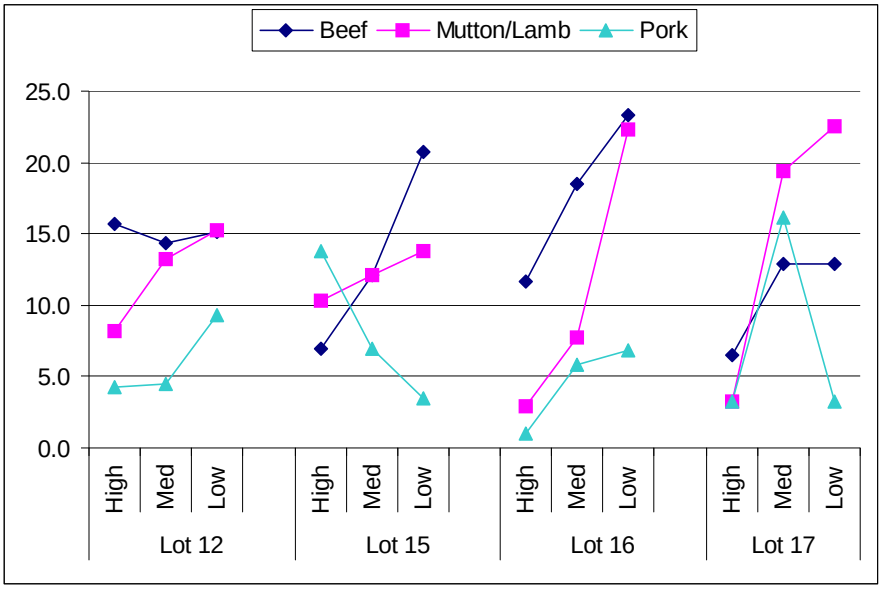


Figure 136. Percent of high-, medium-, and low-value meat cuts by meat type and by lot.

Although high-value meat cuts of pork seem to have been favored in Lot 15 (Figure 136), pork was not favored in the other households. Except in Lot 17 where medium cuts of pork were frequent, high, medium, and low cuts of pork were never more than nine percent in the other lots. If salted pork was common, as many sources assume, so that pork contributed more to the diet than the archeological record shows, the household on Lot 15 is unusual in that it has such an abundance of fresh pork. When we recall that pig bones were more common in the downtown sites than in the uptown sites, the choice of pork for high-value cuts by the carter households is unexpected.

When we look at how the meat cuts were chosen by each meat type, we get another perspective on what people wanted to eat (Figure 137). In other words, when people chose beef, what parts of the animal were favored? In Lots 12 and 17, when beef was chosen, they chose the high-quality cuts of beef. In Lots 15 and 16, on the other hand, the high-value cuts selected most often were pork. No household ever spent more money on high-value cuts of mutton/lamb than it did on medium or low cuts of mutton/lamb.

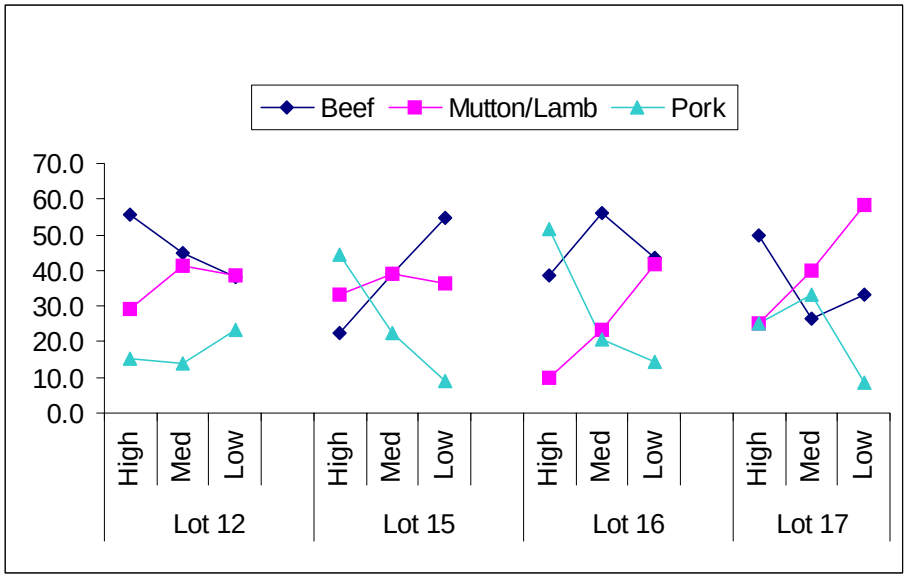


Figure 137. Percentage of meat type by value class in each lot.

This comparison of different ways of looking at meat choice demonstrates how complex people's choices can be. In Lot 12, beef is obviously the favored meat, and over 50 percent of the beef was high-quality cuts. In Lot 16, where beef was also the favored meat, people ate less than 40 percent high-value meat cuts. In the same lot, although there was a very low percentage of pork, half of that was of high quality. At Lot 17, mutton/lamb was the most favored meat, but only a little more than 20 percent of it was high-value cuts, about the same percentage as pork. Lot 15 favored pork more than the other lots. Pork was the most abundant of the meat cuts, and about 45 percent of the pork was from high-value cuts.

The overall picture at the 290 Broadway sites is that beef was the most favored meat in two households (Lots 12 and 16). Pork was second in number of bones and cuts of meat and had its high-value cuts chosen proportionately highest in two households (Lots 15 and 16). Mutton/lamb was generally neither the highest nor the lowest. Besides being the highest frequency in only Lot 17, the high-value cuts were never selected more than the other cuts.

In summary, most of the differences in consumption of food animals among the sites examined here seem to be due to class and economic differences, which heavily influenced where people lived, in the center or the periphery of New York. The differences in foodways between the uptown and downtown sites are mostly coextensive with the difference between the merchants/retailers and the artisans/artisan-employers.

High percentages of pork and fish bones and higher percentages of chicken characterize the downtown sites, all but that of the lone artisan hatter. Beef and fewer fish and chicken bones characterize the uptown sites. It is likely that pork and chickens represent greater expenditures for daily food than the beef in the uptown sites. The fish probably represents a greater consumption of fish as part of a multi-dish course in the downtown households. Since fish was often dressed to hide or enhance its flavor, the servants often found in downtown households would have aided in these preparations.

Besides these differences due to wealth and position, taste preferences based on class affiliation also affected food purchased. Beef was the desired food of the workingman in the nineteenth century, and we

may be seeing this preference in the uptown sites. The uptown population was composed primarily of self-employed artisans and working-class people, and this emphasis on beef may reflect the beginning of the working-class culture.

11.4 Conclusion

The analysis in this section showed that the Republican tables in different parts of the city were not uniform in how they were set. The most obvious difference was in the amount of food on the table and the way it was presented. The downtown sites probably had more types of food dishes on the table, as represented in the larger number of serving vessels and the presence of more fish. It is likely that they also prepared a somewhat greater variety of recipes than in the uptown sites since fish was often dressed in an elaborate sauce that could have been prepared with the rest of the food by servants. Gravies or sauces served in sauceboats often accompanied the more elaborate recipes for fish and other foods.

However, there was actually little difference in the downtown and uptown sites in the appearance of their ceramic tablewares. Edged wares replaced creamware plates in both parts of town. Evidence of differentiation of tableware into a good set and an everyday set was not widespread. One could interpret the greater use wear on creamware and lesser use wear on pearlware as families beginning to save edged pearlware for a good set. However, it is hard to control for site formation and the life history of individual vessels. Does the light use on pearlware represent newer vessels that have not been marred through use because they were just purchased, or were they being saved for only occasional use? Only three sites had enough OEP tableware that could have served as a "good" set. Interestingly, they include two early artisan sites, J from downtown and AF-II from Five Points, but none of the merchant or retailer sites from downtown. Given our assumptions about the association between class and expenditures, this is an unexpected observation. The foodways of J are also distinct, with a high percentage of birds, while AF-II appears to fit into the uptown pattern of relying on meat, specifically beef. If these sites are typical of early artisan sites, they could represent an earlier period when there was more economic opportunity.

The teawares had more variety in decoration and in designs within each decorative type in the downtown sites. In spite of this, there was not a major difference between the uptown and downtown teawares, except again for the higher percentages of OEP in the downtown sites. Since tea was the primary meal at which non-family members were entertained (Wall 1994:125), the variation may reflect the diversity of social relations that individual households established.

Definable working-class behavioral patterns began to differentiate from middle-class patterns in this period, at least in the seaboard cities (Nash 1979; Wilentz 1990). The increasing capitalistic relations of production, where labor became a commodity, fostered this process. Drinking behavior began to differ among the groups we generally assign to the middle and working classes. The one household, the carters, which engaged in manual rather than skilled labor, had both the largest number of flip glasses, a drink often associated with working-class folks and the predecessor of the boiler-maker, and a pitcher that poked fun at authority. However, like other measures of class affiliation, this one does not fit perfectly. The merchant from D-V also seemed to have traces of the drinking culture that became associated with the working class later. These conclusions about the early appearance of a workingman's leisure culture have to be taken cautiously, since only material from the Foley Square sites could be used for comparison.

Foodways are crucial components of an individual's and household's daily life and they are often used to express and reinforce household and family values. Wall's work (1994) pointed to the use of the material culture of foodways to support changes occurring in the separation of home and work and the establishment of a support system for the middle-class family in the cult of domesticity. These changes were not fully visible until the 1820s, later than the sites examined here. Wall's sites all came from the old established downtown area. The transition to the cult of domesticity is not visible in the ceramics in the study sites. Most of the changes, even over time, do not seem to lead to changes in the kinds of vessels used to set the table. The uniformity of the ceramics placed on the table could reflect the idea of equality found in the Republican ideology and expressed in the home among the family and for the rare dinner guest as well. The variety in the teaware and the expression of class differentials may reflect an understanding of the increasingly separated social and economic playing field. This is the opposite side of the value correlation

expressed by Wall. She concluded that the variation could be used because the household did not want to stress communal values shared by household members and guests. A variety of wares could be used to express different relationships between the household and the guests; the higher the status of the guest, the better the ceramics.

This chapter also examined whether the employer of workers, sometimes called the master craftsman, had better financial opportunities that could be their expression in material culture. This result was ambiguous because of the lack of comparative data in some data sets and because of the small number of such households in the study sample.

In summary, the analysis found evidence of behavioral differences between the downtown and uptown households. Differences appeared in what food was emphasized and in the artifacts used to serve the food and drink. The differences are tied to economic and class behavior issues which in turn were created as the merchants, shopkeepers, master artisans, artisans, and mechanics responded to the pressures of the development of capitalism. The not so latent behavioral and cultural differences between these middling sorts and the wage earners that started in the mid-1700s (Nash 1979:259–260, 320–321) began once again to be expressed and solidify. Although social relations were changing in the post-Revolution period, it would not be until the middle of the century that a working-class culture would be recognizably contrasted with a middle-class culture (Johnson 1978; Wilentz 1984:53–54). However, behavioral and cultural differences that would be more visible by the 1830s already were being expressed in the foodways of the people before 1810. While some material items were selected from the range available to the consumer for economic or practical reasons, others seem to be chosen self-consciously for their symbolic value, for their ability to articulate the political and social values important in the struggle between different interest groups.

12.0 SMALL FINDS AND SOCIAL INTERACTION

by Charles D. Cheek

12.1 Introduction

The economic system in the United States had begun its trajectory toward mercantile capitalism before the Revolution, and it seemed to accelerate after that conflict. New York City was a center of this transformation. There was more potential for making money in New York as a wage laborer, mechanic, artisan, shopkeeper, or merchant than in most other places. Appearance was a crucial part of the ability to position oneself to take advantage of these opportunities. The following section will focus on those small finds and rare artifacts that reflect appearance and other factors of middle-class adaptation to, or creation of, capitalism. But first we need to look at the differences between the two phases, pre- and post-Revolution, and site formation.

The small finds from 290 Broadway were diverse and included about forty kinds of artifacts. These were not distributed equally over the phases, lots, or features. This section will review the distribution of the artifact types and classes over the proveniences and then examine explanations for some of these distributions. Finally, the artifacts will be examined from the viewpoint of how they contributed to the development of middle-class values and how they aided their users in adapting to the development of capitalism.

12.2. Distribution of Small Finds

12.2.1 Phase 1

The differences among the areas in the types of small finds in Phase 1 (pre-Revolution) seem to have been due primarily to the different functions that occurred in the SE, NE, and Lot 12 Areas. There were only seven small finds in the MID Area, and five of those were unidentifiable. In Phase 1, small finds were one-third as frequent as those of Phase 2 and concomitantly less diverse. The primary artifact groups found were sewing, unidentified, and industrial; clothes fasteners, arms, personal, coin, and furnishings were next most abundant overall (Table 144).

Lot 12 and the NE Area contained the most small finds. Both of these were yard surfaces or areas where trash was dumped. The MID Area, as discussed in earlier sections, had almost no original ground surface left. Only one small find, a bone button, came from the small surface area excavated in Lot 14. The other two types of items came from Lot 17 and included a coin found during cleaning operations and five pieces of a copper-alloy artifact in F160, which may be Phase 1 or Phase 6 (it had no datable artifacts, but lots of bone, which could place it in Phase 1).

Table 144. Percent of Small Finds Groups from Areas in Phase 1

Function Type	Lot 12	MID	NE	SE	Total[1]
Sewing	48.6		7.5	9.1	33.9
Unidentified	16.8	71.4	27.5	9.1	21.2
Industrial	17.8		10.0		13.9
Clothing fasteners	4.7	14.3	15.0		7.3
Arms	2.8		12.5	18.2	6.1
Personal	3.7		12.5		5.5
Coin	0.9	14.3	5.0	36.4	4.8
Furnishing	3.7		5.0	18.2	4.8
Hardware				9.1	0.6
Household			2.5		0.6
Tools			2.5		0.6
Toy	0.9				0.6
Grand Total	107	7	40	11	165

[1]Sorted by the Total column

The distribution of the artifacts supports the interpretations given earlier that little domestic trash was deposited on the SE Area's surface and that it was used only for a burial ground and for the disposal of debris from one or more potteries. The SE Area exhibited more variety of artifacts than the MID Area and had eleven artifacts compared to the seven from the MID Area. Only the furnishing artifact likely came from a domestic context. The other artifacts could have been deposited outside of a domestic context. The sewing artifact was a pin, which could have been associated with a burial. The musket ball and hardware item could have been from any number of non-domestic activities. Most of the artifacts were scattered over the SE Area except for four of the five coins or slugs, which were found in one of the long trenches dug to dispose of pottery debris (F163). About half the items were in the features and half in the ground surface.

The NE Area and Lot 12 have larger numbers and a greater variety of artifact classes, reflecting their use as either yards associated with domestic occupations or as areas where such trash was dumped. In the NE Area, about a quarter of the artifacts came from features and the rest from the historic ground surface. The artifacts from the features were generally similar to those in the ground surface. The only types of artifacts found in the features, but not the ground surface, were an undergarment button, an unidentifiable coin, and a seed bead. Both features and the surface contained overgarment buttons, bone button blanks, buckles, gunflint debitage, industrial byproducts, and unidentified items. All of the buttons but the bone undergarment example was a copper alloy. The ground surface contained a gunflint, a flint firestarter, a copper alloy eye (possibly from clothing), a thimble, an antler utensil handle, an iron drawer pull, and two straight pins.

In Lot 12, in contrast to the NE Area, 84 percent of the small finds came from the features and only 2 percent from the yard surface, AU521 (Table 145). This is a deceptive comparison because the large trench (F51) was full of artifacts and only the bottom of the yard surface could be assigned to Phase 1 since the upper surface contains mostly Phase 2 artifacts. F51 has 76 percent of the total artifacts in Lot 12. However, more than half of them are pins or pin fragments. Without F51, there would be more artifacts in the ground surface than in the pits, as in the NE Area.

Table 145. Percent of Small Finds by Provenience Type in Lot 12 Phase 1

Functional Groups	Other Features	AU051	AU521	Total[1]
Sewing		56.8	35.3	48.6
Industrial	33.3	12.3	35.3	17.8
Unidentified	11.1	18.5	11.8	16.8
Clothing fasteners	22.2	3.7		4.7
Furnishings	11.1	3.7		3.7
Personal	11.1	3.7		3.7
Arms		1.2	11.8	2.8
Coins			5.9	0.9
Toys	11.1			0.9
Total N	9	81	17	107

[1]Sorted by the Total column

One of the industrial byproducts (slag) occurs in each of the three proveniences. We do not know what process created the slag, but it is frequent in the Phase 1 deposits and also in AU519, the Phase 2 surface that includes Phase 1 and 2 artifacts. The slag could be associated with the redware potteries since slag is also found in the NE Area and not in the SE Area. Lot 12 and the NE Area have redware and stoneware kiln debris, but the SE Area has only stoneware kiln debris. This may indicate that some other fuel besides wood was used in redware kilns, or the material identified as slag could be a combination of melted glaze with other material in the kiln. However, the low percentage of slag in AU51, which was filled with kiln debris, indicates that the slag is from some process other than firing a kiln. Besides slag, the other industrial product is button blanks. Three appear in F051.

The unidentified objects are mostly iron fragments (78 percent of the total unidentified items); 80 percent of the iron items (sixteen of the eighteen in Lot 12) were found in F51. F51 also contained three lead fragments

and one copper-alloy fragment. AU521 had only a copper-alloy fragment, and the other features only an iron fragment. The high frequency of iron in F51 again sets it apart from the other proveniences. There is only one unidentified iron fragment in the NE Area and none in the SE Area.

One unidentifiable coin appears on the ground surface (AU521), and a toy marble is from a feature. There is one musket ball in the surface deposits, while gunflint debris appears in F51 and in AU521. Copper and/or copper-alloy tacks used in upholstering or paperhanging occur in F51. The sewing items include pins in all deposit types and a thimble in the surface deposit. A copper-alloy eye, a button blank, a mirror fragment, and a pendant backing that has lost its inset appear only in F51. A fan part occurs in one feature. Buttons appear only in the features and are all outer-garment buttons of a copper alloy.

A Brainerd-Robinson Correlation (Table 146) among the chronological groups with more than forty artifacts (Lot 12 Phases 1 and 2, NE Phase 1, and MID Phase 2) showed that the two major Phase 1 components were not as similar to each other as the two Phase 2 components were to each other. In fact, the NE Area small finds were overall more similar to Phase 2 Lot 12 than they were to Phase 1 Lot 12. This suggests that the artifact assemblage in the NE Area was more domestic in origin than the assemblage in Lot 12 in Phase 1.

Table 146. Brainerd-Robinson Table of Similarities Based on Small Finds Among Phases by Area

	Ph I Lot 12	Ph I NE	Ph 2 Lot 12	Ph 2 MID
Ph l Lot 12	-----	100.3	102.1	82.6
Ph l NE	100.3	-----	148.4	129.9
Ph 2 Lot 12	102.1	148.4	-----	151.9
Ph 2 MID	82.6	129.9	151.9	-----

12.2.2 Phase 2

Variation in the artifacts in Phase 2 (post-Revolution) is not due to differences in the primary use of the different lots. The features in Lots 15, 16, and 17 are the result of domestic occupations, as are most of the deposits and features found in Lot 12. However, the type of deposit affects the number of artifacts, which, in turn, affects the variation in the kinds of artifacts. The yard surfaces in Lot 12 have the greatest variation. The shaft features in Lots 15 and 16 and the pits in Lot 17 have from one to forty-six small finds. While the features from Lot 12 have from one to sixteen artifacts, the yard surfaces in Lot 12 have between one hundred two and one hundred five artifacts. Lot 12 has almost 2.5 times as many artifacts and 2.3 times as many types as the other lots (Table 147).

However, there are some differences in the kinds of activities that took place in Lot 12 and the MID Area lots. For example, the arms and industrial groups are relatively abundant in Lot 12 and either do not appear or are at low frequency in the MID lots. Hardware, coins, and household objects are more frequent in the MID lots. Otherwise, the major groups are similar. Clothing fasteners, primarily buttons, are about a third of each lot. Sewing items are between 8 and 11 percent, and the unidentified group is between 17 and 24 percent. Eight of the twenty groups appear in only one lot. Lot 17 has the fewest items and the least variability, commensurate with its low overall number of artifacts.

Table 147. Functional Group Percentages by Lot and Area in Phase 2

Functional Groups	Lot 12	Lot 15	Lot 16	Lot 17	MID Area Total	Grand Total[1]
Clothing fasteners	30.2	36.7	29.6	33.3	33.0	31.0
Unidentified	16.9	18.4	24.1		20.2	17.9
Sewing	8.6	8.2	11.1		9.2	8.8
Arms	10.2		3.7		1.8	7.7
Personal	6.3	10.2	11.1		10.1	7.4
Industrial	9.0					6.3
Furnishings	7.8		5.6		2.8	6.3
Hardware	2.4	4.1	1.9	50.0	5.5	3.3
Coins	2.4	8.2	1.9		4.6	3.0
Household	1.2	8.2		16.7	4.6	2.2
Toys	2.0	2.0	1.9		1.8	1.9
Kitchen	0.8		1.9		0.9	0.8
Textile			5.6		2.8	0.8
Tools	0.8					0.5
Writing	0.4	2.0			0.9	0.5
Storage	0.4					0.3
Hygiene	0.4					0.3
Architectural hardware	0.4					0.3
General - rubber stopper			1.9		0.9	0.3
Architectural		2.0			0.9	0.3
Grand Total	255	49	54	6	109	364

[1]Sorted by the Grand Total column

12.3 Artifact Types

12.3.1 Architecture

Architectural hardware is limited to one piece from Phase 2: lead window caning from Lot 12. Three additional pieces of lead caning were found in the Phase 3 fill in Lot 12.

12.3.2 Arms

Arms-related artifacts are found over the entire site when both periods are considered. Flint debitage is the most common kind of artifact in this class, with four in the NE Area, one in the SE Area, and two in Lot 12 in Phase 1. Debitage appears only in Lot 12 during Phase 2. Fifty-seven percent of the twenty-eight pieces of debitage have cortex on them, suggesting gunflints were made on site from flint ballast, as has been reported from other North American sites (White 1975:71). During Phase 1, this area was near the powder magazine, and the manufacture of gunflints may have occurred in the area. However, the majority of the debitage is found in AU518, which would have been deposited after the magazine was no longer in use. The debitage could also be associated with making flint firestarters. Two firestarters or strike-a-lites were found in Phase 2 Lot 12, but not in AU518.

In Phase 1, one gunflint was found in each of the NE and SE Areas. One from the Phase 1 deposits in the NE Area is probably a chip gunflint (Kent 1983:37). These are generally found in seventeenth- and early-eighteenth-century contexts. This gunflint is in one of the earliest areas of the site and is associated with pipes from the middle of the eighteenth century. The remaining gunflint is a fragment found in the SE Area. It is a gray-white chert that resembles the Native American gunflints depicted in Hamilton and Emery (1988:26). However, they also report that the English gunspalls were made of a variety of material including mottled cherts.

Only two of the eight gunflints appear to be of French manufacture. The only French blade gunflint was found in surface cleaning in the SE Area and was put in Phase 6. The other French gunflint, from Phase 2 in AU58, was the gunspall or wedge-shaped variety. The remaining five gunspalls are from Phase 2 with all from Lot 12 except the French one, which is from AU58. Both types were made into the early nineteenth century (Kent 1983; Hamilton and Emery 1988:20–26). Hamilton and Emery's comparative studies indicate that British Colonial sites should have French blade and British spall gunflints (Hamilton and Emery 1988:26–28), which is the situation at 290 Broadway. Only the blade gunflint from the SE Area was complete enough to estimate what kind of gun it was used for. It is 1.3 inches (33 millimeters) by 0.8 inches (20.3 millimeters), which suggests it was used in a musket (Hamilton and Emery 1988:21). The one measurable dimension of the French spall in AU58 is 1.5 inches (38.1 millimeters), which suggests it was a musket flint also.

Three balls were recovered. Their sizes, ranging from .59 to .67 inches, suggest they were used with muskets. One was from AU58 and the other two from AUs 521 and 519 in Lot 12.

A number of examples were recovered from cleaning operations in the SE Area. They included the amber French blade gunflint mentioned above and a musket ball. The most unexpected find was half a cannon ball in the late-twentieth-century disturbance F103. The original provenience of the item is unknown, but could have been from the ground surface in Lot 14.

12.3.3 Coins

The oldest coin was from the SE Area. It was a George II half-penny, the "young head" variety, dating 1729–1739. It was found below the stoneware debris and fits with the other early activities suggested for this area. This was the only identifiable coin found from Phase 1 deposits. Another coin of the same Phase 1 date was found in deposits assigned to Phase 3 in the NE Area. This was a George II penny. The obverse carried the head, which faced left, and the legend reads "GEORGE II DEI GRATIA." The reverse was too corroded to read, but by its size it was probably a three- or four-penny piece. If so, the date range is 1717–1760. Three unidentifiable copper coins were also recovered, two from the NE Area and one from the SE Area. The Phase 1 deposits from Lot 12 contained only an unidentifiable copper coin.

Although four coins were found in the MID Area, only one was identifiable. This coin, found in AU56, was a Portuguese 10 Reis coin. The obverse had the royal seal surrounded by "IOSEPHUS / DEI GRATIA"; the reverse had "PORTUGALIAE ET ALGARBIORUM" surrounding a wreath around numeral "X" with florets and date below. This particular date may end in a 0 or 6, probably 1760 or 1776. This coin was found in the carter's lot and reflected the continued use of foreign money even after 1800, when the U.S. mint had generally been producing sufficient amounts of coinage.

The coins from Lot 12 clustered into two temporal groups with one outlier between them. The first cluster dated to the Phase 2 period. These included four copper pennies from the Confederation period and one draped-bust Liberty one-cent piece. The later group is from Phase 5 and includes three Indian Head pennies with dates from 1862 to 1876 and one two-cent piece dated 1864. The outlier is an 1816 Coronet Head large copper cent, which would date to Phase 4.

There are two New Jersey coppers, one Connecticut copper, and one Fugio cent. The Connecticut copper and one of the New Jersey coppers are definitely assigned to Phase 2 contexts (AU25 and Trench A-AU511). The Fugio cent (Figure 138) was from a stratum that was classified as Phase 3 (AU515). In retrospect, this attribution may not be correct since the cent is at essentially the same level as the Connecticut copper found in AU25 and both were in the same excavation unit. The last New Jersey copper was in a provenience considered disturbed and assigned to AU509, usually assigned to Phase 6 since that was when the most disturbances seem to have occurred. All these coins should be considered together, since they were probably used and lost by the residents of Lot 12 before the lot was filled. Lot 12 also had a copper coin, large-penny size (AU518), and an unstruck copper slug of the same size (AU519) as well as a Mexican half-real (AU518).

Figure 138. Obverse of Fugio cent 1787, AU515, cat. no. 464, Lot 12. Photo by Josh Nevsky.

The details on the coins from Phase 2 follow:

- Silver half-real, Mexico, reign of Philip V of Spain. Obverse: crown above royal coat of arms, legend: "PHS.V.D.G. HISP.ET IND. R." Reverse: royal crest, legend: "VTRA QUE VNUM 1744." AU518 (cat. no. 339).
- Fugio cent, 1787. Obverse: radiant sun over sundial, "FUGIO" at left (intended to mean "Time Flies"), date at right, "MIND YOUR BUSINESS" under sundial in exergue. Reverse: thirteen links, "UNITED STATES" surrounds "WE ARE ONE" at center. This type is the first coin issued by the authority of the United States and is one of 400,000 struck. Many were locked in the vault at the Bank of New York until 1856, when they were slowly leaked onto the market (Alexander and Delorey 1995:119, 120). AU515 (cat. no. 464).
- Connecticut copper cent, 1787. Draped bust, obverse: [AUCTORI] (illeg.) / CONNEC. Reverse: Liberty sitting, "FNDE / ET LIB." Made by company for coining coppers in New Haven, Connecticut; made from stolen federal copper originally to be used for Fugio coins. It shows an engraver's mistake. He punched FU [GIO] in die then corrected it as much as he could to FNDE (instead of INDE) (Alexander and Delorey 1995:85). AU25 (cat. no. 495).
- New Jersey copper cent, 1786–1788, date illegible; most similar to 1786. Obverse: horse's head above plow with straight beam, no knobs to plow handles, date in exergue, surrounded by "NOVA CAESAREA." Reverse: shield surrounded by "E • PLURIBUS • UNUM." AU511 (cat. no. 415).
- New Jersey copper cent, 1786–1788, very deteriorated, date illegible. AU509 (cat. no. 0009).
- U.S. draped-bust Liberty, large cent, copper, 1798. Obverse: bust of Liberty with "LIBERTY" above it. Reverse: "ONE CENT" in center surrounded by a wreath, "UNITED STATES OF AMERICA" around edge. AU519 (cat. no. 193).

Coins from Phase 5 were all found around AU1, the brick-and-stone feature of uncertain function but probably a coal shaft to judge from the abundant pieces of anthracite in and around it. This feature had intruded into the late-eighteenth-century surface, probably in the mid-nineteenth century.

The 1816 Coronet Head cent is the coin dating between the two date clusters. It was found in the same area as the late coin cluster when cleaning off the feature and is probably associated with the same disturbance. It differs from all the other coins found at the site in that the obverse has been ground or worn smooth and a hole has been punched through the coin in the center (AU511 [F1] [cat. no. 00011]). A pierced coin is often associated with African Americans, since these have been found with some frequency on African American sites (see Russell 1997 and Wilkie 1997 for a review of such finds). Such coins were used as charms to ward off harm (Wilkie 1997:89). However, these have all been silver coins, which throw doubt on this being modified and used by an African American.

12.3.4 Fasteners

Clothing fasteners included under- and outer-garment buttons of bone, metal, and compositions of bone and metal; copper snaps; eyes; grommets; and a glass collar stud. As usual, most were found in the Phase 2 collections (Table 148). The highest ratio of outer buttons was found in Lot 15. The ratio of copper outer-garment buttons to bone ones is more variable, with the most copper-alloy buttons in Lots 12 and 15 in Phase 2. One collar stud was identified in Lot 15, AU56. If this is a correct identification, then it is intrusive, since these do not seem to have been used until the mid-nineteenth century when removable shirt collars were introduced.

Table 148. Clothing Fasteners for Phase 1 and Phase 2

	Phase 1				Phase 2				
	Lot 12	MID	NE	Total	Lot 12	Lot 15	Lot 16	Lot 17	Total
Button					16[1]				16
Button, outer-garment	5	1	4	10	42	16	10	2	70
Button, undergarment			1	1	17	2	6	1	26
Collar stud						1			1
Eye	1		1	2	1				1
Grommet, clothing-related					1		1		2
Snap						1			1
Total	6	1	6	13	77	20	17	3	117
Ratio outer/under-garment buttons	-	-	4.0	10.0	2.5	8.0	1.7	2.0	2.7
Ratio outer buttons: copper alloy/bone	-	0.0	3.0	3.5	7.0	17.0	2.3	0.0	4.6

[1]Includes the 15 wood and copper-alloy buttons unclassified as inner- or outer-garment buttons.

12.3.5 Furnishings

Copper tacks were all included in the furnishings category. They were placed there after noting that the iron tacks were all associated with the coffins in the African Burial Ground; no iron tacks were found in other contexts. Furthermore, these small tacks were often used in quantity on furniture in the seventeenth and eighteenth centuries (Nöel Hume 1969b:228). They maintain continuity in size and shape over time. Of these tacks, five were upholstery tacks; the rest were plain tacks. Tacks also were used in paperhanging, one of the two occupations listed for Cottle. Historic sources also suggest the use of iron or tinned tacks for paperhanging (Kelly 1993:5–25), although copper tacks could also have been used; the tacks held the cheesecloth or canvas to the wall. This material was used on non-plastered walls and acted as the ground on which wallpaper was hung. Regular copper tacks were also used in less-visible places during upholstery work. As discussed above, most of the copper tacks were found in Phase 2 in Lot 12. One upholstery tack was found in AU58 in Lot 16. The other three upholstery tacks were found in the rear surface of Lot 12. Copper tacks could have been used in other activities also. For example, the metal canister for case shot was tacked to its wooden bottom by copper tacks (Caruana 1990).

Other items classed as furnishings include an iron drawer pull from the NE Area and an iron hook, an iron drawer pull, and a decorated iron plate, possibly from a drawer pull. The SE Area also had a small brass rod with an acorn finial that may have come from a curtain rod. The Phase 2 items in Lot 12 all came from AU519 and included drawer pulls or plates for drawer pulls. One was a brass drawer pull and the other was a small brass drawer pull with an iron attachment screw, possibly from a letter or jewelry box or other small item.

In the MID Area, one copper-alloy lock plate from a box or drawer lock was found in AU56 in Lot 15. The furnishing items from AU56 in Lot 16 all came from AU58d, the disturbed portion of the feature. There was a copper-alloy cabinet handle and a copper-alloy rivet with attached textile.

12.3.6 Hardware and Tools

The collections contained relatively few hardware or tool items. Phase 1 had only a cylindrical-shaped lead item with a pointed end that was tentatively assigned to the weight category, although its actual function is unknown. In Phase 2 proveniences, two iron rings and a piece of wire were found. The copper wire, dating

to post-1831, was intrusive. In the MID Area, AU91 had a large metal ring, and AU56 an iron hook. A piece of copper wire, again intrusive, appeared in the disturbed AU58d. The shallow pit in Lot 17 AU104 also appeared to have later intrusive artifacts including iron wire, a file, and a small heart-shaped padlock with a key-hole cover that probably dates to the mid- to late eighteenth century.

Three firestarters comprised the only non-metal items in this category. One was from the Phase 1 NE Area and the other two were from Phase 2 in Lot 12.

12.3.7 Household

Except for one item from the Phase 1 NE Area, the rest of the items in this category were table utensils or pocketknives. The item in the NE Area was a thin, flat, copper-alloy bar that was round at one end with a hole for attachment and that tapered to a point at the other end. Phase 2 had one complete table knife and one table-knife handle, both from AU518. The blade tang on both items was held in the bone handle by rivets. One had no remaining blade, while the other had a dorsal fin and curved blade swept up to a bulb at the end, similar to that illustrated by Nöel Hume (1969b:Figure 63.5). Another knife blade came from a feature assigned to Phase 4 (AU211) but which may have contained fill from Phase 2. Phase 3 fill also contained a table knife like the one illustrated in Nöel Hume, as well as another probable knife blade.

AU77 had five utensil handles (Figure 139); four were kitchen or table utensils and the last was a pocketknife or razor handle. Each utensil handle was shaped differently. One was 10 centimeters long and chamfered into a diagonal shape with a diamond pattern cut into the bone (cat. no. 1027) with a flat blade; this is a kitchen or table knife. The second handle, 9.5 centimeters long, was oval and the metal shaft was round, indicating a fork (cat. no. 1090). The next handle was 7 centimeters long with a rounded end into which was attached a round or squared shaft to a fork (cat. no. 1104). The last utensil handle was of antler rather than bone and may have been a kitchen or carving knife (cat. no. 1020). The pocketknife or razor handle was in pieces, but enough remained to show the general shape. No blade was found. AU 104 in Lot 17 also had a bone handle to a fork (cat. no. 1276). Its handle tapered toward the tang end.

12.3.8 Hygiene

The only two identifiable hygiene items came from Lot 12. In Phase 2 there was a bone lice-comb fragment. In Phase 3 there was an ivory lice comb.

12.3.9 Industrial

As discussed above, items assigned to the industrial category included metallic and glass slag and bone button blanks. One button blank was found in the NE Area (AU3B) and in Lot 12 (AU51), both from Phase 1. One was found in each of two Phase 2 contexts as well (AU18 and AU519). Bone buttons were commonly made in North America, both before and after the Revolution. It is worthwhile to note that many buttons, undrilled bone discs, and bone button blanks were found in excavations around city hall, the location of the pre-Revolution almshouse and barracks (Baugher et al. 1990; Grossman 1991; Hildebrant 1995). The buttons could have been manufactured by either the soldiers or the inhabitants of the almshouse or both (Grossman 1991:34). Although the button blanks could represent home manufacture, it is also possible that some of the blanks, especially the Phase 1 items, came from trash from that location.

12.3.10 Kitchen

Two serving or kitchen utensils made up this category, both from Phase 2. There was an iron serving spoon in Lot 12 and a fragment of an iron knife blade in AU58d.

12.3.11 Personal

Phase 1 personal items were found in the NE Area and Lot 12. In the NE Area, the most common item was copper-alloy buckles. Two had an intertwined vine pattern, although they had other differences. One also

Figure 139. Bone and antler utensil handles, left to right: bone, AU77, cat. no. 1027; bone, AU77, cat. no. 1104; bone, AU104, cat. no. 1276; antler, AU77, cat. no. 1020. Photo by Heather Griggs.

had raised dots on the patterns and the other had an iron hinge. Both were probably shoe buckles. The third buckle was plain. One set of octagonal cuff links (also called sleeve links) was found (Figure 140). This cuff-link shape was the predominate type found at 290 Broadway, both in burial contexts and in Phase 1 and 2 yard-surface contexts. Octagonal sleeve links with generally similar designs were found at Ft. Michilimackinac (Stone 1974:Figure 37, Table 18). Examples from both this site and those from Ft. Michilimackinac had cast shanks and drilled eyes. Stone suggests a date after 1750 for the similar octagonal sleeve links (Stone 1974:76). Similar sleeve links have also been identified at Lake George, N.Y. (Calver and Bolton 1950:27–28).

One glass seed bead was also found in this area. Two items that were probably personal items were a small antler handle for a brush or toothbrush and a fragment of a carved bone, of unknown function, with a series of decorative lines carved in one side. Lot 12 had a fan rib, a fragment of a metal-and-glass mirror, and a copper-alloy pendant with the inset missing.

Phase 2 personal items were identified in Lots 12, 15, and 16. Clothing-related personal items included two cuff links (the broken loop of one and a fragment of another), two undecorated buckles (one probably a shoe buckle), and one buckle decorated with a geometric design of alternating circle and diamond shapes; all were of copper alloy. One set of octagonal cuff links with a raised rim and design and a St. Francis of Assisi medallion or pendant were found in AU27; the artifacts in this provenience have been interpreted as being mainly from fill from Phase 2 deposits, although the feature was constructed in Phase 4. The St. Francis of Assisi medallion exhibited the figure of a man in a monk's robe with a staff and a tiny bird on his shoulder (Figure 141).

Other cuff links were found in the Phase 3 fill in Lot 12 and the NE Area. The one in Lot 12 was oval, and the one in the NE Area octagonal. A fragment was found in AU2, a shaft feature from Phase 4; this item may also have had its origin in Phase 2 deposits disturbed by the shaft feature. Another octagonal cuff link was found in the SE Area during the initial cleaning operations.

The only item for treatment of hair was a pipe-clay wig curler that had the standard dumbbell shape. They were used to curl the hair on wigs, although they were rather out of style at this time. A mirror was represented by a combined metal-and-glass piece. Two pieces of jewelry were present. One was a small piece of copper alloy and silver plate decorated with floral designs in an openwork arch shape. Another was a small copper ring that bore a striking resemblance to rings found around the neck of Burial 147. However, it was found in the northern part of Lot 12, not the southern area that contained burials. Other personal items in Lot 12 included an iron key, a pocketknife with a bone handle, a fragment of a finely made brass chain that could have come from a watch fob, and a round eyeglass lens.

Similar objects were found in the MID Area. Six fragments of a metal-and-glass mirror were the only personal artifacts found in AU56. AU77 had an oval eyeglass lens (Figure 142), while AU58c had six fragments of thin copper alloy bars identified as an eyeglass frame. AU58d contained a highly delaminated glass bead, a copper buckle, and a metal-and-glass mirror fragment.

12.3.12 Sewing and Textiles

Numerous pin fragments were found throughout the Phase 1 and 2 areas of the site. Where the heads were identifiable, they were the pre-1824 wrapped-head type. Eighty-two percent of all the Phase 1 pin fragments were concentrated in AU51 in Lot 12. An additional four pins and a thimble were found in the yard deposit of AU521. Pins were used to pin shrouds in the African Burial Ground, but few were found outside the graves, possibly because the ground surface was removed during the definition of the grave shafts. Only two were found in the SE Area and another two in the NE Area in Phase 1 contexts. In Phase 2, pins were more abundant in Lot 12, also accounting for about 50 percent of the Phase 2 small finds. All except one were found outside the southern area of Lot 12 that was part of the burial ground. Again, this could be because the ground surface in the rear of the lot had been removed at that time in the past when the rear was leveled for the floor of the rear-lot building. Thus, we cannot be sure that the pins found in the various non-burial ground features and surfaces are not related to burial activities since the comparative of contexts are missing. However, the large number in AU51, a non-burial feature, and the probable use of

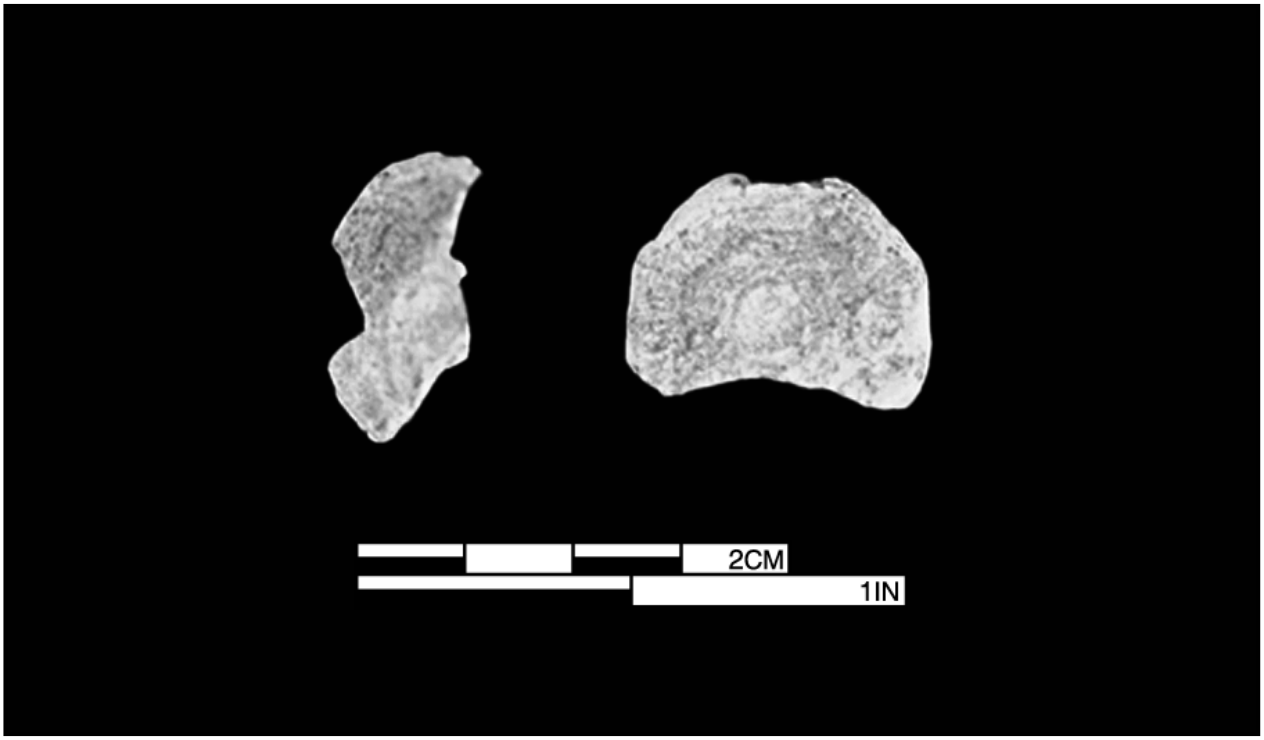


Figure 140. Octagonal cuff links, Lot 20½, NE Area, cat. no. 580. Photo by Cheryl LaRoche.

Figure 141. Medallion of St. Francis of Assisi, Lot 12, AU27, cat. no. 703. Photo by Cheryl LaRoche.

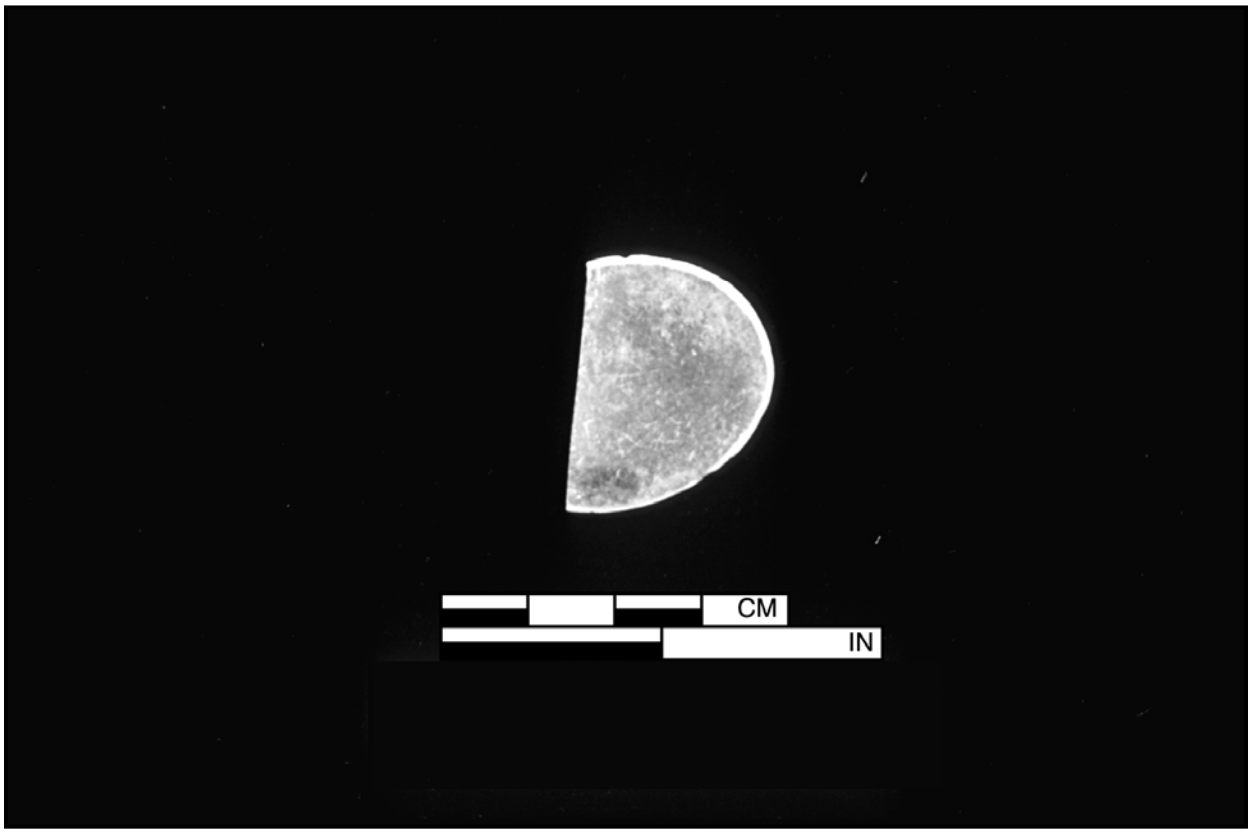


Figure 142. Oval eyeglass lens, Lot 15, AU77, cat. no. 1157. Photo by Heather Griggs.

pins by the upholsterer suggest that many of those in Lot 12 were not used in burial activities. Pins were also found in AUs 77, 91, and 58C in the MID Area.

Additionally, five thimbles (Figure 143) came from Lot 12: one from the Phase 1 deposit (AU521), three from Phase 2 deposits (including one from AU27, which contained fill from Phase 2), and one from the Phase 3 fill. Two others were found in the NE Area. All the thimbles had a waffle pattern on a domed top and a raspberry pattern on the sides. Three of them (one each in Phase 1 AU521 and Phase 2 AU518 in Lot 12, and one from Phase 3 AU515 in the NE Area) were smaller than the others and may be children's thimbles.

Two bone items were also probably used in sewing. One (from Lot 12 AU518) was a turned-bone object that was threaded at one end. The other end was broken but had an indentation or hole that was worn as though a pin or other item ran through the object. It was similar to the keys used for tightening sewing clamps on top of a surface. The other item (from Lot 16 AU58c) was a small bone lid or top. It could have come from a sewing-related implement like emery or waxer or a needle case.

Textile fragments were found only in AU58C. These were three small fragments, very deteriorated; their weave structure is unidentified but was most probably plain weave.

12.3.13 Tobacco

Tobacco-pipe fragments were all white ball clay. They included mostly pipes from England, but a few attributed to Dutch manufactures were found also. The percentage of pipes was low (Table 149).

Table 149 Percentage of Tobacco-Related Artifacts by Lot

Phase	Location	Percentage Pipes
Phase 1	NE	0.03
	SE	0.002
	Lot 12	0.025
Phase 2	Lot 12	0.017
	Lot 15	0.30
	Lot 16	0.36
	Lot 17	1.92

12.3.14 Toys

The primary toys recovered were marbles. The only non-marble item was a toy cannon. Only one toy was found in Phase 1 and that was in Lot 12; the rest were in Phase 2 in Lot 12 and the MID Area features. The earliest marble (Phase 1) was red earthenware. The four marbles in AU519 were also earthenware; the one in AU518 was of stoneware. A stone marble was recovered from AU91. All these marbles may have been made by the local potteries. One marble, porcelain and hand-painted in red and blue stripes, found in AU58d came from the disturbed portion of the feature. It is probably later, since such marbles are generally thought to be post-1850 (Carskadden and Gartley 1990). Some later deposits also had marbles. An earthenware marble was found in the Phase 3 NE Area deposits, and three (two earthenware and one stone) marbles were found in the fill of the drain (AU112) on the back of Lot 16 from Phase 6. This conjures up the image of children playing in the alley and losing their marbles down the drain.

The toy cannon (AU519) was pewter (Figure 144). This item represents a class of cast-metal toys that are rarely found on archeological sites because of poor preservation conditions. However, such toys, including military items for boys and domestic items for girls, were part of a mass-produced toy tradition that probably started in the mid-eighteenth century (Eagan 1996:Figure 42).

12.3.15 Writing

The excavations found only one writing implement that was not a later contamination. It was a slate pencil from AU519 Lot 12. An obvious contaminate was a round graphite pencil lead in AU56.

Figure 143. Three thimbles, left to right: Phase 3, NE, AU515, cat. no. 444; Phase 1, Lot 12, AU521, cat. no. 517; Phase 4, Lot 12, AU27, cat. no. 569. Photo by Heather Griggs.

Figure 144. Pewter toy cannon, Phase 2, Lot 12, AU519, cat. no. 644. Photo by Doville Nelson.

12.4 Small Finds as Indicators of Social Interaction

This section is restricted to a discussion of the small finds in Phase 2 contexts since those in Phase 2 are known to be from domestic contexts. Phase 2 occurred during a period of change in which merchant capitalism spread and led to the rapid economic development of New York City. This is also the period of the initial development and consolidation of the middle class.

What is the middle class? The middle class has been defined in a variety of ways (Blumin 1989:3–8). Here the middle class is defined by the kinds of values people chose to separate themselves from other classes or communities of people, especially those of a lower economic position. The middle class is different conceptually from the "middling" people, if that is defined on the basis of income. A picture of the pre-Revolution distribution of wealth in the colonies is provided by Main (1965:113, n.115). His table is translated to a graph (Figure 145) that shows the percentage of each group within a defined wealth class, based on a large sample of probate inventories (calculated in terms of local money, not sterling).

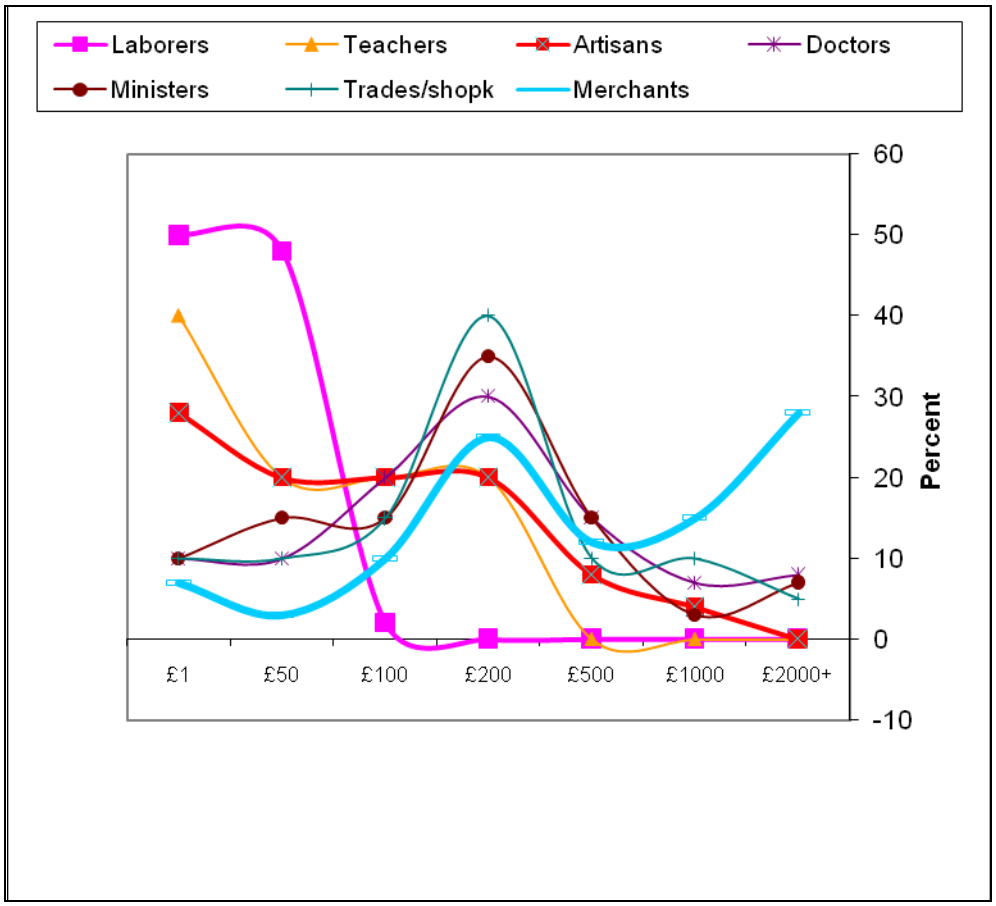


Figure 145. Percentage of occupation group by estate value group (from Main 1965).

One can see that there is a series of high values or peaks in the artisans, doctors, ministers, tradesmen/shopkeepers, and merchants around £200, while artisans, teachers, and laborers have estate values that cluster below £100 and mostly below £50. Merchants have the highest percentage of high estate values; 80 percent are over £200, compared to 60–65 percent for doctors, ministers, and tradesmen and shopkeepers, and only 32 percent for artisans.

Which of these people would have been considered genteel is another issue. Main discusses what different amounts of money would buy in the pre-Revolution period and one can extrapolate from this what it would take to be considered genteel. He suggests that "anyone who wished to live in some comfort required at least £100" (Main 1965:118). By 1789 in New York City, £200 was considered "sufficient to

support a family in a genteel manner, and yearly to lay up something for posterity" (from the *Ecclesiastical Records of New York* in Main 1965:120, n.23). Estates that included luxuries were £400 to £500, and for the wealthy in the cities could be much more. Thus, the expenses of New York City's Walter Livingston rose from £570 in 1783 to £1,600 in 1787. An income of £500 seems to have been the minimum required by a well-to-do colonial (Main 1965:120–123).

Thus, the families from £200 to £500, in the middle of Main's distribution, would include households from those just at the "genteel" level to those considered well-to-do. They comprise about 40 percent of Main's estate sample (1965:113, n. 115). As historians and historical archeologists have noted, however, this percent is actually a lesser percentage of the total population since a sample using probate records does not include the folks at the very bottom of the income pyramid who did not file probates and inventories.

Main's table is a good relative picture of what percent of different occupation groups had middling amounts of wealth and so could live in a particular fashion before the Revolution. This relative distribution of wealth continued into the post-Revolution period. This wealth distribution has been studied for a number of cities and is roughly similar in the colonial period (see Fisher 1989:169, 567–569). Wealth concentration in the three major American port cities (Boston, New York, and Philadelphia) increased in the 1750s during boom times and did not decline during the succeeding series of expansions and contractions leading to the Revolution (Nash 1979:233–246, 317–322). The wealth differential increased substantially in New York after the Revolution, so that even by 1789 almost 25 percent of the total assessed wealth in the city was owned by a mere 2 percent of the population, while the lowest 20 percent owned only 7 percent. By 1800, the differential was even greater, with the bottom half owning less than 5 percent (Burrows and Wallace 1999:351).

New York's economy was rapidly growing after the Revolution. While there was more wealth for the merchant capitalists to accumulate, there was also more money available for those in the middling ranks if they could acquire it. One way to acquire it would be to develop the habits and skills that led to success in the capitalist environment.

As the nineteenth century developed, middle class came to mean people, specifically the male heads of households, who did not work with their hands. This included people who were in the professions, who had white-collar jobs, and who were small businessmen, shopkeepers, clerks, etc. (Blumin 1989). These positions generally, although not always, provided more money and were more secure economically, placing the occupants of these jobs in a middle economic group.

Shackel (1993) and Leone (1988) have discussed middle-class values and their expression in material culture. They put forward the proposition that personal discipline as a value is crucial to the effective spread of capitalism and that this value is demonstrated in material culture by items of personal grooming and cleanliness. Bushman (1992) equates these same characteristics with the spread of gentility. It can be argued that gentility is one of the characteristics of the middle class. Praetzellis et al. (1988), working in California in a slightly later period, have equated middle-class values with Victorianism. However, these values were in existence earlier. Wall (1994) has discussed another aspect of the constellation of middle-class values and that is the cult of domesticity. She makes a case that this is reflected in the use of the family meal in the staking out of a base of power in the home by women.

Neighborhood location and housing type (Cheek and McCarthy 1990; Wall 1994) also exhibit and define middle-class position. Observers were already noticing neighborhoods, Blackmar's tenant "residential" neighborhoods based on class, soon after the Revolution (Blackmar 1989:72–108; White 1991:41). If one desires maximal separation from other classes by behavior, one should also be separated in space and have the space-marker, the house, reflect that separateness. Neighborhoods do not have their origin in transportation developments alone. The rise of neighborhoods and the separation of class and functional areas are related to the development of separate class identities. Neighborhood not only reflects class differences, but also creates and maintains them. People actively sought these opportunities for separation. The freedom created by the disruption of the war and the burning of significant proportions of the city may have given New York developers an opportunity to express the developing social distance spatially.

However, such neighborhoods were in their infancy, and composition of street faces surrounding the 290 Broadway site had a mixture of the middling group and people who worked with their hands.

Various social movements, including the religious revivals of the period, helped this process along and established new forms of household adaptation emphasizing individualism and the separation of home and work (Ryan 1981; Wall 1994). The period also saw the development of widespread prescriptive literature that both provided support for middle-class families (Ryan 1981) and encouraged laboring people to be more genteel (Larkin 1988; Blumin 1989). The period between the Revolution and the Civil War is particularly important, and the middle class was well established in cities by the middle of the century (Blumin 1989:8).

The relation between gentility and personal discipline has not been discussed in the literature. Both concepts are related to two factors. One is what at least one scholar (Wood 1999:110–113) has called the underlying ideology of capitalism in England: the ideology of improvement. This is not the Enlightenment's idea of improvement of humanity but the improvement of property and the associated ethic of profit and the commitment to the productivity of labor. This is easily translated into the improvement of the person through personal discipline. The second factor is the underlying need for, or utility of, individualism to be a success in capitalism. As several people have pointed out (Wallerstein 1983; Appleby 1984; Wood 1999), capitalism is coercive. It "compels people to enter the market and compels producers to produce efficiently by improving labor productivity" (Wood 1999:15). Wood has called this factor the "market as imperative" (1999:62). Individualism is one effective mean of producing effectively because it is difficult to accumulate capital if one has obligations to distribute it to others, such as kin or community. Kinship and familial values can survive, but only within exploited contexts and within older systems or relations of production that are often embedded within the capitalistic economy and exploited by it.

Gentility is seen first within the elite in North America. This gentility is meant to show, among other things, that this individual is able to participate in the mercantile capitalism, based on credit, that was dominant during the colonial period and up until the middle of the nineteenth century. In the seventeenth and eighteenth centuries, there were corresponding developments in England regarding the idea of individual frugality and diligence, personal integrity, and ability to meet debts (Muldrew 1998).

Even before the end of the Revolution, mercantile capitalism was dominant in the world and the North American colonies. The personal qualities associated with a merchant's display of gentility were becoming required for others to participate in capitalism. In New York, there was a development of urban industrialism and the qualities of personal discipline that proved useful to the merchants, the dominant class in the city. These qualities became useful signs of the ability to leave behind the communal values of the working class and become a "good worker."

Middle-class people were those who aspired to participate successfully in capitalism. In transferring this to an archeological context, we can use a variety of personal presentation artifacts to measure the degree of adherence and desire to be a success in the capitalistic system.

On the basis of Blumin's (1989) discussion of the development of the middle class, we would expect (1) that there should be an overall increase in the presence of markers of middle-class values with the development of capitalism throughout the nineteenth century. Since the middle class used these artifacts and the behaviors associated with them to differentiate themselves from the "rough" working class (Ryan 1981), we would also expect (2) that marker artifacts will appear earlier in contexts with heads of households who did non-manual work. These households should also have (3) higher middle-class marker scores than working-class households, in any time period. Based on the hypothesis that the spread of personal discipline into the population was necessary for the full development of capitalism (Leone 1988; Shackel 1993), we can also expect (4) that such markers will increase over time in working-class households, although their lack may indicate a working-class resistance to middle-class culture.

Several artifact classes were chosen as useful for tracking the spread of middle-class values. These included items of personal grooming (items for the hair [brushes, hair pins, and combs], teeth [toothbrushes], and mirrors for monitoring personal appearance) and education (represented by writing implements and

associated gear, such as pen nibs and ink bottles). The utility of personal-grooming items has already been discussed. Writing implements were included because education was one means of moving into, or staying in, the middle class (Ryan 1981) and was a typical strategy of middle-class as opposed to working-class families. Thus, the analysis used four categories of middle-class marker artifacts: hair-related artifacts, teeth-related artifacts, general personal appearance (mirrors), and writing-related artifacts. Since many of these artifacts typically break into multiple pieces, the analysis used simple presence or absence in each of these four middle-class marker-artifact categories.

A score was developed for an analytical context. This score is similar to the ubiquity score developed by paleoethnobotanists and used to study the distribution of macroplant remains in Chapter 9. A ubiquity score measures the presence or absence of a seed or an artifact in a particular context. It registers the percent of the contexts in which the seed or artifact is present. For the middle-class markers, we were interested in what percent of the markers were present in each context.

If an artifact occurred in only one of the middle-class marker categories, that context received a score of 25. If artifacts were present from all four marker categories, that context received a score of 100. These scores were then averaged for each group of contexts. Thus, one group of five working-class contexts from one time period in one city might have scores ranging from 0 to 75, for a total score of 150. Division by the number of contexts, 5, gives a group score of 25. Middle-class contexts in the same city might have a score of 75.

The original work on this concept (Cheek 1997b) used forty analytical contexts or samples dated from c. 1790 to c. 1940 and represented different periods and clusters of household types by city. Wilmington, Delaware, had assemblages from c. 1790 to 1860; Cumberland, Maryland, from 1810 to 1860; and Washington, D.C., from 1830 to 1940. The current analysis used eight contexts from the Foley project (four from 290 Broadway and four from Five Points) dating from the 1790s to the 1820s. The only temporally comparable contexts were the Wilmington ones. Four Wilmington contexts were probably in the high-to-medium socioeconomic status group, and two in the medium-to-low socioeconomic status. In New York, we classified two from 290 Broadway and four from Five Points in the middle group while two from 290 Broadway were classed as low, although their taxable wealth was the same as the others on the block.

Collection size is likely to have an effect on the middle-class marker frequency and presence, as may provenience type. It is well known that larger collections tend to have a greater variety of artifact types. Since personal artifacts are relatively rare in the archeological record, it seemed logical that their frequency and presence could be directly tied to the size of the artifact collection. If true, this would perhaps limit conclusions about social processes unless one restricted comparison to assemblages of similar size.

Previous research found that fragment totals were somewhat affected by sample size, but the presence and absence of the groups was not (Cheek 1997b). Examination of this relationship using just the New York and Wilmington sites resulted in the same conclusion.

The Wilmington data were recovered from two distinct provenience types: shaft features and yards. There seemed to be a correlation between shaft features and high middle-class marker category scores. All six of the Wilmington features had at least one of these artifact classes, for a 67 score, while the seven yards had an 18 score. The same pattern appeared when divided into time periods. In the 1790–1810 period, the features scored 50 and the yards 15. In the 1830–1860 period, the features scored 75 and the yards only 13 (Cheek 1997b).

Three alternative hypotheses could explain this relationship. The larger number of marker artifacts in features is caused by (1) the larger collection sizes in features; (2) a broader range of trash consciously deposited in shaft features rather than being scattered around yards; and (3) putting trash in shaft features as part of the development of a middle-class ethic of cleanliness. As Deetz observed some years ago (Deetz 1973, 1977), calling it Georgian behavior, there is an increase of trash disposal in trash pits in New England sites, starting in the early nineteenth century (see Moran et al. 1982 for an explicit examination of this trend at one site).

A regression analysis of middle-class marker artifacts and collection size, controlled for provenience type, basically confirmed correlations between collection size and fragment frequency in both provenience types and for category frequency in features but not in yards. It is difficult to test for the other two alternative hypotheses without including additional artifacts in the study and examining yard-use patterns and class membership.

Regression analysis of collection size with frequency of marker artifacts and with the presence of marker categories was rather ambiguous. There did seem to be a collection-size effect on presence and frequency of middle-class markers. While this is not surprising with the artifact fragments, it is a little surprising when considering the artifact categories. It may be that there are too few categories and the number of categories may need to be increased. It also seems clear that local conditions due to either sociocultural or site-formation processes, or both, are affecting the expression of this relationship. However, it is also clear that collection size does not affect artifact categories as much as it does the frequency of fragments. Therefore, the distribution of the middle-class marker category scores by city, time period, and socioeconomic status were examined.

Compared to other middling households at other sites at this time period, the households in the two Foley Square site areas had greater presence of middle-class markers. In only one other city has a group of sites from this time period been examined from this perspective, and that is Wilmington, Delaware (Cheek 1997b). Wilmington sites had a score of only 25 percent compared to the overall New York scores of 44 percent (Table 150). The socioeconomic group of the Wilmington households was considered to be in a medium-high status group. In those seven early contexts, only four had any marker artifacts. Writing implements occurred three times, mirrors twice, and hair items and toothbrushes once each. The seven New York contexts are considered occupied by people who are in the middling group and so perhaps just below those in Wilmington. Thus, in contrast to the Wilmington group, writing implements occurred four times, mirrors in seven of the eight contexts, hair items twice, and toothbrushes once in the New York sites. The table also shows the percentage of marker categories for twelve later contexts at Five Points. (These are the ones analyzed in Yamin 2000 and date c. 1840–1880.) These percentages are higher than the ones at Wilmington, although if the two yard surfaces are dropped from the Wilmington set, its score is essentially similar at 75 percent.

Table 150. Presence of Middle-Class Markers in Foley Square Five Points Households

	Lot 12	Lot 15	Lot 16	Lot 17	Percent 290 Broadway	AF-II	B-V	D-V	N-IV	Percent Five Points	Percent Foley Sites
	Artisan	Carter	Merchant & Artisan	Artisan	%	Baker's household	Artisan employer	Merchant	Baker's widow	%	%
Hair	1				25	1				25	25
Teeth					0	1				25	13
Mirror	1	1	1		75	1	1	1	1	100	88
Writing	1				25	1	1		1	75	50
Percent Presence	75	25	25	0	31	100	50	25	50	56	44

In the early period, Table 151 shows that the New York households have more evidence of middle-class markers than the households in Wilmington, which, if our assessment of their socioeconomic position is correct, should have a higher socioeconomic position than those in the New York sample. Furthermore, the New York sites are on the periphery of the city while the Wilmington households were in the center of that city. When we look at the later period, we see the same thing since the majority of the contexts from Five Points are immigrant working-class families and those from Wilmington are native middle-class families. However, when provenience type is controlled, both sets of late contexts average c. 75 percent. In other cities, socioeconomic status is important. In late-nineteenth-century Washington, D.C. (Cheek 1997b), working-class people had a lower percentage of middle-class artifact categories than did prostitutes, and

prostitutes had less than shop owners. Thus it seems as if New York had different rules that push even working-class immigrants to use such artifacts as much as middle-class residents of Wilmington and more than middle- and working-class people in Washington, D.C.

Table 151. Percent of Middle-Class Marker Categories by Site or City

	Wilmington	290 Broadway	Five Points	All Foley Square
1785–1810	25	31	56	44
1830–1870	54		77	

In the mid-nineteenth century in Washington, D.C., location was also important, with the center having more marker categories than the peripheries. For this study we have only the New York sites from Foley Square on the periphery of the city. We were not able to use the downtown sites in New York for this study, and eventually that should be done.

However, this question remains. Why should middle-class markers be more common in peripheral middling households in New York in the post-Revolution period than in better-off households in Wilmington? The answer may be that New York both had a larger population and was becoming integrated in the capitalist relations of production faster than Wilmington.

Several lines of research should be investigated. One is population size. Population size plays an important role in the use and development of social signs. As the population increases, fewer people know each other, and visual cues become more important. This certainly happened in most U.S. cities somewhat later (Blumin 1989) and accelerated as transportation developed and home and work became separated. The men spent more time away from home at work and knew fewer of their neighbors. Separation of neighborhoods by class had started to occur in New York, which would also affect the need to use visual cues to identify the people outside one's neighborhood. Additionally, New York was the focus of much immigration, primarily of people from other former American colonies but also from overseas. Economic mobility was also signaled by visual cues.

There were, of course, many large cities in the Old and New Worlds. In each of these situations, people chose certain kinds of material culture to separate groups visually. The question is, which items were used and why were they chosen. Within the context of developing capitalism, the items discussed here showed that a person had personal discipline and was therefore more able to work under the new economic system.

But capitalism did not penetrate the entire U.S. at the same rate or in the same way, nor did all accept it. While the society was changing and wage labor was becoming more common, the society could not be said to be a market or capitalistic society (Wilentz 1990:85–87). The urbanization of capital occurred at different rates in different localities, depending on their participation in the development of capitalism (Harvey 1989:53–54). New York was in a favored position with respect to mercantile capitalism. As Pred (1973) has shown in a series of informative maps, news and other information flowed out from New York to the other parts of the U.S. "From perhaps as early as the beginning of the 1790s, New York had the highest probability of being the first United States city to receive any specific piece of news from Europe" (Pred 1973:203). This information included advertising, shipping intelligence, lists of current prices, and other commercial statistics. Its position as the controller of trade is clear even at this early date.

Besides the pressures to accept such visual indicators of suitability for the new economic age, there were other pressures against accepting these indicators that probably affected their presence in the archeological record. Research on the culture of the working class suggests that workers did not accept industrialization passively, that they resisted the new work disciplines of the industrial era, that pre-industrial values and traditions persisted, and that workers exerted some control over their own lives (Guttman 1976; Shackel

1996). As one author has remarked for a later period, "there is ample evidence that large numbers of [industrial] workers failed to internalize the faith of the factory masters" (Daniel Rogers, 1975, in *The Work Ethic in Industrial America, 1850–1920* quoted in Mohl 1997:352). Thus, one would expect that where choice existed, symbols of participation in, and acceptance of, middle-class values would be rejected. Shackel has interpreted ceramic assemblages at Harpers Ferry in this way (Shackel 1996).

In summary, it appears that in the Foley Square collections the artisans, both artisan-employers and journeymen transitioning to wage laborers, were more accepting of middle-class symbols than were some non-artisans in Delaware. The reason for this differential rate of acceptance is that New York City had an economy that was becoming a market economy and society faster than in Wilmington and thus it was more advantageous for people to accept these various symbols of middle-class, capitalistic values. On the other hand, as seen in Chapter 11, there are indications that the working-class culture was solidifying in opposition to capitalistic social relations.

13.0 CONCLUDING SUMMARY

by Charles D. Cheek

The excavations reported here focused on the European-American use of the African Burial Ground within the limits of disturbance of the federal office building at 290 Broadway on Block 154 in lower Manhattan. We do not know the exact boundary of the burial ground, but we assume it to be roughly coextensive with the parcel granted in 1673 to Cornelius Van Borsum. The parcel extends roughly from what is now Broadway on the west, Chambers Street on the south, Center Street on the east, to the middle of Block 154 on the north, with the northern border angling from the southwest to northeast across the block. When the presence of the site became known in the early 1990s it attained iconic status as symbolic of the African diaspora in the Americas.

The African-American community buried its dead in the cemetery from c. 1700, or earlier, until the ground was subdivided for development in 1789, or until just after the end of the Revolution. We designated this period Phase 1. Phase 2 included a period, at a maximum, of c. twenty years from 1789 to 1810, and probably on some lots fewer years.

In Phase 1, the European-American population used the project area for the disposal of various industrial products. These included stoneware and redware ceramic wasters from the neighboring kilns and bone waste from industrial use, probably the nearby tanneries. In Phase 2, the European-American New Yorkers considered the cemetery developable land, and potential heirs to the original grantee waged a legal battle for the rights to the development. While there is legal precedent and tradition for transforming cemeteries to other land uses, there is no documentary evidence that European-American New Yorkers considered the land a regular cemetery. They took no legal steps to condemn the land formally. The African-American community did look for another cemetery, but initially met resistance; for example, Trinity Church denied African Americans use of its churchyard. The community ultimately was successful in getting a burial ground on Chrystie Street through the help of the Free African Society, which petitioned the Common Council.

After the Van Borsum parcel was awarded to the Kip family in 1795, it began to sell the parcels. While the dispute over ownership of the southern section of Block 154 was occurring, the Barclays, who owned the northern section (part of their farm called Calk Hook), began subdividing it and selling residential lots. The Bancker 1784 boundary survey established the boundary of the Van Borsum parcel, and possibly of the burial ground, in the middle of Block 154. Sale of the northern lots began as early as 1788. However, as the archeological investigations revealed, the actual area of the burial ground extended north of the 1784 line. Thus, the features dug into the rear yards of the houses built on the Barclay land cut into several graves.

Although African Americans lived on Duane Street in the early part of the nineteenth century, only Lot 17 contained archeological evidence of such an occupation, and this is not definitive because there were no shaft features or large pits on this lot. The lot may have been filled before the African-American confectioner and his African-American boarders lived there. Perhaps the occupants were aware they were on their ancestral burial ground and intentionally avoided excavating into it. There is some evidence that whoever excavated AU77, a shaft feature on Lot 15, refilled it without using it after several burials had been disturbed.

The excavations of domestic features into the African Burial Ground did not last long because the lots were filled in the early 1800s. In 1799, the city decided to raise the street, and all inhabitants of the lots adjoining the street were to fill their lots to the street level. Thus, the surface of each house lot was raised at least ten feet, taking the burials out of harm's way until the late nineteenth and twentieth century when deep building foundations and basements were excavated. Not all householders filled their lots immediately, so artifacts may have collected in some lots until 1804, when the rear alley elevation was raised, or even later, until 1810 when Lot 15 was sold.

13.1 Phase 1

The natural environment of Phase 1 gradually had fewer and fewer trees. Study of the charcoal shows a decline in variety over time. Wood used for fire was mainly hardwood, dominated by oak and chestnut; about a quarter was pine. Some of the locals may have been harvesting local wood for their fires. The potteries, which used quantities of wood for firing the kilns, probably had wood brought in from off the island. Water-dependant or water-tolerant plants are scarce in both the wood charcoal and the seeds, suggesting that this area was far enough away from the Collect or high enough that the environment was not a moist one.

Noxious industries that had been banished to the fringe of the city surrounded the African Burial Ground. As early as the 1740s, there were potteries on its north and south and tanneries to the northeast, around the Collect. Later in Phase 1, the potteries continued and another was set up on Broadway. A potash factory was located at the corner of what became Duane and Broadway. Butcher shops mixed with the tanneries near the Collect.

Isaac Teller added another cultural feature to the landscape in the 1760s, a fence. The fence lasted until the British burned it during their occupation of New York in the late 1770s. Other landscape features include the three trenches found in Lot 12, oriented roughly toward the boundary line. One or more of these may have been a physical boundary of the property. The two northernmost trenches extended outside the area explored archeologically and could have marked an early, perceived boundary.

Locating the historic boundary between the African Burial Ground and Calk Hook to the north proved important for understanding the use of the area by African Americans and European Americans. The property boundary was surveyed by Bancker in 1784. We are assuming that the row of postholes running across the back edge of Lots 12 to 16 was the 1784 Bancker survey line. Although we could assume the Bancker line followed the earlier perceived cemetery boundary, we cannot be sure this was the case, especially since the burials continued some unknown distance to the north. We could not resolve this issue definitively since important areas of the site were not excavated. Furthermore, individuals may have been buried beyond the boundary unintentionally or intentionally.

The boundary fence also apparently divided the ground into a maintained (inside the fence) and non-maintained (outside the fence) landscape. Most of the floated soil samples from the graves show a distinct distribution of the invasive jimsonweed (*Datura stramonium*). High densities of jimsonweed seeds occur in the late graves outside the fence. As a large invasive weed, *Datura* would often be cut down in a house lot, and perhaps in the burial ground as well, but not necessarily in a vacant or seldom used area. High densities of jimsonweed also occur in the early Lot 12 features that are outside the fence and not near human residences or work areas. Both the Lot 12 features and the late group burials in the MID Area must have been dug through soil with high densities of jimsonweed seeds.

Evidence was also presented that the Bancker 1784 boundary was the same as the boundary that Teller fenced off in the early 1760s. Perry (et al. 2006) provides support for this interpretation. They argue that at least some of the fence posts represented the Teller fence because the early burial groups are inside the fence line and most of the late group of burials are outside the line. They propose that the late group was buried after the fence came down during the British occupation and the boundary with the Calk Hook property became indistinct (Perry et al. 2006: 109, 120, 125).

Excavation in the NE Area showed people used at least a portion of the northern region for a bone-waste dump from an industrial activity, such as tanning. This dumping dated before the 1760s. There is also evidence that suggests a late Phase 1 occupation in the area related to the Remmey pottery. There are two features and a ground surface that contained artifacts similar to those found in a domestic yard, such as in Lot 12. While an early analysis suggested this surface was a trash-dumping area, it is also possible that it related to the Remmey pottery. Two features were excavated into the dark ground surface. One was tentatively identified as a kiln and the other as a puddling box. There are problems with both identifications, and the puddling box has Phase 2 artifacts in it that might not be from later intrusions.

Whether or not these features and the ground surface are related to the Remmey pottery, the eastern area of the burial ground was between the Remmey and the Crolius potteries. We cannot tell from the archeological record if only one or both of the potteries dumped their wasters here. Meta Janowitz suggests the style of the wasters implicates the Crolius establishment. However, it could also belong to the Remmey's output since this pottery was closer to the northern edge of the burial ground.

A second important issue in Phase 1 is when the potters dumped the stoneware debris on the SE Area of the site. This is important for several reasons. The first is what it says about the regard or lack thereof that potters felt toward the African Burial Ground. Second, if we could establish the dumping period, then the study of the stoneware would provide important information about the stylistic and economic development of the Colonial American stoneware industry. It seems likely the pottery dumps accumulated before the mid-1760s when the Teller fence was erected, perhaps starting as early as the 1740s when the potteries began production. The limited number of non-industrial artifacts supports this view.

Analysis of the information from the burial shafts suggests that graves were dug in the SE Area both before and after the pottery dumps were created (Perry et al. 2006:112). Dumping may have stopped while the Teller fence was in place. Whether dumping continued after the British destroyed the fence is unclear.

The pottery wasters provided informative data about the early stoneware industry. Several of the motifs and forms found in the assemblage can be seen in later potters trained in the Crolius and Remmey tradition. Unlike other later stoneware potters, the early potters in New York tried to make a market in food serving and eating vessels. A pipkin, several plates, and cups were partially restored. These forms were unsuccessful competing against the 1760s infusion of mass-produced everyday creamware tableware. That they made this attempt is perhaps another sign of the pre-1760 date of most of the stoneware waster deposit.

The pottery also provided technological information from the kinds of kiln furniture. There were several kinds of expedient and preformed furniture that are not found in later times. There were also several jug stackers, which are found in later sites.

In Lot 12 there was much redware, with a minority of stoneware, waster, and kiln furniture. We have assumed that it came from the Campbell pottery, which Barto (Appendix B) has placed on Broadway west of the site. Redware kiln furniture was also scattered on the early ground surface in Lot 12, although not in large amounts. The primary forms found in the wasters were black-glazed hollowware, including jars and pots. These vessels copied black-glazed utilitarian ceramics from England. There were also some slip-decorated redware plates and pans, perhaps made in imitation of "Philadelphia redware." Campbell did advertise that he made such wares. In fact, there was one of the typical Philadelphia bowl bottoms in the assemblage, which could have been imported from Philadelphia or made in New York.

The redware kiln furniture was different from the stoneware furniture and from other redware potters in the Colonies at the time. Based on comparative evidence and study of current potters, redware potters made and used kiln furniture that was designed for the particular kinds of vessels they made, not standardized furniture that all such potters used.

13.2 Phase 2

The people who bought the land or built and lived in houses in the project area were mainly artisans who worked for themselves or others. They also included one merchant, who was undoubtedly at the lower tier of the merchant hierarchy, and a few African Americans. All the inhabitants for which we have archeological data are at the lower end of the middling group and boarded various kinds of artisans who were probably wage laborers. These people lived in houses that faced the street. Black and white laborers, with the latter dominant, occupied the alley, which was finished after most of the lots had been raised. The neighborhood remained residential until the 1850s with a similar mix of families and occupations. It then became industrial and a location of prostitution.

The main archeological deposits date from 1784 to c. 1804 to 1810. Environmental analysis suggests the incidence of *Datura* decreased as the landscape was filled with houses and backyard privies and pits. The

wood burned by occupants became predominately pine. This was not the best wood for fires and may reflect the lack of money people had to spend on fuel.

The residents were at the lower end of the middle economic group. Most had a personal worth of approximately $100, based on the tax records. This included the black confectioner as well as the merchant. However, they all bought mass-produced items and items that were considered part of the genteel world, which may have made them more successful within the merchant capitalism and urban industrialism developing in New York. We saw that they and their neighbors in Five Points had a larger percentage of artifacts that are useful for identifying an adherence to capitalistic values, such as individualism, than found in households in some other eastern cities of the same period.

There is a general similarity between the table settings of the people in the new uptown residential neighborhoods like Five Points and 290 Broadway and the people living in the older, wealthier parts of town. However, there were subtle differences in the vessel forms used as well as what people served on their plates that show that uptown family life was different from that in downtown households. The downtown, wealthier households had different social interaction patterns and greater need for entertaining than did people near the bottom of the middling group uptown.

The most obvious difference was in the types of dishes on the table and the amount of non-mammal meat eaten. The downtown sites had more types of dishes on the table including a larger number of serving vessels. This difference is preserved when merchants and retailers are compared with artisans, no matter where they live. Fish and bird bones in the merchant and retailer households are slightly more numerous than the mammal bones in the artisan households. It is likely the downtown household members also enjoyed a greater variety of recipes than did the uptown residents. Fish recipes often called for an elaborate sauce that servants could have prepared with the rest of the food. The gravy or sauces that often accompanied the more elaborate recipes for fish and other foods were served in sauceboats that were found only in downtown sites. An added difference was the preference for pork in the merchant and retailer households rather than beef in the uptown sites. Both downtown and uptown households ate fresh pork, but the downtown households ate more fresh pork. We do not know how much salt pork either group ate.

Although fish and birds played a larger role in the meals of the downtown families, we must not forget that domestic mammals still provided the most meat when we take biomass into consideration. Although we did not calculate biomass in this study, comparison with other collections suggests fish and birds did not contribute the majority of the households' meat-derived calories.

The ceramics in the uptown sites are not substantially different from the downtown sites that Wall (1994) has studied. Wall's analysis showed that the style of plates was fairly uniform within sites and across sites. Teaware patterns were more diverse within and across sites. This is true of the Foley sites as well. However, there are a few subtle differences. The main difference, as stated above, is the higher number and variety of serving vessels in the downtown sites. There are also differences in the varieties of teaware between the two areas of the city. The most striking is the lack of hand-painted blue floral pearlware at the downtown sites and its frequent appearance in the uptown sites. China glaze with blue hand-painted Chinese motifs was found mostly on the downtown sites. Blue and overglaze OEP dominate respectively the early and middle downtown sites; these are much less common in the uptown sites. Printed teas occurred in about equal frequencies in both areas, although they did not appear in the early downtown sites. Printed ware was more common on teaware than on tablewares in both areas.

The teawares have more variety in decoration and in designs within each decorative type. Since tea was the primary meal at which non-family members were entertained (Wall 1994:125), the variation in designs may reflect the variety of social relations that individual households established, or, simply, greater use led to more replacement of broken tea sets.

As time went on, the tableware used in the two areas of the city became more similar, but teaware preserved its diversity within each group of sites, as well as between the two groups. This suggests that people were not reading social and behavioral distinctions into their plates but were into their teaware. This conclusion extends Wall's similar observations (Wall 1994:139–147) from the wealthier part of town into the

uptown area. However, two extensions of her data are made possible by the larger sample size and the different sections of the social structure examined in the Foley Square sites.

Brighton interpreted the greater wear on creamware as evidence that the people at 290 Broadway had two sets of dishes: creamware for everyday use and pearlware for "good," perhaps for Sunday meals. He based his conclusion on the lesser degree of wear on pearlware plates than on creamware plates. However, this pattern could just represent the normal replacement of the older out-of-fashion broken plates with the new. It would be worthwhile to model the breakage and replacement rates of plates and see if the discard rates of the two wares under different conditions would reproduce the pattern noted in the Foley assemblages.

Evidence of two sets of tableware in the Foley collections is found only in the baker's trash where there is a set of OEP plates as well as one of edged pearlware. This is anomalous, but bakers tended to have more stable incomes than many other artisans, and they may have entertained. Sets were found more frequently in the downtown sites, suggesting the use of tableware to symbolize different types of meals. If so, and if the creamware/pearlware wear differences at the uptown sites is due to replacement, then a focus on different rituals for different meals had not spread to the lower middling group of households.

The transition to the cult of domesticity is not visible in the ceramics in the Foley sites. Most of the changes, even over time, do not seem to lead to changes in the *kinds* of vessels used to set the table. The uniformity of the ceramics placed on the table could reflect the idea of equality found in the Republican ideology and expressed in the home among the family and for the rare dinner guest as well. The variety in the teaware may express an understanding of the increasingly differentiated social and economic playing field. This is the opposite side of the value correlation expressed by Wall. She concluded that the variation in decoration was used because the household did not want to stress communal values shared by household members with guests. On the other hand, a variety of wares could be useful to express different relationships between the household and the guests; the higher the status of the guest, the better the ceramics.

There was also preliminary or provisional information that we can distinguish working-class behavior patterns from middle-class patterns in this period. This was found in the glassware and food remains. Various authors see the start of American working-class values as a group as early as the 1750s (Nash 1979; Wilentz 1990). They also point out that economic conditions limited the number of wage laborers until after the Revolution, when this group began to expand, especially in cities. Two elements of foodways may reflect the developing working-class culture. One is the evidence of working-class drinks that did not occur in the non-working-class assemblages; the other is evidence for a preference for beef over other meats in working-class households.

Thus, there are no major changes in the way food is served at the Foley sites over this twenty-year period. There are differences between uptown and downtown foodways that reflect the economic realities of the development of class. The ceramics are more expensive downtown, and the households seem to have a greater variety of foodstuffs and probably a greater variety of ways of preparing and serving it. There is scattered evidence of the development of different kinds of meals. Interestingly, the evidence for this occurs in artisan households, one downtown and one uptown and possibly in other similar households, if pearlware is initially used for "good" and creamware is maintained for everyday meals.

13.3 Summary

The analyses in this volume have presented evidence for the identification of developing middle- and working-class behavior patterns as they adapt to the development of capitalism and the creation of a class-based neighborhoods among the European-descended residents of New York. These archeological data, however, do not address the lives of the African Americans, free or enslaved, that inhabited the area as well. Freed African Americans lived on Lots 15 and 17. One apparently boarded with two households of carters; the other, a confectioner and his family, lived on their own on a lot and boarded several other African-American individuals.

Before the Revolution, the evidence at 290 Broadway strongly suggests that European Americans by and large maintained at dismissive attitude toward the African-American use of the site as sacred space. This

attitude was one characterized more by benign neglect than by open hostility. After the revolution; however, that attitude dramatically changed to one of outright exploitation as the African Burial Ground was divided up into lots and sold for profit, with the original sacred nature of the space destined to be lost to memory until a federal office development project some 200 years later brought to the fore this painful chapter in New York City's and indeed the nation's history.

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